Eastern and Coastal Kent PCT logo

Health Impact Assessment

DRAFT

of

Canterbury Core Strategy Options Consultation

May 2010

SPH Solutions for Public Health

www.sph.nhs.uk

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Summary

Eastern and Coastal Kent PCT commissioned a Health Impact Assessment of Canterbury City Council's Core Strategy. A rapid desk-top HIA (Phase 1) was carried out on early draft proposals for the core strategy in [DATE]. Subsequently, the City Council published a Core Strategy Options Consultation Document; this was the base document for Phase 2 of the HIA which is the focus of this report. This report should be read in conjunction with the earlier, Phase 1 report which includes detailed recommendations for promoting and protecting health through the regeneration.

The Core Strategy consultation options document sets out seven options for proposals to deliver the requirements of the South East Plan by 2026. This was a participatory HIA centred on a stakeholder workshop. The health impacts identified at the workshop were assessed in the light of a community profile and research evidence on the health and wellbeing impacts of development policy. The HIA identified impacts associated with the following social determinants of health and wellbeing:

- Demographic and social changes and community cohesion
- Travel and mobility
- Housing
- Health service provision
- Education and training
- Employment & economy
- Provision of facilities & amenities
- The natural environment
- Construction

The key issues were:

- Demographic and social changes and community cohesion:
  - Stakeholders recognised that development would mean an influx of new residents, which could be positive, especially in larger villages where it might revivify the community, but it could also alter the demographic make-up and identity of communities, contributing to tension, social exclusion and social isolation, especially in the smaller villages.

- Stakeholders suggested neighbourhood schemes to encourage community integration. There are case examples from other districts of planned activities to integrate new communities into existing communities.
- Stakeholders wanted the developments to provide places that serve as focal points and places where people could meet, to help develop social cohesion.
- This theme was strongly associated with housing mix and affordable housing to enable mixed communities and with the availability of affordable public transport to enable mobility between settlements.

- Travel and mobility:
  - The relative lack of good-quality public transport, which currently limits people's access to services, facilities and amenities in both urban and rural areas;
  - The need for development to improve public transport in terms not only of the options available but also of its affordability; in Canterbury, this issue was linked to the congestion in the city and the associated levels of air and noise pollution; for the coastal towns and villages there were concerns about potential segregation from the city. Stakeholders noted that if public transport is not developed, student numbers would increase in the city centre, with further 'competition' for affordable houses.
  - The need for investment in active travel infrastructure to increase further the travel options available.
- Housing:
  - The lack of and need for affordable housing including that for social renting – again this was an issue for urban as well as rural areas in the district;
  - The importance for social cohesion of ensuring the existing residents can access the new development. This recognizes the existing competition from the high proportion of students in Canterbury and a potential influx of higher income groups associated with the Channel Tunnel Rail Link.
  - The importance of ensuring sufficient lifetime housing for expected growth in the population of older people.
- Provision of services, facilities and amenities:
  - Concerns that service and infrastructure development is focused on Ashford.
  - The current lack of capacity in key public and voluntary sector services in the district, particularly those relating to health and education (including training and skills development), which can restrict access – a concern was that development would bring increased demand which in turn could restrict access further for existing residents as well as for new residents; with respect to education,

  - It was thought possible that increased demand could also affect the quality of education on offer; stakeholders therefore thought it essential that the level of service provision for both health and education needed to reflect not only existing but also future demand as a result of development;
  - The lack of facilities in more remote areas of the district (larger and smaller villages),
  - Stakeholders wanted to see facilities provided locally where appropriate;

- The lack of leisure and recreation opportunities, especially for children and young people and particularly those living in Whitstable, Herne Bay, and both the larger and smaller villages; at least some of the leisure and recreation opportunities provided as a result of development need to be affordable to increase access for lower income groups, and also it needs to be linked to public transport;
- Green infrastructure, including the surrounding countryside – stakeholders wanted to see green spaces incorporated into any new development, but in both the larger and smaller villages development would necessitate the loss of countryside and possibly agricultural land;
- Utilities capacity and infrastructure, particularly water and sewage, especially in the light of increased demand;
- Health service provision:
- Education and training:
- Employment and economy: The potential for job creation and increased availability of job opportunities, although there was concern about the quality of jobs that might be on offer and whether local people would be able to access the jobs created; stakeholders wanted to see employment opportunities integrated into residential areas, a mechanism to facilitate local people being able to obtain the jobs on offer and the provision of apprenticeships; they also highlighted the need to attract big firms as well as to support SMEs, and advised on the use of grants and other incentives to facilitate this; in addition, stakeholders wanted homes designed such that they could support home-working, which would further increase people's options, especially in the more remote areas of the district;

Overall, stakeholders emphasised the need for any developments to be planned holistically and be attractively designed, applying the learning from other regenerated areas. They recognised the need for any development to be sustainable both environmentally and as a community. They emphasised the importance of consultation with and engagement of the communities affected, and made several suggestions

about the ways in which this could be achieved. Specific suggestions for the health determinants addressed in the workshop are included in this report.
Stakeholders emphasised the need for any developments to be planned holistically and designed with community engagement, using Planning for Real processes and consultation on use of grants such as Section 106 funding. They highlighted the need to learn from good practice in other communities and other countries and for any development to be sustainable both environmentally and as a community.

1. Introduction

Background

This is the fourth in a series of Health Impact Assessments (HIA) commissioned by Eastern and Coastal Kent PCT to inform Local Authority Planning Policy in the PCT's area. This HIA addresses the potential positive and negative health impacts associated with Canterbury City Council's Core Strategy. Health Impacts were assessed in two phases: Phase 1 addressed an early draft options document. This report is predominantly concerned with Phase 2, which was based on a Core Strategy Options Consultation Document[1]. The HIA was undertaken concurrently with the City Council's statutory consultation period in March 2010.

HIA is a systematic approach to assessing potential impacts of policies and proposals from all sectors on human health and wellbeing and on health inequalities. By addressing potential positive and negative impacts, HIA aims to promote and protect the health and wellbeing of the population concerned. In their classic model of health determinants (Figure 1), Dalghren and Whitehead identified that a wide range of lifestyle, social, environmental, political and cultural factors can influence human health.

[INSERT diagram]

Local Government proposals have profound impacts on health through their influence on the social determinants[2]. The Lyons Report (2007)[3] highlighted the importance of local government in 'place shaping' to promote health. The recent Review of health inequalities in England (The Marmot Review) highlighted the following areas where policy and proposals are particularly important for health [REF]:

[1] Planning for the future of the district January 2010. Canterbury District Local Development Framework – Core Strategy Options
Report for consultation.
http://www.canterbury.gov.uk/assets/localplan/TheCoreStrategyhighresv21.pdf

[2] I&DeA 2010. The social determinants of health and the role of local government

[3] REF

- early child development and education
- employment arrangements and working conditions
- social protection
- the built environment
- sustainable development
- economic analysis
- delivery systems and mechanisms
- priority public health conditions
- social inclusion and social mobility

Impact assessments (IA) have been recognised as part of a co-ordinated approach to issues that impact on health [REF] by the UK Government Strategy 'Health is Global'. Health Impact Assessment is a Specific Impact Test (SIT) within IA. A recent review of HIA in government policy highlighted that it can contribute to improvements in health and wellbeing, help to tackle health inequalities and help to identify the most appropriate target populations for interventions. HIA can also inform economic analysis by providing *'a more complete analysis of costs and benefits'*[4].

Key elements of the core strategy consultation proposals

Canterbury City is located within the East Kent and Ashford Sub-region of the South East Plan [REF]. It has been identified in the Plan as a Regional Hub – an area that will be a focus for new housing, retail and employment development along with other infrastructure. There is a requirement to develop 10,200 new houses by 2026. Taking into account land that has already been allocated, this leaves a residual requirement for 4,000 units[5].

[4]Department of Health January 2010. Putting Health in the Policy Picture: Review of how Health Impact Assessment is carried out by government departments.

[5] Planning for the future of the district January 2010. Canterbury District Local Development Framework – Core Strategy Options. Report for consultation. Para. 3.8 http://www.canterbury.gov.uk/assets/localplan/TheCoreStrategyhighresv21.pdf

Canterbury City Council's Core Strategy Consultation Options Document sets out a vision for the district. It sets out seven options for the possible location/s of housing, jobs and community infrastructure and identifies relevant policies. The options centre on four main types of development: Urban extension – Canterbury City, Whitstable and Herne Bay; development around the larger well-served villages of Barham, Blean, Bridge, Chartham, Sturry and Littlebourne; development of smaller villages and settlements. It is expected that, following consultation and appraisal, the council will identify a preferred option during 2011.

Scope and objectives of the HIA

The HIA focused on options 1, 2, 3b, 3c and 5. A core steering group selected these options based on the Sustainability Appraisal, which recommended that:

'An eventual preferred option should seek to take the most sustainable elements of the options forward, perhaps concentrating on Options 1 and Option 2, supplemented by minor growth at well serviced villages (Option 5) and a larger, well designed urban extension to the south of Canterbury (Option 3b)'.

The selected options for the HIA were confirmed with participants at the HIA workshop and they were invited to comment on any of the other options individually if they wished to raise additional issues.

Therefore the objectives of the HIA were to:

- Identify potential positive and negative health and wellbeing impacts associated with options 1, 2, 3b, 3c and 5.
- Identify potential impacts on health inequalities by assessing how the options could impact on specific population sub-groups, with reference to a community profile.
- Identify possible actions for enhancing positive and mitigating negative impacts.
- Highlight opportunities to contribute to a reduction in health inequalities by focussing actions on population sub-groups most affected by the proposals

HIA does not aim to replace decision-making but to inform it; therefore, the objectives of the HIA were to provide an appraisal of potential impacts of the selected options and not to choose among the options.

2. Methods

The timeline, scope and methods for the HIA were decided by a core steering group comprising the project manager, the Assistant Director of Public Health for Canterbury and Swale and the Senior Planning Policy Manager from Canterbury City Council. Phase 1 of the HIA was a rapid desk-top appraisal of a set of draft options, undertaken by a specialist HIA practitioner.

Phase 2 centred on a stakeholder workshop that took place on 8th March in Canterbury. Stakeholders invited included community groups known to the council's Community Development team, Canterbury Partnership's Health and Wellbeing Group and council officers. All stakeholders were invited to attend with up to two further interested individuals or members of their group. Sixty-four people responded positively to the invitation; attendance on the day was [N].

The workshop was facilitated by a specialist HIA practitioner. Participants worked in groups to identify the main issues for health and wellbeing in the four levels of the settlement hierarchy (Urban extension – Canterbury City; Whitstable and Herne Bay; development around the larger well-served villages of Barham, Blean, Bridge, Chartham, Sturry and Littlebourne; development of smaller villages and settlements). They then clustered the issues into health determinant themes and continued to assess the options for specific impacts within those themes. Finally, they were asked to develop suggestions for addressing the impacts and to prioritise the suggestions through a group voting process.

A community profile was collated (Appendix 1). A specialist HIA assessor summarised the workshop outputs thematically in the light of the community profile and research evidence. This process identified health and wellbeing impacts for the following health determinant themes:

- Demographic and social changes
- Travel and mobility
- Housing
- Provision of facilities & amenities
- Health service provision
- Education and training
- Employment & economy

- Community cohesion
- The natural environment

3. Results

This section presents the issues and health impacts identified by stakeholders at the HIA- workshop held in Canterbury.
are presented in a series of tables.
Section 3.1 shows the issues that participants identified when considering the four levels in the settlement hierarchy.
Section 3.2 shows the potential effects of specific development options and the associated health and wellbeing impacts, as identified by workshop participants.
Section 3.3 shows the suggestions made by workshop participants.

Main issues for health and wellbeing

The following tables show the issues that participants identified when considering the four levels in the settlement hierarchy:

1. Canterbury;
2. Whitstable & Herne Bay;
3. Larger villages;
4. Other smaller villages.

Information from the Community Profile for Canterbury has been used to support or complement statements made by workshop participants. In a few instances this has been supplemented with information from the published literature.

During the assessment, the topics that participants identified as recurrent themes included general observations on planning for new development in the district, demographic changes, travel and mobility, housing, employment, access to services, facilities and amenities, utilities infrastructure, green infrastructure, leisure and recreation, community safety and community cohesion (although all of the topics were not necessarily discussed at every point in the process for each settlement hierarchy or for each of the options assessed).

Tables x – x: Issues associated with the four levels in the settlement hierarchy

Demographic and social changes and community cohesion

Canterbury	Whitstable & Herne Bay	Larger villages	Other smaller villages
Increased number of people in population	Coastal towns are a popular retirement area and place for families With development, potential increase in number of: older people; people in higher socio-economic groups. Concentration of older people on a low income in Herne Bay	Potential to introduce diversity into the community	Influx of new residents Potential for outward migration of existing residents Change to: Balance in community; Spirit in community. Potential for: Loss of identity in villages; Lack of involvement in village life by new residents; Social isolation of some existing residents. Fear & anxiety in Hersden about the new site for the gypsy and traveller community

Information base (Community profile, Appendix 1): The population of Canterbury is expected to grow by more than 10% between 2001 and 2026. However, within Canterbury, between 2006 and 2016, the populations in the wards of Northgate and Westgate are expected to grow by 22.4% and 17.2%, respectively. Northgate currently has 5% of Canterbury's population and Westgate has 7% (2007 ward population estimates).
The highest proportions of retired people (1in 4-5) live in the wards of: Chestfield and Swalecliffe, Reculver, Seasalter, Tankerton and West Bay.
The highest proportions of full-time students live in the following wards: Blean Forest (12.5%), Northgate (8.2%) and St Stephen's (7.9%)
The population of Ashford is projected to grow by 46.6% between 2001 and 2026

There are case examples of planned activities to integrate new communities into existing communities. For example: Leicester Cohesion and Sustainability Service - http://www.coventry.ac.uk/researchnet/d/339/a/1603

Travel and mobility

Canterbury	Whitstable & Herne Bay	Larger villages	Other smaller villages
Currently, there is: ▪ Congestion, with poor air quality; ▪ Lack of parking. Need to: ▪ improve access to public transport ▪ provide Park & Ride to hospital & other services & facilities Potential for greater congestion with development, which will reduce air quality further	Currently: ▪ cost of public transport is expensive; ▪ access to public transport is poor in Whitstable; ▪ remote areas lack public transport, e.g. Reculver & Seasalter If public transport costs are not addressed, students who live in coastal areas may move to Canterbury City Centre Potential to improve access to public transport with development Need to consider the timetable of late bus services	Potential for an increase in traffic with development which will increase the level of: ▪ noise pollution; ▪ air pollution. Potential to relieve congestion in Canterbury Need for public transport that is: ▪ Affordable; ▪ Regular in frequency. If public transport is not improved, young people are likely to get involved in risk-taking behaviour through lack of access to leisure & recreation opportunities	Potential for increase in traffic with development Currently, there is poor public transport Potential to develop transport infrastructure and services

Information base(see Community Profile for Canterbury, Appendix 1): Transport is major barrier to social inclusion in rural areas; people who do not have a car, or without access to one, have more difficulty finding a job or accessing services[6], e.g. health and post-16 education.[7] As a result rural areas have, on average, poorer health, lower skills and lower incomes than most cities in Britain.[8] The Social Exclusion Unit report on transport states that promoting inclusion through accessibility will involve improvements to the planning and delivery of local transport and the location of employment and key services in accessible locations.[9]
The percentage of households that do not have a car or a van is high in the following wards: Northgate (43.5%, almost 1 in 2 households), Heron (37.6%, 1 in 3 households), Westgate (33.9%, 1 in 3 households), and Barton (31%, nearly 1 in 3 households). In these wards (and others where car ownership is relatively low between 30% and 40% of people travel to work by bicycle or on foot, with the exception being Heron where 20% of people use this mode of travel. The proportion of people (16-74 years) who use public transport to travel to work ranges from 4.7% (Barham Downs) to 12.9% (Harbour). For all wards in Canterbury, the highest proportion of people (16-74 years) travel to work by car, motorcycle or taxi when compared with any other

[6] Joseph Rowntree Foundation (JRF) (2000) Exclusive countryside? Social inclusion and regeneration in rural areas. Foundations. JRF.

[7] North West Regional Development Agency (no date given) The Integrated Appraisal Toolkit.

[8] North West Regional Development Agency (no date given) The Integrated Appraisal Toolkit.

[9] Cited in Transport & Travel Research Ltd in association with The Bartlett School of Planning, University College London (2005) An Investigation into the Links between Transport Infrastructure Investment and Sustainable Rural Communities. Prepared for DEFRA. Version 1.0 March 2005.

mode of transport or working at home; the wards where the highest proportion of people [from 2 out of 3 (67%) to 3 out of 4 (over 75%)] travel to work by car, motorcycle or taxi are: Barham Downs, Chartham and Stone Street, Chestfield and Swalecliffe, Gorrell, Greenhill and Eddington, Harbledown, Herne and Broomfield, Little Stour, Marshside, North Nailbourne, Reculver, Seasalter, Sturry North, Sturry South, Tankerton, West Bay (see Community Profile for Canterbury).

Housing and residential areas

Canterbury	Whitstable & Herne Bay	Larger villages	Other smaller villages
Currently: ▪ housing is not affordable in Canterbury; ▪ tendency for larger homes to be converted into houses of multiple occupation (HMOs) for students Potential to develop affordable housing, including social housing	Currently, housing is not affordable in Whitstable If people from higher socio-economic groups are attracted to the area, housing affordability for local people could worsen Potential to develop affordable housing	Need to: ▪ Introduce social housing for renting; ▪ Create social housing developments that are attractive; ▪ Provide affordable housing for key workers Concern about housing density	Currently, there is limited availability of social housing in rural areas Need for a mix of housing tenures With development, concern about segregation between existing and new residents in villages

Information base: Many rural communities are experiencing a unique set of housing pressures, from: people acquiring second homes in rural areas (between 2000 and 2004, the number of dwellings in England recorded as being second homes by ODPM increased by 70% - with a 101% increase in Rural-50 areas and a 57% increase in Rural-80 areas[10]); people retiring from high-priced urban areas such as London; people commuting to well-paid jobs in neighbouring areas; relatively low incomes.[11] In addition, when compared with urban areas, rural areas have seen: higher levels of Right to Buy sales of council housing; and smaller proportions of affordable homes in new development.[12] However, opportunity exists in most rural areas for additional homes to be built.[13]
In terms of tenure, for the following wards in Canterbury, about 1in 5-6 households live in council, housing

[10] Frontier Economics (2006) Housing affordability in rural areas. Final Report for DEFRA. January 2006.

[11] Best, R. and Shucksmith, M. (2006) Homes for rural communities. Joseph Rowntree Foundation and Rural Housing Policy Forum.

[12] Best, R. and Shucksmith, M. (2006) Homes for rural communities. Joseph Rowntree Foundation and Rural Housing Policy Forum.

[13] Best, R. and Shucksmith, M. (2006) Homes for rural communities. Joseph Rowntree Foundation and Rural Housing Policy Forum.

association or registered social landlord accommodation: Barton, St Stephen's, Sturry North, Westgate and Wincheap. However, in the Northgate ward 2 in every 5 households live in council, housing association or registered social landlord accommodation

The highest proportions of full-time students live in the following wards: Blean Forest (12.5%), Northgate (8.2%) and St Stephen's (7.9%)
(see Community Profile for Canterbury).
For the following wards, 1 in 4-5 households live in privately rented accommodation: Barton, Blean Forest (highest proportion of full-time student residents), Harbour, Northgate (second highest proportion of full-time student residents), St Stephen's (third highest proportion of full-time student residents) and Westgate. However, in the Heron ward, every 1 in 3-4 households lives in privately rented accommodation (see Community Profile for Canterbury).
In terms of housing conditions, there are two wards in which 12% and 14% of households do not have access to central heating and sole use of bath/shower and toilet: Heron and Harbour, respectively (see Community Profile for Canterbury).
The most densely populated wards with 3,490 to 6,010 people per square kilometre are: Westgate, St Stephen's and Northgate in Canterbury, Harbour and Tankerton in Whitstable and Heron in Herne Bay (2007 ONS mid year population estimate) (see Community Profile for Canterbury); the least densely populated are Barham Downs, North Nailbourne, Little Stour, Marshside, Sturry North, Harbledown and Chartham and Stone Street.

Health service provision

Canterbury	Whitstable & Herne Bay	Larger villages	Other smaller villages
Currently, there is a lack of capacity in the City's health services to support development Need to improve access to the hospital and its services Distance to access A&E services is too far (Margate or Ashford) With development, potential to improve access to: • A&E services in Canterbury; • Primary care (GP surgeries); • Maternity care; • Dental services.	When building developments, need to consider access to: • Primary and secondary care; • Dental services.	With development, potential to reduce access to centralised services, e.g. emergency services & mental health services;	With development, increased demand on local health services, which may decrease access for existing residents

Information base (see Community Profile for Canterbury).
: GP practices in Canterbury that have a particularly large average list size are the Bridge Health Centre (1848 patients per GP), the Sturry Surgery (1914 patients per GP), the Coach House Surgery (1973 patients per GP) and the Old School Surgery (2621 patients per GP) There are two wards where people are considered the most deprived, and 1 in 5 people have a limiting long-term illness and nearly 1 in 10 people report that their health is "not good": Seasalter and Northgate; Barham Downs has the same level of deprivation and of limiting long-term illness but fewer people report their health as being "not

Canterbury	Whitstable & Herne Bay	Larger villages	Other smaller villages
Currently: ▪ Services are targeted at Ashford, ▪ There are difficulties accessing all services		With development: ▪ Increased demand on voluntary services;	With development, some services may be more viable in villages With development, need to provide:

good" (1 in 12-13), and both Westgate and Wincheap have the same level of deprivation as Seasalter, Northgate and Barham Downs but 1 in 6 people have a limiting long-term illness and 1 in 12-13 people report their health as not good. However, there are seven wards which do not fall into the most deprived category but where there are similar proportions of people with limiting long-term illness and of people reporting their health as not good: Heron (which has the highest levels of people in both categories), Chestfield and Swalecliffe, Marshside, Reculver, Sturry North, Tankerton and West Bay. The wards with a life expectancy at birth of less than 76 years are: Heron, Marshside, Sturry North and Northgate.
More than 30% of the adult population over 16 years smokes in the following wards: Northgate and Heron.
The wards where binge drinking is more than 20% prevalent (estimated figures 2000-2002) include: Blean Forest, Northgate, Seasalter, Westgate, Wincheap and Harbour..

via public transport Need for residential and care homes for older people With development: ▪ Re-think city's infrastructure; ▪ Improve recycling capacity; ▪ Consider whether current sewage infrastructure will have capacity to support development; ▪ Need to address increased demand for water		▪ Need to ensure utilities' capacity will match increased demand, e.g. sewage infrastructure ▪ Need for more recycling policies New larger villages are not self-sustaining	▪ street lighting; ▪ gritting capacity; ▪ traffic calming measures, including speed limits. Consider the need for local community wardens

Education and training

Canterbury	Whitstable & Herne Bay	Larger villages	Other smaller villages
Currently, there is a lack of capacity in the city's schools to support development Need to ensure the current level of access is maintained	Need for advice on training and career development in Herne Bay	Potential for development to affect the quality of education provided at some schools	With development, increased demand on local schools, which may decrease access for existing residents

Employment and the economy

Canterbury	Whitstable & Herne Bay	Larger villages	Other smaller villages
Potential to increase job opportunities Potential to increase affluence Potential to affect tourism in the city	Potential to invest in small businesses in Herne Bay	Currently, there are poorly paid jobs and low incomes Potential to boost the local economy Potential for social enterprise	With development, increased demand for jobs, which may reduce access for existing residents
Information base: The unemployment rate in rural areas has increased over the last 3 years by 1.1% to 4.6%.[14]			

[14] Rural dashboard: the economic downturn in rural areas – June 2009. Defra.

The highest proportion of unemployed people is in Northgate (4.7%) and Heron (4.0%) wards.

Canterbury	Whitstable & Herne Bay	Larger villages	Other smaller villages
Currently: • Services are targeted at Ashford, • There are difficulties accessing all services via public transport Need for residential and care homes for older people With development: • Re-think city's infrastructure; • Improve recycling capacity; • Consider whether current sewage infrastructure will have capacity to support development;		With development: • Increased demand on voluntary services; • Need to ensure utilities' capacity will match increased demand, e.g. sewage infrastructure • Need for more recycling policies New larger villages are not self-sustaining	With development, some services may be more viable in villages With development, need to provide: • street lighting; • gritting capacity; • traffic calming measures, including speed limits. Consider the need for local community wardens

Provision of facilities, services and amenities

• Need to address increased demand for water			

Information base: In rural areas, many services require travel either by the service providers or by the people being served (incurring mileage costs), which takes time (incurring time-related costs); in addition, demand levels for services tend to be lower and economies of scale less easily exploited (incurring higher than expected running costs).15 Rural areas face greater difficulties in providing services to the same standards of effectiveness at the same levels of cost as in urban areas – generally either cost is higher or performance is lower.16 Rural areas face a cost premium in delivering a common standard of cost performance to meet needs of rural communities when compared with similar in urban areas.17 Decisions to rationalise services are sometimes based on the fact that the costs of delivery to rural areas are higher and cannot be afforded in the light of limited resources and other priorities.18
The average road distance to a Post Office is longest, i.e. between 2 and 4.7 kilometres, in some or all of the lower super output areas in the following wards: Chartham and Stone Street, North Nailborne, Little Stour, Sturry North, Blean Forest, Chartfield and Swalecliffe, Seasalter and Harbledown (see Community Profile for Canterbury).

Leisure and recreation

Canterbury	**Whitstable & Herne Bay**	**Larger villages**	**Other smaller villages**
Potential to increase leisure opportunities	Currently, boating facilities in Whitstable & Herne Bay attract people as day visitors to the area	Need to provide opportunities for young people	Potential to provide recreation opportunities for: ▪ Children; ▪ Young people.

[15] Hindle, T., Spollen, M. and Dixon, P. (2004) Reviewing of Evidence on Additional Costs of Delivering Services to Rural Communities. Final Report April 2004. Commissioned by DEFRA. Secta.

[16] Hindle, T., Spollen, M. and Dixon, P. (2004) Reviewing of Evidence on Additional Costs of Delivering Services to Rural Communities. Final Report April 2004. Commissioned by DEFRA. Secta.

[17] Hindle, T., Spollen, M. and Dixon, P. (2004) Reviewing of Evidence on Additional Costs of Delivering Services to Rural Communities. Final Report April 2004. Commissioned by DEFRA. Secta.

[18] Hindle, T., Spollen, M. and Dixon, P. (2004) Reviewing of Evidence on Additional Costs of Delivering Services to Rural Communities. Final Report April 2004. Commissioned by DEFRA. Secta.

The natural environment

Community engagement

Canterbury	Whitstable & Herne Bay	Larger villages	Other smaller villages

Canterbury	Whitstable & Herne Bay	Larger villages	Other smaller villages
Potential to make access to the countryside less straightforward		Development will mean the loss of: • The natural environment; • Green spaces.	Development will mean the loss of: • Green belt; • Open space; • Agricultural land, with an impact on farming & food production. Potential to increase flood risk Potential to develop green corridors With development, potential to promote access to the countryside
	Need to ensure the community is kept informed about developments		

Health and wellbeing impacts

The tables on the following pages show the potential effects of the development options and their health impacts as identified by workshop participants. Where relevant, statements by workshop participants have been supported by information from the published literature. The options appraised were:

- Option 1 – infill in the city centre;
- Option 2 – development within the wider urban areas of Canterbury and coastal towns;
- Option 3b – Canterbury urban extension – single site;
- Option 3c - Canterbury urban extension supplemented by development at Herne Bay;
- Option 5 – development of the larger, well-served villages around Canterbury [LIST]

During the assessment, the topics that participants identified as recurrent themes included general observations on planning for new development in the district, social and demographic changes, travel and mobility, housing, employment, access to services, facilities and amenities, health services, utilities infrastructure, green infrastructure, leisure and recreation. Although some impacts refer to specific options it

Option	Potential effects	Potential health impacts

should not be assumed that the issues raised *only* relate to those options; topics were not necessarily discussed at every point in the process for each settlement hierarchy or options assessed.

Demographic and social changes / community cohesion

1		
2		
3b	New developments might alter the environment with potential for a loss of identity for existing communities	Reduced mental well-being
3c	Large communities could be isolated and not connected to the city Potential for tension between communities Lack of social cohesion	Stress and reduced mental well-being
5	Influx of new residents. It is not clear what the impact of this option will be on Canterbury, and whether it would make the situation worse Potential for increased social isolation: Older people; Young families	Potential to increase the vitality, viability and sustainability of community in the villages Stress and reduced mental well-being

Travel and mobility

Option	Potential effects	Potential health impacts
1	Increase in private transport: greater congestion; more air pollution; increased risk of accidents; reduced access to some facilities Improved access to other parts of Kent	Stress Increase in respiratory conditions Worsening of condition for people with existing respiratory problems, e.g. asthma, emphysema Potential increase in injuries and fatalities from road traffic accidents
2	Increase in private transport: greater congestion in urban areas; more air pollution; change in "identity" or character of area Potential to improve access to public transport, & therefore access to other services & facilities	Stress Increase in respiratory conditions Worsening of condition for people with existing respiratory problems, e.g. asthma, emphysema Potential increase in injuries and fatalities from road traffic accidents. Improved public transport: Improved mental & physical well-being depending on routes/stops, frequency of services & affordability If public transport is not improved: lack of access & potential for social isolation & depression
3b	Increase in private transport: Greater congestion; gridlock in one zone; more air pollution.	Stress Increase in respiratory conditions Worsening of condition for people with existing respiratory problems, e.g. asthma, emphysema Potential increase in injuries and fatalities from road traffic accidents

	Improved access to coast and countryside	

1	Potential for Channel Tunnel Rail Link (CTRL) to increase ***cost*** of housing with relatively worse housing conditions for people	People in poor housing conditions, e.g. overcrowding, cold, damp & mould, and/or lack of facilities (shared toilet or bathroom, or kitchen) or people who are homeless, particularly children, have poor mental and physical health

3c	Increase in private transport and public transport (C): Greater congestion. Increased demand for public transport.	

Supporting literature: The impacts of transport on health are: physical activity – cycling and walking can have major health benefits, especially in view of the increasing rates of overweight and obesity; accidents and injuries – most deaths associated with transport occur on the road (as opposed to aeroplanes, trains or ships), and a third of deaths occur in people aged under 25 years; climate change – transport contributes to CO2 emissions, with road traffic making a significant contribution; air pollution – exposure to air pollutants (benzene, 1,3-butadiene, particulate matter, ozone, carbon monoxide, nitrogen dioxide, sulphur dioxide[1]) can have serious effects on health; noise – transportation is a major source of noise in Europe, and road traffic is the main source of human exposure to noise except for people living next to airports or railway stations – sound levels between 55 and 65 dB cause serious annoyance, interference with speech and sleep disturbance, and levels between 65 and 75 dB are associated with a small increase in cardiovascular disease; psychosocial effects/community severance – children are discouraged from playing on busy streets and from walking or cycling to school along them, hindering the development of independence and of social contact; streets with heavy traffic are associated with fewer neighbourhood social support networks which is linked to various adverse health outcomes.[1] In a systematic review of the evidence of the health effects of new roads, it was found that out-of-town bypasses decrease injuries on main roads through or around towns and reduce disturbance and community severance in towns but increase them elsewhere, whereas new major urban roads have statistically insignificant effects on injury incidence and increase disturbance and community severance.[1] However, new major roads between towns decrease injuries.

Housing and residential areas

	on a low income & their families	
2	Depends on ***mix*** of housing built – will it reflect local needs or developers' interests?	If local housing needs are not met: Anger Resentment Worsening health status for those already in poor housing conditions or homeless. If local housing needs are met: maintenance of or improved health status
3b	Increase in ***number*** of residential units will affect social cohesion, either positively or negatively depending on the way it is integrated into existing settlement(s) Potential for increase in ***density*** of housing.	If developments are well-integrated: improved mental well-being through increased social contact & support and resulting social cohesion If developments are not well integrated: deterioration in mental well-being through lack of bonding & social isolation

Supporting information
The Ide&A 's best practice guidance on the strategic housing role highlights the importance of ensuring the housing mix addresses local needs as well as those of new residents:
'does housing policy recognise and help to address community cohesion issues, recognising for example, how competition for housing can be a major factor for inter-community tensions?'Page 24.
I&DeA 2009. New housing provision and the strategic housing role
http://www.idea.gov.uk/idk/aio/8842600

Health service provision

Option	Potential effects	Potential health impacts
1	Increased demand for ***primary care.*** Potential closure for some services, e.g. day centre for learning disabilities Increased demand for dental services: current capacity may limit access	Location and current capacity may limit access
2	Increased demand for ***primary and secondary care.*** Increased demand for dental services: current capacity may limit access	Current capacity may limit access
3b	Increased demand for ***health services*** Increased demand for A&E services;	current capacity may limit access
3c	Increased demand for ***health services*** **©** Increased demand for A&E services; **©**	may affect capacity and limit access

5	Increased demand for ***primary care***	current capacity may limit access

Education and training

Option	Potential effects	Potential health impacts
1	Increased demand may affect capacity and limit access, which in turn could affect educational attainment	Lower educational attainment will affect a child's mental & physical health in the short, medium and long term (i.e. over their life-course)
2	Increased demand may affect capacity and limit access, which in turn could affect educational attainment	Lower educational attainment will affect a child's mental & physical health in the short, medium and long term (i.e. over their life-course)
3b	Increased demand may affect capacity and limit access, which in turn could affect educational attainment	Lower educational attainment will affect a child's mental & physical health in the short, medium and long term (i.e. over their life-course)
3c	Increased demand may affect capacity and limit access, which in turn could affect educational attainment ©	Lower educational attainment will affect a child's mental & physical health in the short, medium and long term (i.e. over their life-course)
5	Increased demand; if demand is not met, there will be poor access for some, which could affect educational attainment	Lower educational attainment will affect a child's mental & physical health in the short, medium and long term (i.e. over their life-course)

Employment and the economy

Option	Potential effects	Potential health impacts
1	Potential increase in job opportunities Loss of jobs at Wincheap	Increased job opportunities could improve mental & physical well-being depending on quality of employment & availability of jobs for local people Loss of employment will affect mental & may be physical health depending on drop in income & length of time unemployed
2	Potential increase in opportunities	Increased job opportunities could improve mental & physical well-being depending on quality of employment & availability of jobs for local people
3b	Potential increase in opportunities	Increased job opportunities could improve mental & physical well-being depending on quality of employment & availability of jobs for local people
3c	Increased demand for jobs (C)	If demand for jobs is met: it could improve mental & physical well-being depending on quality of employment & availability of jobs for local people If demand is not met: lack of employment will affect mental & may be physical health depending on drop in income & length of time unemployed

5	Local employment capacity may not match demand	If demand for jobs is met: it could improve mental & physical well-being depending on quality of employment & availability of jobs for local people If demand is not met: lack of employment will affect mental & may be physical health depending on drop in income & length of time unemployed

Supporting literature: Reduced access to employment is associated with long-term ill health.(1).[1] Whether employment leads to health improvement depends on the quality of work (e.g. level of pay, job security, and level of control and involvement)(2).

1. Joseph Rowntree Foundation 2007. Long term ill health, poverty and ethnicity. JRF Foundation.
2. Graetz 1993. Soc. Sci. Med. 36; 715-724.

Provision of services, amenities and facilities

Option	Potential effects	Potential health impacts
1	Increase in ***shopping*** facilities Increased demand for ***Post Office*** facilities but current capacity may limit access	Potential for improved mental & physical well-being depending on affordability of goods Potential for stress from reduced access to services and facilities, especially for older people and women with young children
2	Increased demand for ***community*** facilities: current capacity may limit access Opportunities for new community facilities	If access to community facilities is poor: poor mental health from lack of social contact & support, & possibly poor physical health depending on type of facility involved If access to community facilities is good: improved mental health & possibly physical health depending on facility
3b	Increased demand for ***children's centre:*** current capacity may limit access	If access to children's centres is poor: poor childhood development and failure to thrive which could affect a child's health in the short, medium and long term (i.e. over their life-course) If access to children's centres is good: good childhood development with potential for lifelong good health
3c		
5	Increased demand for facilities such as ***playing fields***	

Option	Potential effects	Potential health impacts
3b	Increased demand, particularly for water, which result in lack of access to utilities & related infrastructure and/or	Lack of or interrupted supplies of utilities, including water and fuel, could lead to increased risk of infection due to lack of sanitation or hygiene (especially in hot weather).

Utilities

	interrupted supply	

Green infrastructure

Option	Potential effects	Potential health impacts
3b	Building developments will incur loss of: green space, agricultural land or potential.	Reduced access to green space will affect mental & physical health and well-being, particularly through reduced or lack of physical activity Loss of agricultural potential or land could affect food supply and security, leading to shortages which might have a local component affecting people's access to food & nutrition An increase in flooding would have several impacts on mental & physical health and well-being Loss of biodiversity may reduce the positive effects of green space on mental health
5		Reduced access to green space will affect mental & physical health and well-being, particularly through reduced or lack of physical activity

Natural environment

Option	Potential effects	Potential health impacts
1		
2		
3b	Building developments will incur loss of: green space, agricultural land or potential. Potential change in flood risk Potential impact on biodiversity	
5	Risk of reduced access to green space	

Supporting literature: Households in lower socio-economic groups commonly have less access to quality public parks and natural spaces, which contributes to the health disparities they experience [1].

The health effects of flooding in the UK can be very marked, ranging from premature death, clinical problems requiring hospitalisation or consultation with doctors, to an increase in the use of non-prescription drugs or alcohol, depression, insomnia, low self-esteem and general feelings of ill health.[2] In a small study in the Thames Region, by the Flood Hazard Research Centre, people from vulnerable groups (e.g. older people, lone parents, people from black and minority ethnic groups, people with a low socio-economic status) reported many health effects as a result of flooding from headaches, to digestive problems to lethargy and stress and anxiety; they also reported other problems that contributed to their level of stress including problems with personal relationships, and employment, and feelings of isolation [3]. There was also a loss of confidence in the authorities and institutions perceived to be associated with providing flood protection and recovery support, and a fear that those authorities/institutions would fail to protect or warn against any future event.[4]

1. Richardson, M. (2007) Mac Arthur BART Transit Village Health Impact Assessment. Chapter 6. Parks and Natural Spaces. DRAFT 1/30/07.
2. Cave, B. et al (2004) Healthy sustainable communities: What works? Paragraph 4.31. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.
3. Cited in Cave, B. et al (2004) Healthy sustainable communities: What works? Paragraphs 4.32 and 4.33. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team
4. Cited in Cave, B. et al (2004) Healthy sustainable communities: What works? Paragraph 4.34. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team

Construction

Option	Potential effects	Potential health impacts
3b	Disruption to local communities Noise pollution Air pollution Potential for crime & antisocial behaviour associated with building sites	Stress Anger & irritation Sleep disturbance Potential for loss of sleep Potential for increase in blood pressure Irritation of respiratory tract Aggravation of existing respiratory conditions Reduced mobility for older people & people with a physical disability Fear & anxiety Lack of social contact Potential for social isolation

Stakeholders' suggestions.

The table below shows the suggestions made by workshop participants. Suggestions were framed with the aim of enhancing any benefits and minimising, reducing or avoiding any harm to health that had been identified. The suggestions have been supported or complemented by information from the published literature where relevant.

Table 3: Suggestions to address potential impacts on health and well-being

	Options				
General: planning and design of new developments	**1**	**2**	**3b**	**3c**	**5**
• To look at and learn from other successful developments, including regeneration schemes in France, and learn from other communities			√		√
• To plan developments holistically					√
• To complete the developments in phases, not as a "grand slam"					√
• To integrate any new developments into existing settlements			√		
• To design the new developments so that they are attractive to people, and help people to feel valued as human beings				√	√
• To design the new developments according to sustainable development/ecological principles					√
• To ensure that the infrastructure and services are provided to meet the demand arising from new developments and influx of new residents		√			
• To increase the amount of funding allocated to public service providers to meet the demand arising from new developments and influx of new residents		√			

• To provide facilities locally		√		√	
• To undertake local community consultation and engagement throughout the process of development, including about how to spend any moneys from section 106 negotiations and what will work; use planning for real techniques					√
• To find and use local talent to support the development process					√
• To identify a local champion/local champions for the development process					√
• To use incentives to ensure the success of new developments/incentivise change, e.g. for every new residential unit built, plant a tree			√		√

General: planning and design of new developments
Information base: Planning can have a profound effect on all levels of factors that influence health.[19] It is important to ensure a collaborative approach to planning – based on co-operation and partnership – to build a healthy human habitat that functions to create opportunities and a high-quality environment irrespective of residents' wealth or status, in a way that is ecologically sustainable[20] The design of the built environment is important for people's psychosocial health.[21] Good design encourages greater ownership and involvement of communities, and can reduce negative effects such as vandalism, and the under-use of facilities.[22],[23] A well-designed built environment will help to foster and reinforce a sense of community.[24] An aesthetically pleasing environment will encourage people to walk for exercise or recreation.[25] A good relationship between housing and local employment, retail, education and health facilities is critical to establishing healthy neighbourhoods; it means that people who do not have access to a car

[19] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 10. Spon Press.

[20] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Pages 84-85. Spon Press.

[21] Seymour et al. (2001) Rapid review of housing and the built environment. Rapid reviews of public health for London. NHS Executive, London.

[22] Evans and Shaw (2001) Draft Final Report of a study into the impact of Lottery Good Cause spending in the UK. Centre for Leisure and Tourism Studies, University of North London, for the Department for Culture, Media and Sport.

[23] Wilson (1987) The truly disadvantaged: the inner city, the underclass and public policy. University of Chicago Press.

[24] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.1. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[25] Cave, B. et al (2004) Healthy sustainable communities: What works? Paragraph 5.39. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

can get local jobs and use neighbourhood shops, clubs, school and health facilities.[26] It also means that a higher proportion of trips will be on foot or by bicycle, and casual meetings between people will increase, and facilitate friendship networks and a sense of community.[27] Mixed land use is positively related to walking for shopping and work-related trips, and less travel by car.[28] It is important to provide locally for local needs, i.e. return and keep at a local level the opportunities and responsibilities that can most appropriately be filled at that level.[29]
The use of locally distinctive architecture or townscape as a starting point for design[30] and the use of local traditional building materials will give a sense of place and continuity with the past, enhancing mental well-being and a sense of belonging in the community, and the use of traditional building materials will also reduce energy use.[31]

	Options				
Demographic and social change / Community cohesion	**1**	**2**	**3b**	**3c**	**5**
• To incorporate public meeting places for people in the new developments				√	
• To provide "focal points" for the community in any new development		√			
• To invest in schemes to promote community cohesion				√ (C)	
• To set up "Bring Back the Spirit of the Community" Campaigns to promote good neighbourliness and access to community services and facilities		√			
• To set up a system of community "champions"				√ (C)	
• To establish neighbourhood schemes to develop and maintain community cohesion				√ (C)	
• To set up community newsletters					√
• To establish local and community websites					√
Information base: A thriving localised community life needs appropriate facilities and meeting places – neighbourhood resources are important for building and sustaining networks, developing trust and economic participation, and have an impact on residential continuity, interaction and socialising with fellow residents; it also helps to facilitate identity, pride in an area, and can have a direct influence on some forms of antisocial behaviour.[32] Important to the potential pleasure and social benefits of					

[26] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 132. Spon Press.

[27] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 132. Spon Press.

[28] Cave, B. et al (2004) Healthy sustainable communities: What works? Paragraph 5.42. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[29] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 123. Spon Press.

[30] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 152. Spon Press.

[31] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 156. Spon Press.

[32] Catell & Evans (1999) Neighbourhood images in East London: social capital and social networks on two East London estates. YPS for the Joseph Rowntree Foundation.

walking is the creation of places where it is natural for people to stop and look;[33] the design and provision of streets and places where people can meet, e.g. incidental spaces and squares, increases social contact, with the potential to foster local networks of support, and improve people's quality of life.[34] Casual meetings between people increase and facilitate friendship networks and a sense of community.[35]					
Community safety					
• To design new developments in accordance with the principles of designing out crime (Securing Design)				√	
Information base: Despite the potentially health-promoting potential of design of the built environment to reduce crime, it is important to bear in mind that linking community safety entirely with design can shift the focus away from the social and political causes of crime.[36]					
Licensing					
• To explore ways in which the price of alcohol can be controlled to reduce its availability to under-age young people				√	

	Options			
Reputation and image of the area	**1**	**2**	**3b**	**3c**
• To promote Canterbury, publicising its benefits				√ (C

[33] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 136. Spon Press.

[34] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 135. Spon Press.

[35] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 132. Spon Press.

[36] Cave, B. et al (2004) Healthy sustainable communities: What works? Paragraph 5.37. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

	Options				
Travel and mobility	**1**	**2**	**3b**	**3c**	**5**
• To raise the capital necessary to support key transport projects			√		
• To integrate the various modes of travel at transport nodes			√		
• To ensure clear signposting is provided for different modes of travel			√		
Public transport					
• To invest in public transport				√ (C)	
• To ensure public transport options are available to isolated geographical communities and communities of need at times when they are needed		√			
• To explore good practice in public transport services in similar areas, e.g. Norfolk		√			
• To provide a variety of public transport options, including community transport, that cater for the needs of different groups in the various communities, e.g. young people, older people and families		√			
• To ensure affordability of ***all*** forms of public transport, including CTRL (affordability is particularly important for isolated geographical communities and communities of need)	√	√	√		
• To re-open train stations that have been closed					√
• To increase the number of routes for bus services	√				
• To make bus service routes more direct	√				
• To provide fast frequent and reliable bus services			√		
• To improve access to bus services: homes are within 400m of the nearest bus stop			√		
• To develop public transport routes that serve outlying geographical areas		√			
• To improve Park&Ride services				√ (C)	
• To build lay-bys for bus stops so that when a bus stops it does not interfere with the flow of traffic			√		
• To provide community bus services for school journeys/yellow bus projects		√			
Active travel					
• To maximise opportunities for active travel (walking and cycling) in new developments			√		
• To provide public bicycle schemes		√			

	Options				
Travel and mobilitycontinued	**1**	**2**	**3b**	**3c**	**5**
• To improve cycle routes/improve foot and cycle paths		√		√ (C)	
• To provide secure and covered cycle parking/storage			√		
• To establish dedicated walking buses as part of school travel policy and planning				√ (C)	
Car schemes					
• To introduce car share schemes in the new developments		√			
Road infrastructure					
• To develop the link road to London	√				
• To build a road and bridge over the river at Wincheap that links to Rheims Way	√				
• To reduce the amount of concrete used in street building			√		
Parking					
• To provide underground parking facilities		√			

Information base: Transport has several features that contribute positively to the determinants of health by providing access to a range of services, facilities and amenities, and by providing the opportunity for social contact and interaction.[37] In a review for the DETR, transport was highlighted as providing access to work, food, health facilities, education and training, and leisure, and representing a symbolic expression of an area as well connected with wider society in the city as a whole.[38] For vulnerable groups who do not have access to private transport, good public transport will increase access to amenities, facilities, services and job opportunities, and may help to reduce health and other inequalities.

Barton & Tsourou recommend using new development to help fund public transport improvements,[39] and that new development should be orientated towards public transport stops.[40] Public transport accessibility should be the starting point for neighbourhood planning with land uses attached to the public transport network[41]: all housing should be within easy walking distance (i.e. 400m) of good public transport services that give access to main centres of urban activity;[42] and office, retail and leisure developments should be less than 300 metres walking distance from good public transport services.[43] A reduction in car usage encourages the use of local facilities by making streets more pleasant and safe, especially for children, and also fosters a sense of community through social contact and interaction.[44]

With respect to parking, Barton & Tsourou recommend that parking provided at all major trip generators should be kept to an operational minimum as far as possible,[45] in order to reduce the

[37] Cave, B. et al (2004) Healthy sustainable communities: What works? Paragraph 6.1. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[38] Department of the Environment, Transport and the Regions (2000) Social exclusion and the provision and availability of public transport: summary report. TraC at the University of London.

[39] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 80. Spon Press.

[40] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 137 Spon Press.

[41] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 137. Spon Press.

[42] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 137. Spon Press.

[43] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 107. Spon Press.

[44] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 133. Spon Press.

[45] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 108. Spon Press.

number of trips by car.

	Options				
Housing and residential areas	**1**	**2**	**3b**	**3c**	**5**
• To develop higher density housing			√		
• To provide affordable housing, including that for social renting	√				
• To give priority for housing to key workers	√				
• To ensure housing meets the LifeTime Homes Standard		√			
• To ensure housing is designed to appropriate standards of sustainability, e.g. Code for Sustainable Homes	√				
• To incorporate energy efficiency and renewable energy features into new residential units: photovoltaic cells and solar panels			√		
• To incorporate the use of grey water into the design of new residential units			√		
• To design homes such that they can support home-working/To provide home-working units			√	√	
• To engage with developers to ensure housing meets the needs of existing communities		√			
• To restrict HMOs	√				
• To provide personal green space and community spaces in any new housing developments, and ensure these are included in the design and planning for those developments		√			
• To provide children's play areas/playgrounds in the new developments				√	
• To incorporate recreational green space into residential areas			√	√	

Housing and residential areas continued
Information base: Housing that is well designed and maintained helps to foster and reinforce a sense of community.[46] The condition, cost and availability of well-designed housing is critical to the development of sustainable communities.[47] For the planning process to contribute to a socially balanced population, it is important to provide housing appropriate for a range of family types and household incomes.[48]

[46] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.1. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[47] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.1. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[48] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Page 31, "What needs to happen". Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

Barton and Tsourou recommend that every part of a city should have a good range of housing type, tenure, size, price and garden availability.[49] Mixed communities are a good place to raise children.[50] The provision of public, social, and low-cost housing is central to the interests of vulnerable people in the population – low-income groups do not gain access to adequate housing simply through an ample overall supply but by removing the institutional and market barriers to provide for special needs and movement of households between sectors.[51] For vulnerable groups, improving people's housing may reduce health inequality.[52] In rural communities, it is important to ensure targeted low-cost home ownership for local people.[53] With respect to key workers, housing problems are a major factor in the recruitment crisis in both education and housing (the areas where teacher shortages are most acute correlate strongly with areas where house prices are highest).[54] If key workers can be attracted to the area through the provision of affordable housing, the quality of service provision for the community as a whole will be improved, which will then have the potential to promote health and reduce inequalities (particularly through the provision of education and health services).

In the past, there was a suggestion that high-density living could have a harmful effect on mental health,[55] however, the design of housing may not be solely responsible for this link[56] and it is thought that this effect is not seen in residential dwellings of 6 storeys or less.[57] In a relatively recent study, residents in high-density affordable housing often reported that they did not feel they lived at high densities – they appreciated the innovative architecture and design that offered a sense of light and space in their homes.[58] High-density housing needs to be built in the most accessible locations[59] because higher density increases the demand for local facilities and public transport services, and located close to clusters of facilities[60] within easy walking distance of a range of facilities.[61] Land close to public transport needs to be used at an appropriately high intensity[62]

Incorporating energy efficiency into the design and construction of new build will reduce the level of health-damaging emissions (from the inefficient combustion of wood, coal, oil or natural gas) and of carbon dioxide, thereby reducing the potential for global climate change.[63] Renewable energy can be

[49] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 101. Spon Press.

[50] Joseph Rowntree Foundation (2007) Memorandum to Sustainable Communities Commission Housing Sub-Group. February 2007.

[51] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Adapted from page 10. Spon Press.

[52] Cave, B. et al (2004) Healthy Sustainable Communities: What works? Paragraph 5.3. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[53] Best, R. and Shucksmith, M. (2006) Homes for rural communities. Joseph Rowntree Foundation and Rural Housing Policy Forum.

[54] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.3. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[55] Gabe & Williams (1993) in Burridge and Ormondy (eds) Unhealthy housing: research, remedies and reforms. Spon Press.

[56] Hunt (1997) in Charlton & Murphy (eds) The Health of Adult Britain 1841-1994, Volume 1. Office of National Statistics.

[57] Cave, B. & Molyneux, P., personal communication, March 2005.

[58] Bretherton, J. and Pleace, N. (2008) Residents' views of high-density affordable living. Findings April 2008 Joseph Rowntree Foundation.

[59] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. page 102. Spon Press.

[60] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 134. Spon Press.

[61] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 102. Spon Press.

[62] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 153. Spon Press.

[63] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 113. Spon Press.

promoted through design, e.g. incorporating passive solar features and a layout that ensures good solar access to all buildings (in cooler climates), with consideration given to the feasibility of solar water heating and photovoltaic cells.[64] It is important to promote low energy in the construction of buildings, as well as in their use,[65] and where appropriate, to consider using recycled and/or renewable materials in the construction of buildings and other infrastructure.[66] Sustainable practice in design also includes reducing the unnecessary consumption of pure or "white" water by households and businesses, [67] [68], and encouraging the collection and use of rain or "grey" water on site (water supply and treatment also requires large amounts of energy).[69]
To support dwelling-based work options (and employment uses), Barton & Tsourou recommend that broadband or similar high-quality telecommunications are provided in new developments.[70]

	Options				
Employment and economy	**1**	**2**	**3b**	**3c**	**5**
• To generate employment opportunities as part of development, with consideration for the quality of employment provided			√		
• To attract firms to the area which are big employers, including through the use of grants		√		√ (HB)	
• To explore the potential for simple provision of employment opportunities and subsidised land/grants				√ (HB)	
• To support the establishment of local small and medium enterprises (SMEs) through incentives				√ (HB)	
• To integrate employment opportunities into residential areas			√	√	√
• To ensure that employment opportunities are available for local people	√	√			√
• To ensure apprenticeships are provided as part of the developments/increase opportunities for apprenticeships		√	√		
• To provide training and skills development programmes as part of the redevelopments		√			
• To provide opportunities for adults in "shadowing" or work experience		√			
Information base: Whether employment leads to health improvement depends on the quality of work (e.g. level of pay, job security, and level of control and involvement).[71] Barton & Tsourou recommend that all employment sites are accessible by public transport and active travel options,[72] all office					

[64] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 115. Spon Press.

[65] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Table 5.1. Spon Press.

[66] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Table 5.1. Spon Press.

[67] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 116. Spon Press.

[68] Butler, D. and Parkinson, J. (1997) Towards sustainable urban drainage. Water Science and Technology 35; 53-63.

[69] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 116. Spon Press.

[70] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Table 5.1. Spon Press.

[71] Graetz (1993) Soc. Sci. Med. 36; 715-724.

[72] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 91. Spon Press.

developments are within 300 metres walking distance of good public transport services[73] and that neighbourhoods have local employment opportunities to help develop the bridging ties necessary to generate social capital and better health.[74]

	Options				
Access to services, facilities and amenities	**1**	**2**	**3b**	**3c**	**5**
• To invest in existing community facilities to facilitate the integration of new residents		√			
• To provide community centres as part of the new developments			√		
• To provide new village halls as part of the new developments					√
• To provide amenities in the new developments, with consideration given to opening hours to increase availability and accessibility					√
• To provide post offices and post boxes in the new developments			√		
• To provide automatic telling machines (ATMs)/cash points in the new developments			√		
• To provide local shops in the new developments			√		
• To provide food co-operatives in the new developments			√		
• To build a multi-purpose community space that can be used by service providers to deliver outreach services		√			
• To provide a space for the provision of voluntary services, e.g. Gateway and Citizen's Advice Bureau (CAB), in the new developments			√	√ (C)	
• To provide children's centres in the new developments			√		
• To take account of the needs of older people when planning & designing services	√				
• To consider introducing staggered opening times for different public services	√				
• To develop mobile services, for example, for banking, libraries, health services		√			

[73] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 107. Spon Press.

[74] Catell & Evans (1999) Neighbourhood images in East London: social capital and social networks on two East London Estates. YPS for the Joseph Rowntree Foundation.

• To provide health services for residents in the new developments, including primary care			√	√	√
• In liaison with Kent County Council, to explore the potential for the provision of some services via telecare (older people in social services? Check)	√				
• To provide day centres for the provision of respite care in the new developments				√ (C)	
• To provide day care for older people				√ (C)	
• To assess need for education at the planning stage of the new developments				√ (C)	
• To provide education facilities for children and young people in the new developments			√	√ (C)	√
• To invest in education services to improve the quality of education				√ (C)	

	Options				
Access to services, facilities and amenities continued	**1**	**2**	**3b**	**3c**	**5**
• To develop links between schools and the community in which the schools are sited				√ (C)	
• To provide education about the health impacts of alcohol consumption and the use of illicit drugs				√	
• To develop schemes for educating parents				√ (C)	
• To provide information technology (IT) facilities and infrastructure in schools				√ (C)	
• To provide additional childcare services and facilities				√ (C)	

Information base: It is important to establish basic standards of provision in any new development, by estimating and providing for the future needs of communities.[75]

Good local services are essential for quality of life and the willingness of people to stay and invest in an area – they are central to sustainable local communities.[76]

The integration and co-location of facilities and human services, e.g. education, leisure and library services[77], and/or the development of one-stop shop models for human services, e.g. extended and full service schools[78] may help to increase access, especially for vulnerable

[75] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 10. Spon Press.

[76] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 9.1. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[77] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 9.6. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[78] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 9.6. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

people, e.g. older people, families.

To increase access, especially by active travel or public transport options, Barton & Tsourou recommend the location of schools and health centres on local high streets[79] Local shops are one of the types of facility recommended as part of a local or neighbourhood centre.[80] Small retail outlets within small or large developments can improve access to food, especially for people who do not have access to private transport and/or mobility problems, and contribute to the vitality of an area.[81]

It is important to explore the potential for the support of community-owned village shops, which produce social benefits in an economically cost-effective manner,[82] for community-owned shops to become self-sustaining rural multi-service outlets, e.g. prescription delivery and Post Office services.[83] Success factors for community-owned shops include opportunities for passing trade, co-location with a Post Office, site location in the village, and use of volunteers.[84] In addition, it is important to explore the potential for innovative solutions to particular service delivery problems in rural areas, e.g. health services.[85]

	Options				
Infrastructure: utilities	**1**	**2**	**3b**	**3c**	**5**
• To ensure there is capacity in the water supply and sewage infrastructure to support development	√				
• To incorporate low-energy street lighting into the new developments			√		
• To incorporate a combined heat and power station into the new developments			√		

Information base: Water stress is increasing, and aquifers supplying water for drinking or for productive uses are often exploited faster than recharge.[86]

Groundwater and surface waters are vulnerable to pollution and both require localised and large-scale actions to prevent pollution of drinking water and water for other human uses.[87]

[79] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 110. Spon Press.

[80] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Table 4.1. Spon Press.

[81] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 9.5. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[82] Plunkett (2006) Sustainable Models of Community Retailing. Final Report. Commissioned by Defra and DTI.

[83] Plunkett (2006) Sustainable Models of Community Retailing. Final Report. Commissioned by Defra and DTI.

[84] Plunkett (2006) Sustainable Models of Community Retailing. Final Report. Commissioned by Defra and DTI.

[85] Hindle, T., Spollen, M. and Dixon, P. (2004) Reviewing of Evidence on Additional Costs of Delivering Services to Rural Communities. Final Report April 2004. Commissioned by Defra. Secta.

[86] DHI Water & Environment (2005) Water & Health: Tools and Solutions. DHI Water & Environment, a WHO Collaborating Centre for Water and Health. May 2005.

[87] DHI Water & Environment (2005) Water & Health: Tools and Solutions. DHI Water & Environment, a WHO Collaborating Centre for Water and Health. May 2005.

An accelerated switch to renewable sources of energy has the potential to deliver appreciable health benefits, though a major switch will pose a challenge particularly in relation to the intermittency of renewable production, land use requirements and cost.[88]					
Green infrastructure					
• To incorporate the flood risk area into the design for green infrastructure in the developments			√		
• To link the green space in the development to the wider environment			√		
• To use native landscaping for the green spaces in the development			√		
• To provide allotments as part of the developments			√		
Information base: To incorporate the flood risk area into the development, it is important: to safeguard water catchment zones from inappropriate, i.e. polluting, development;[89] where subsoil permits, to allow rainwater to percolate into the ground to recharge aquifers and avoid the danger of flooding, and, where run-off is inevitable, consider the use of swales and holding ponds.[90] Sustainable urban drainage should maintain a good public health barrier, avoid local or distant pollution of the environment, minimise the use of natural resources (water, energy, materials) and be operable in the long-term and adaptable to future requirements.[91] Green space including green space on the urban fringe can contribute to health and well-being.[92] Health outcomes improved by access to quality public parks and natural spaces include depression, obesity, heart disease, cognitive function, and problem-solving ability.[93] Access to open spaces can increase the level of exercise undertaken in a community, contributing to reducing the levels of obesity, cardiovascular disease, diabetes and arthritis, but the impact on levels of exercise is most likely to be experienced by children.[94] In addition, access to open spaces can increase the level of social contact and interaction, contributing to a reduction in stress-related problems.[95] Access to parks has a positive influence on various					

[88] Markandya, A. and Wilkinson, P. (2007) Electricity generation and health. Lancet 370; 979-990.

[89] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 116. Spon Press.

[90] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 116. Spon Press.

[91] Butler, D. and Parkinson, J. (1997) Towards sustainable urban drainage. Water Science and Technology 35; 53-63.

[92] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.11. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[93] Richardson, M. (2007) Mac Arthur BART Transit Village Health Impact Assessment. Chapter 6. Parks and Natural Spaces. DRAFT 1/30/07.

[94] Michie and de Rozarieux (2001) The health impacts of green spaces: a rapid review to support the Mayor of London's Biodiversity Strategy.

[95] Michie and de Rozarieux (2001) The health impacts of green spaces: a rapid review to support the Mayor of London's Biodiversity Strategy.

measures of children's behaviour, including the number and nature of friendships, and characteristics of play patterns.[96],[97] However, criminal, social or psychological aggression, and drug abuse and conduct offences can take place in green spaces.[98] On balance, the London Health Commission advises that the health benefits of parks and open spaces outweigh the dis-benefits, ***if*** there are policies and management practices in place to overcome barriers, such as fears about safety, and to maximise the benefits.[99]

Wildlife habitats in cities benefit well-being and quality of life through providing an educational and community resource in addition to the value of the habitat itself.[100] People who can see green space or trees from their home report higher levels of health and well-being, and children who have access to, or sight of, the natural environment have higher levels of attention than those who do not.[101] Trees can benefit health in other ways by improving air quality, by reducing wind speed, by contributing to a supportive microclimate, by providing shelter, by increasing the level of carbon fixing, and by providing a supportive environment for some types of wildlife.[102] The provision of trees will break up and counteract the concentration of pollution,[103] and can moderate excessive summer heat and winter cold.[104] Suburban areas can be 6-8 degrees Fahrenheit warmer than surrounding areas, an effect known as a heat island, which has two main causes, including the lack of vegetation, especially trees, in urban areas; the effects on health include heat syncope or fainting and heat oedema or swelling.[105]

It is important to ensure proper management of green infrastructure[106] in order to realise the potential positive impacts on health and well-being, and, where possible, ensure that homes are within 2000 metres of major natural green space.[107]

The provision of allotments can help to increase access to safe and healthy food; working in an allotment encourages regular exercise, improves mental health, promotes social contact,

[96] McCulloch and Joshi (2001) Soc. Sci. Med. 53; 579-591.

[97] Parke and Bhavnagri (1989) In Belle (ed.) Children's social networks and social supports. Wiley.

[98] Michie and de Rozarieux (2001) The health impacts of green spaces: a rapid review to support the Mayor of London's Biodiversity Strategy.

[99] London Health Commission (2002) Culture & health: making the link. London Health Commission.

[100] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 141. Spon Press.

[101] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.12 . Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[102] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Adapted from Table 5.1. Spon Press.

[103] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 139. Spon Press.

[104] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 140. Spon Press.

[105] Cave, B. et al (2004) Healthy sustainable communities: What works? Paragraph 5.58. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[106] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.11. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[107] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Figure 5.1 Spon Press.

networking and support, and provides the opportunity to grow fresh, nutritious and affordable food.[108] Barton & Tsourou recommend locating allotments in any new development within easy "barrow distance" from homes, e.g. 200 metres or less.[109]

	Options				
Waste management	**1**	**2**	**3b**	**3c**	**5**
• To design recycling facilities and infrastructure into the new developments			√		
• To incorporate facilities and infrastructure for communal/community composting into the new developments			√		
Information base: Central Government policy encourages a waste hierarchy that that ranks recycling as third in a list of five possible strategies, the upper levels of the hierarchy reflecting more sustainable management of resources.[110] Any communal/community composting scheme that is introduced needs to take account of the potential health impacts and establish appropriate control and management measures: the composting process can release or produce bio-aerosols – i.e. particles of microbial, plant or animal origin (sometimes called organic dust) – many of which are known to cause symptoms and/or illness, including a wide range of adverse health effects and infection; individuals may become increasingly sensitised to some bio-aerosols through repeated exposure.[111] The composting process can also produce odour and volatile organic compounds.[112] Adverse health effects include respiratory symptoms, mucosal membrane irritation, skin diseases and markers showing immune system response – there is an association between distance to an outdoor composting facility and respiratory symptoms and general health complaints but not to allergies or infectious disease.[113]					
Leisure and recreation					
• To provide public places for people to go, using section 106 negotiations to secure these facilities					√
• To provide leisure and recreation facilities in the new developments			√		
• To provide leisure and recreation opportunities centrally but linked to the provision of affordable public transport				√	
• To increase the number of leisure and				√	

[108] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 118. Spon Press.

[109] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Fig. 5.1. Spon Press.

[110] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 5.5. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[111] Harrison, E.Z. (2007) Health Impacts of Composting Air Emissions. Biocycle. November 2007, pages 44-50.

[112] Harrison, E.Z. (2007) Health Impacts of Composting Air Emissions. Biocycle. November 2007, pages 44-50.

[113] Harrison, E.Z. (2007) Health Impacts of Composting Air Emissions. Biocycle. November 2007, pages 44-50.

recreation opportunities available					
• To provide public houses and restaurants as part of the new developments			√		
• To provide affordable gym facilities in the new developments			√		
• To provide playing fields in the new developments					√
Information base: Passive and active recreation is associated with increased physical activity, improved mental health and an improved sense of well-being, and social cohesion.[114]					

[114] Richardson, M. (2007) Mac Arthur BART Transit Village Health Impact Assessment. Chapter 6. Parks and Natural Spaces. DRAFT 1/30/07.

Table 3 *continued*: Suggestions to address potential impacts on health and well-being

	Options				
Travel and mobility	**1**	**2**	**3b**	**3c**	**5**
• To raise the capital necessary to support key transport projects			√		
• To integrate the various modes of travel at transport nodes			√		
• To ensure clear signposting is provided for different modes of travel			√		
Public transport					
• To invest in public transport				√ (C)	
• To ensure public transport options are available to isolated geographical communities and communities of need at times when they are needed		√			
• To explore good practice in public transport services in similar areas, e.g. Norfolk		√			
• To provide a variety of public transport options, including community transport, that cater for the needs of different groups in the various communities, e.g. young people, older people and families		√			
• To ensure affordability of ***all*** forms of public transport, including CTRL (affordability is particularly important for isolated geographical communities and communities of need)	√	√	√		
• To re-open train stations that have been closed					√
• To increase the number of routes for bus services	√				
• To make bus service routes more direct	√				
• To provide fast frequent and reliable bus services			√		
• To improve access to bus services: homes are within 400m of the nearest bus stop			√		
• To develop public transport routes that		√			

serve outlying geographical areas					
• To improve Park&Ride services				√ (C)	
• To build lay-bys for bus stops so that when a bus stops it does not interfere with the flow of traffic			√		
• To provide community bus services for school journeys/yellow bus projects		√			
Active travel					
• To maximise opportunities for active travel (walking and cycling) in new developments			√		
• To provide public bicycle schemes		√			
	Options				
Travel and mobility continued	**1**	**2**	**3b**	**3c**	**5**
• To improve cycle routes/improve foot and cycle paths		√		√ (C)	
• To provide secure and covered cycle parking/storage			√		
• To establish dedicated walking buses as part of school travel policy and planning				√ (C)	
Car schemes					
• To introduce car share schemes in the new developments		√			
Road infrastructure					
• To develop the link road to London	√				
• To build a road and bridge over the river at Wincheap that links to Rheims Way	√				
• To reduce the amount of concrete used in street building			√		
Parking					
• To provide underground parking facilities		√			
Information base: Transport has several features that contribute positively to the determinants of health by providing access to a range of services, facilities and amenities, and by providing the opportunity for social contact and interaction.[115] In a review for the DETR, transport was highlighted as providing access to work, food, health facilities, education and training, and					

[115] Cave, B. et al (2004) Healthy sustainable communities: What works? Paragraph 6.1. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

leisure, and representing a symbolic expression of an area as well connected with wider society in the city as a whole.[116] For vulnerable groups who do not have access to private transport, good public transport will increase access to amenities, facilities, services and job opportunities, and may help to reduce health and other inequalities.

Barton & Tsourou recommend using new development to help fund public transport improvements,[117] and that new development should be orientated towards public transport stops.[118] Public transport accessibility should be the starting point for neighbourhood planning with land uses attached to the public transport network[119]: all housing should be within easy walking distance (i.e. 400m) of good public transport services that give access to main centres of urban activity;[120] and office, retail and leisure developments should be less than 300 metres walking distance from good public transport services.[121] A reduction in car usage encourages the use of local facilities by making streets more pleasant and safe, especially for children, and also fosters a sense of community through social contact and interaction.[122]

With respect to parking, Barton & Tsourou recommend that parking provided at all major trip generators should be kept to an operational minimum as far as possible,[123] in order to reduce the number of trips by car.

[116] Department of the Environment, Transport and the Regions (2000) Social exclusion and the provision and availability of public transport: summary report. TraC at the University of London.

[117] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 80. Spon Press.

[118] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 137 Spon Press.

[119] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 137. Spon Press.

[120] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 137. Spon Press.

[121] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 107. Spon Press.

[122] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 133. Spon Press.

[123] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 108. Spon Press.

Table 3 *continued*: Suggestions to address potential impacts on health and well-being

	Options				
Housing and residential areas	**1**	**2**	**3b**	**3c**	**5**
• To develop higher density housing			√		
• To provide affordable housing, including that for social renting	√				
• To give priority for housing to key workers	√				
• To ensure housing meets the LifeTime Homes Standard		√			
• To ensure housing is designed to appropriate standards of sustainability, e.g. Code for Sustainable Homes	√				
• To incorporate energy efficiency and renewable energy features into new residential units: photovoltaic cells and solar panels			√		
• To incorporate the use of grey water into the design of new residential units			√		
• To design homes such that they can support home-working/To provide home-working units			√	√	
• To engage with developers to ensure housing meets the needs of existing communities		√			
• To restrict HMOs	√				
• To provide personal green space and community spaces in any new housing developments, and ensure these are included in the design and planning for those developments		√			
• To provide children's play areas/playgrounds in the new developments				√	
• To incorporate recreational green space into residential areas			√	√	

Housing and residential areas continued

Information base: Housing that is well designed and maintained helps to foster and reinforce a sense of community.[124] The condition, cost and availability of well-designed housing is critical to the development of sustainable communities.[125] For the planning process to contribute to a socially balanced population, it is important to provide housing appropriate for a range of family types and household incomes.[126] Barton and Tsourou recommend that every part of a city should have a good range of housing type, tenure, size, price and garden availability.[127] Mixed communities are a good place to raise children.[128]

The provision of public, social, and low-cost housing is central to the interests of vulnerable people in the population – low-income groups do not gain access to adequate housing simply through an ample overall supply but by removing the institutional and market barriers to provide for special needs and movement of households between sectors.[129] For vulnerable groups, improving people's housing may reduce health inequality.[130] In rural communities, it is important to ensure targeted low-cost home ownership for local people.[131] With respect to key workers, housing problems are a major factor in the recruitment crisis in both education and housing (the areas where teacher shortages are most acute correlate strongly with areas where house prices are highest).[132] If key workers can be attracted to the area through the provision of affordable housing, the quality of service provision for the community as a whole will be improved, which will then have the potential to promote health and reduce inequalities

[124] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.1. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[125] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.1. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[126] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Page 31, "What needs to happen". Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[127] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 101. Spon Press.

[128] Joseph Rowntree Foundation (2007) Memorandum to Sustainable Communities Commission Housing Sub-Group. February 2007.

[129] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Adapted from page 10. Spon Press.

[130] Cave, B. et al (2004) Healthy Sustainable Communities: What works? Paragraph 5.3. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[131] Best, R. and Shucksmith, M. (2006) Homes for rural communities. Joseph Rowntree Foundation and Rural Housing Policy Forum.

[132] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.3. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

(particularly through the provision of education and health services).

In the past, there was a suggestion that high-density living could have a harmful effect on mental health,[133] however, the design of housing may not be solely responsible for this link[134] and it is thought that this effect is not seen in residential dwellings of 6 storeys or less.[135] In a relatively recent study, residents in high-density affordable housing often reported that they did not feel they lived at high densities – they appreciated the innovative architecture and design that offered a sense of light and space in their homes.[136] High-density housing needs to be built in the most accessible locations[137] because higher density increases the demand for local facilities and public transport services, and located close to clusters of facilities[138] within easy walking distance of a range of facilities.[139] Land close to public transport needs to be used at an appropriately high intensity[140]

Incorporating energy efficiency into the design and construction of new build will reduce the level of health-damaging emissions (from the inefficient combustion of wood, coal, oil or natural gas) and of carbon dioxide, thereby reducing the potential for global climate change.[141]

Renewable energy can be promoted through design, e.g. incorporating passive solar features and a layout that ensures good solar access to all buildings (in cooler climates), with consideration given to the feasibility of solar water heating and photovoltaic cells.[142] It is important to promote low energy in the construction of buildings, as well as in their use,[143] and where appropriate, to consider using recycled and/or renewable materials in the construction of buildings and other infrastructure.[144] Sustainable practice in design also includes reducing the unnecessary consumption of pure or "white" water by households and businesses, [145],[146] and

[133] Gabe & Williams (1993) in Burridge and Ormondy (eds) Unhealthy housing: research, remedies and reforms. Spon Press.

[134] Hunt (1997) in Charlton & Murphy (eds) The Health of Adult Britain 1841-1994, Volume 1. Office of National Statistics.

[135] Cave, B. & Molyneux, P., personal communication, March 2005.

[136] Bretherton, J. and Pleace, N. (2008) Residents' views of high-density affordable living. Findings April 2008 Joseph Rowntree Foundation.

[137] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. page 102. Spon Press.

[138] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 134. Spon Press.

[139] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 102. Spon Press.

[140] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 153. Spon Press.

[141] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 113. Spon Press.

[142] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 115. Spon Press.

[143] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Table 5.1. Spon Press.

[144] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Table 5.1. Spon Press.

[145] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 116. Spon Press.

[146] Butler, D. and Parkinson, J. (1997) Towards sustainable urban drainage. Water Science and Technology 35; 53-63.

encouraging the collection and use of rain or “grey” water on site (water supply and treatment also requires large amounts of energy).[147]

To support dwelling-based work options (and employment uses), Barton & Tsourou recommend that broadband or similar high-quality telecommunications are provided in new developments.[148]

[147] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 116. Spon Press.

[148] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Table 5.1. Spon Press.

Table 3 *continued*: Suggestions to address potential impacts on health and well-being

	Options				
Employment and economy	**1**	**2**	**3b**	**3c**	**5**
• To generate employment opportunities as part of development, with consideration for the quality of employment provided			√		
• To attract firms to the area which are big employers, including through the use of grants		√		√ (HB)	
• To explore the potential for simple provision of employment opportunities and subsidised land/grants				√ (HB)	
• To support the establishment of local small and medium enterprises (SMEs) through incentives				√ (HB)	
• To integrate employment opportunities into residential areas			√	√	√
• To ensure that employment opportunities are available for local people	√	√			√
• To ensure apprenticeships are provided as part of the developments/increase opportunities for apprenticeships		√	√		
• To provide training and skills development programmes as part of the redevelopments		√			
• To provide opportunities for adults in "shadowing" or work experience		√			
Information base: Whether employment leads to health improvement depends on the quality of work (e.g. level of pay, job security, and level of control and involvement).[149] Barton & Tsourou recommend that all employment sites are accessible by public transport and active travel options,[150] all office developments are within 300 metres walking distance of good public transport services[151] and that neighbourhoods have local employment opportunities to help develop the bridging ties necessary to generate social capital and better health.[152]					

[149] Graetz (1993) Soc. Sci. Med. 36; 715-724.

[150] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 91. Spon Press.

[151] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 107. Spon Press.

[152] Catell & Evans (1999) Neighbourhood images in East London: social capital and social networks on two East London Estates. YPS for the Joseph Rowntree Foundation.

Table 3 *continued*: Suggestions to address potential impacts on health and well-being

	Options				
Access to services, facilities and amenities	**1**	**2**	**3b**	**3c**	**5**
• To invest in existing community facilities to facilitate the integration of new residents		√			
• To provide community centres as part of the new developments			√		
• To provide new village halls as part of the new developments					√
• To provide amenities in the new developments, with consideration given to opening hours to increase availability and accessibility					√
• To provide post offices and post boxes in the new developments			√		
• To provide automatic telling machines (ATMs)/cash points in the new developments			√		
• To provide local shops in the new developments			√		
• To provide food co-operatives in the new developments			√		
• To build a multi-purpose community space that can be used by service providers to deliver outreach services		√			
• To provide a space for the provision of voluntary services, e.g. Gateway and Citizen's Advice Bureau (CAB), in the new developments			√	√ (C)	
• To provide children's centres in the new developments			√		
• To take account of the needs of older people when planning & designing services	√				
• To consider introducing staggered opening times for different public services	√				

• To develop mobile services, for example, for banking, libraries, health services		√			
• To provide health services for residents in the new developments, including primary care			√	√	√
• In liaison with Kent County Council, to explore the potential for the provision of some services via telecare (older people in social services? Check)	√				
• To provide day centres for the provision of respite care in the new developments				√ (C)	
• To provide day care for older people				√ (C)	
• To assess need for education at the planning stage of the new developments				√ (C)	
• To provide education facilities for children and young people in the new developments			√	√ (C)	√
• To invest in education services to improve the quality of education				√ (C)	

Table 3 *continued*: Suggestions to address potential impacts on health and well-being

	Options				
Access to services, facilities and amenities continued	**1**	**2**	**3b**	**3c**	**5**
• To develop links between schools and the community in which the schools are sited				√ (C)	
• To provide education about the health impacts of alcohol consumption and the use of illicit drugs				√	
• To develop schemes for educating parents				√ (C)	
• To provide information technology (IT) facilities and infrastructure in schools				√ (C)	
• To provide additional childcare services and facilities				√ (C)	
Information base: It is important to establish basic standards of provision in any new development, by estimating and providing for the future needs of communities.[153]					

[153] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 10. Spon Press.

Good local services are essential for quality of life and the willingness of people to stay and invest in an area – they are central to sustainable local communities.[154] The integration and co-location of facilities and human services, e.g. education, leisure and library services[155], and/or the development of one-stop shop models for human services, e.g. extended and full service schools[156] may help to increase access, especially for vulnerable people, e.g. older people, families. To increase access, especially by active travel or public transport options, Barton & Tsourou recommend the location of schools and health centres on local high streets[157] Local shops are one of the types of facility recommended as part of a local or neighbourhood centre.[158] Small retail outlets within small or large developments can improve access to food, especially for people who do not have access to private transport and/or mobility problems, and contribute to the vitality of an area.[159] It is important to explore the potential for the support of community-owned village shops, which produce social benefits in an economically cost-effective manner,[160] for community-owned shops to become self-sustaining rural multi-service outlets, e.g. prescription delivery and Post Office services.[161] Success factors for community-owned shops include opportunities for passing trade, co-location with a Post Office, site location in the village, and use of volunteers.[162] In addition, it is important to explore the potential for innovative solutions to particular service delivery problems in rural areas, e.g. health services.[163]

Table 3 *continued*: Suggestions to address potential impacts on health and well-being

	Options				
Infrastructure: utilities	**1**	**2**	**3b**	**3c**	**5**
• To ensure there is capacity in the water supply and sewage infrastructure to	√				

[154] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 9.1. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[155] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 9.6. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[156] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 9.6. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[157] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 110. Spon Press.

[158] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Table 4.1. Spon Press.

[159] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 9.5. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[160] Plunkett (2006) Sustainable Models of Community Retailing. Final Report. Commissioned by Defra and DTI.

[161] Plunkett (2006) Sustainable Models of Community Retailing. Final Report. Commissioned by Defra and DTI.

[162] Plunkett (2006) Sustainable Models of Community Retailing. Final Report. Commissioned by Defra and DTI.

[163] Hindle, T., Spollen, M. and Dixon, P. (2004) Reviewing of Evidence on Additional Costs of Delivering Services to Rural Communities. Final Report April 2004. Commissioned by Defra. Secta.

support development					
• To incorporate low-energy street lighting into the new developments			√		
• To incorporate a combined heat and power station into the new developments			√		
Information base: Water stress is increasing, and aquifers supplying water for drinking or for productive uses are often exploited faster than recharge.[164] Groundwater and surface waters are vulnerable to pollution and both require localised and large-scale actions to prevent pollution of drinking water and water for other human uses.[165] An accelerated switch to renewable sources of energy has the potential to deliver appreciable health benefits, though a major switch will pose a challenge particularly in relation to the intermittency of renewable production, land use requirements and cost.[166]					
Green infrastructure					
• To incorporate the flood risk area into the design for green infrastructure in the developments			√		
• To link the green space in the development to the wider environment			√		
• To use native landscaping for the green spaces in the development			√		
• To provide allotments as part of the developments			√		
Information base: To incorporate the flood risk area into the development, it is important: to safeguard water catchment zones from inappropriate, i.e. polluting, development;[167] where subsoil permits, to allow rainwater to percolate into the ground to recharge aquifers and avoid the danger of flooding, and, where run-off is inevitable, consider the use of swales and holding ponds.[168] Sustainable urban drainage should maintain a good public health barrier, avoid local or distant pollution of the environment, minimise the use of natural resources (water, energy, materials) and be operable in the long-term and adaptable to future requirements.[169]					

[164] DHI Water & Environment (2005) Water & Health: Tools and Solutions. DHI Water & Environment, a WHO Collaborating Centre for Water and Health. May 2005.

[165] DHI Water & Environment (2005) Water & Health: Tools and Solutions. DHI Water & Environment, a WHO Collaborating Centre for Water and Health. May 2005.

[166] Markandya, A. and Wilkinson, P. (2007) Electricity generation and health. Lancet 370; 979-990.

[167] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 116. Spon Press.

[168] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 116. Spon Press.

[169] Butler, D. and Parkinson, J. (1997) Towards sustainable urban drainage. Water Science and Technology 35; 53-63.

Green space including green space on the urban fringe can contribute to health and well-being.[170] Health outcomes improved by access to quality public parks and natural spaces include depression, obesity, heart disease, cognitive function, and problem-solving ability.[171] Access to open spaces can increase the level of exercise undertaken in a community, contributing to reducing the levels of obesity, cardiovascular disease, diabetes and arthritis, but the impact on levels of exercise is most likely to be experienced by children.[172] In addition, access to open spaces can increase the level of social contact and interaction, contributing to a reduction in stress-related problems.[173] Access to parks has a positive influence on various measures of children's behaviour, including the number and nature of friendships, and characteristics of play patterns.[174],[175] However, criminal, social or psychological aggression, and drug abuse and conduct offences can take place in green spaces.[176] On balance, the London Health Commission advises that the health benefits of parks and open spaces outweigh the dis-benefits, ***if*** there are policies and management practices in place to overcome barriers, such as fears about safety, and to maximise the benefits.[177]

Wildlife habitats in cities benefit well-being and quality of life through providing an educational and community resource in addition to the value of the habitat itself.[178] People who can see green space or trees from their home report higher levels of health and well-being, and children who have access to, or sight of, the natural environment have higher levels of attention than those who do not.[179] Trees can benefit health in other ways by improving air quality, by reducing wind speed, by contributing to a supportive microclimate, by providing shelter, by increasing the level of carbon fixing, and by providing a supportive environment for some types of wildlife.[180] The provision of trees will break up and counteract the concentration of

[170] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.11. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[171] Richardson, M. (2007) Mac Arthur BART Transit Village Health Impact Assessment. Chapter 6. Parks and Natural Spaces. DRAFT 1/30/07.

[172] Michie and de Rozarieux (2001) The health impacts of green spaces: a rapid review to support the Mayor of London's Biodiversity Strategy.

[173] Michie and de Rozarieux (2001) The health impacts of green spaces: a rapid review to support the Mayor of London's Biodiversity Strategy.

[174] McCulloch and Joshi (2001) Soc. Sci. Med. 53; 579-591.

[175] Parke and Bhavnagri (1989) In Belle (ed.) Children's social networks and social supports. Wiley.

[176] Michie and de Rozarieux (2001) The health impacts of green spaces: a rapid review to support the Mayor of London's Biodiversity Strategy.

[177] London Health Commission (2002) Culture & health: making the link. London Health Commission.

[178] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 141. Spon Press.

[179] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.12 . Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[180] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Adapted from Table 5.1. Spon Press.

pollution,[181] and can moderate excessive summer heat and winter cold.[182] Suburban areas can be 6-8 degrees Fahrenheit warmer than surrounding areas, an effect known as a heat island, which has two main causes, including the lack of vegetation, especially trees, in urban areas; the effects on health include heat syncope or fainting and heat oedema or swelling.[183]

It is important to ensure proper management of green infrastructure[184] in order to realise the potential positive impacts on health and well-being, and, where possible, ensure that homes are within 2000 metres of major natural green space.[185]

The provision of allotments can help to increase access to safe and healthy food; working in an allotment encourages regular exercise, improves mental health, promotes social contact, networking and support, and provides the opportunity to grow fresh, nutritious and affordable food.[186] Barton & Tsourou recommend locating allotments in any new development within easy "barrow distance" from homes, e.g. 200 metres or less.[187]

Table 3 *continued*: Suggestions to address potential impacts on health and well-being

	Options				
Waste management	**1**	**2**	**3b**	**3c**	**5**
• To design recycling facilities and infrastructure into the new developments			√		
• To incorporate facilities and infrastructure for communal/community composting into the new developments			√		

Information base: Central Government policy encourages a waste hierarchy that that ranks recycling as third in a list of five possible strategies, the upper levels of the hierarchy reflecting more sustainable management of resources.[188]

Any communal/community composting scheme that is introduced needs to take account of the potential health impacts and establish appropriate control and management measures: the composting process can release or produce bio-aerosols – i.e. particles of microbial, plant or animal origin (sometimes called organic dust) – many of which are known to cause symptoms

[181] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 139. Spon Press.

[182] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 140. Spon Press.

[183] Cave, B. et al (2004) Healthy sustainable communities: What works? Paragraph 5.58. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[184] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 6.11. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

[185] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Figure 5.1 Spon Press.

[186] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 118. Spon Press.

[187] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Fig. 5.1. Spon Press.

[188] Cave, B. and Molyneux, P. (2004) Healthy Sustainable Communities: A Spatial Planning Checklist. Paragraph 5.5. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

and/or illness, including a wide range of adverse health effects and infection; individuals may become increasingly sensitised to some bio-aerosols through repeated exposure.[189] The composting process can also produce odour and volatile organic compounds.[190] Adverse health effects include respiratory symptoms, mucosal membrane irritation, skin diseases and markers showing immune system response – there is an association between distance to an outdoor composting facility and respiratory symptoms and general health complaints but not to allergies or infectious disease.[191]					
Leisure and recreation					
• To provide public places for people to go, using section 106 negotiations to secure these facilities					√
• To provide leisure and recreation facilities in the new developments			√		
• To provide leisure and recreation opportunities centrally but linked to the provision of affordable public transport				√	
• To increase the number of leisure and recreation opportunities available				√	
• To provide public houses and restaurants as part of the new developments			√		
• To provide affordable gym facilities in the new developments			√		
• To provide playing fields in the new developments					√
Information base: Passive and active recreation is associated with increased physical activity, improved mental health and an improved sense of well-being, and social cohesion.[192]					

[189] Harrison, E.Z. (2007) Health Impacts of Composting Air Emissions. Biocycle. November 2007, pages 44-50.

[190] Harrison, E.Z. (2007) Health Impacts of Composting Air Emissions. Biocycle. November 2007, pages 44-50.

[191] Harrison, E.Z. (2007) Health Impacts of Composting Air Emissions. Biocycle. November 2007, pages 44-50.

[192] Richardson, M. (2007) Mac Arthur BART Transit Village Health Impact Assessment. Chapter 6. Parks and Natural Spaces. DRAFT 1/30/07.

Table 3 *continued*: Suggestions to address potential impacts on health and well-being

	Options				
Community cohesion	**1**	**2**	**3b**	**3c**	**5**
• To incorporate public meeting places for people in the new developments				√	
• To provide "focal points" for the community in any new development		√			
• To invest in schemes to promote community cohesion				√ (C)	
• To set up "Bring Back the Spirit of the Community" Campaigns to promote good neighbourliness and access to community services and facilities		√			
• To set up a system of community "champions"				√ (C)	
• To establish neighbourhood schemes to develop and maintain community cohesion				√ (C)	
• To set up community newsletters					√
• To establish local and community websites					√
Information base: A thriving localised community life needs appropriate facilities and meeting places – neighbourhood resources are important for building and sustaining networks, developing trust and economic participation, and have an impact on residential continuity, interaction and socialising with fellow residents; it also helps to facilitate identity, pride in an area, and can have a direct influence on some forms of antisocial behaviour.[193] Important to the potential pleasure and social benefits of walking is the creation of places where it is natural for people to stop and look;[194] the design and provision of streets and places where people can meet, e.g. incidental spaces and squares, increases social contact, with the potential to foster local networks of support, and improve people's quality of life.[195] Casual meetings between people increase and facilitate friendship networks and a sense of community.[196]					
Community safety					
• To design new developments in accordance with the principles of designing out crime (Securing Design)				√	

[193] Catell & Evans (1999) Neighbourhood images in East London: social capital and social networks on two East London estates. YPS for the Joseph Rowntree Foundation.

[194] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 136. Spon Press.

[195] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 135. Spon Press.

[196] Barton, H. and Tsourou, C. (2000) Healthy Urban Planning. Page 132. Spon Press.

Information base: Despite the potentially health-promoting potential of design of the built environment to reduce crime, it is important to bear in mind that linking community safety entirely with design can shift the focus away from the social and political causes of crime.[197]					
Licensing					
• To explore ways in which the price of alcohol can be controlled to reduce its availability to under-age young people				√	

	Options				
Reputation and image of the area	**1**	**2**	**3b**	**3c**	**5**
• To promote Canterbury, publicising its benefits				√ (C)	

Conclusions

The HIA highlighted potential impacts associated with the following social determinants of health and wellbeing:

- Demographic and social changes and community cohesion
- Travel and mobility
- Housing
- Health service provision
- Education and training
- Employment & economy
- Provision of facilities & amenities
- The natural environment
- Construction

The potential impact on the social demographic make-up of the district associated with new development in Canterbury and the wider region (especially Ashford) and the Channel Tunnel Rail Link was a key theme. In particular, stakeholders noted the pressure on housing availability and cost associated with higher income groups moving into the area. This could combine with existing pressures from the high proportion of students in Canterbury, to cause 'competition' for affordable housing and

[197] Cave, B. et al (2004) Healthy sustainable communities: What works? Paragraph 5.37. Milton Keynes/South Midlands Sub-Region Health and Social Care Project Team.

facilities, with subsequent tension and displacement of poorer groups from some areas. Canterbury was seen as congested, with high competition for existing housing and high housing costs. Affordable and improved housing and public transport was seen as key to the integration of the towns and villages with Canterbury and to enabling mixed communities in these areas. Stakeholders also wanted to see development of active transport infrastructure.

Stakeholders' suggestions for enhancing health and wellbeing in these proposals centred on:
Integrating new development with existing development.

Local engagement in the planning and design of new developments: Use of Planning for Real approaches; local consultation on Section 106 agreements.

Ensuring new development draws on good practice examples from other communities and other countries.

Version 1.0

Appendix 1 Community Profile

Community Profile for Canterbury

2010

Prepared by Rachel Johnson, Caroline Ridler & Linsey Hovard

Background

This profile has been created to inform a health impact assessment of the Canterbury Core Strategy Options document[198]. The profile aims to provide detailed statistical information on Canterbury. There is a particular focus on data on health status and on built environmental issues where the planned development may have a positive or an adverse impact on human health.

The data included within this community health profile has been collated from a rage of sources including data provided by the Office for National Statistics (ONS), Kent County Council, Canterbury & costal PCT, Canterbury City Council and the Environment Agency.

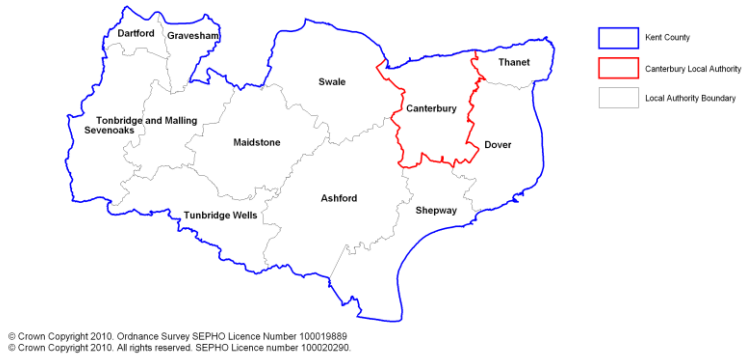
The profile contains data at a number of geographical levels. Some data are only reported at PCT or local authority level and comparators are Canterbury or Kent as a whole. Other data are reported at ward level, enabling comparison with neighbouring wards as well as the wider area. Some data from the ONS are reported at Lower Super Output Area (LSOA) level. This enables comparison among smaller sub-areas within wards.

[198] Planning for the future of the district January 2010. Canterbury District Local Development Framework – Core Strategy Options Report for consultation. http://www.canterbury.gov.uk/assets/localplan/TheCoreStrategyhighresv21.pdf

Geography

Canterbury is a historical city that lies in within East Kent and is one of 12 local authorities in the county.

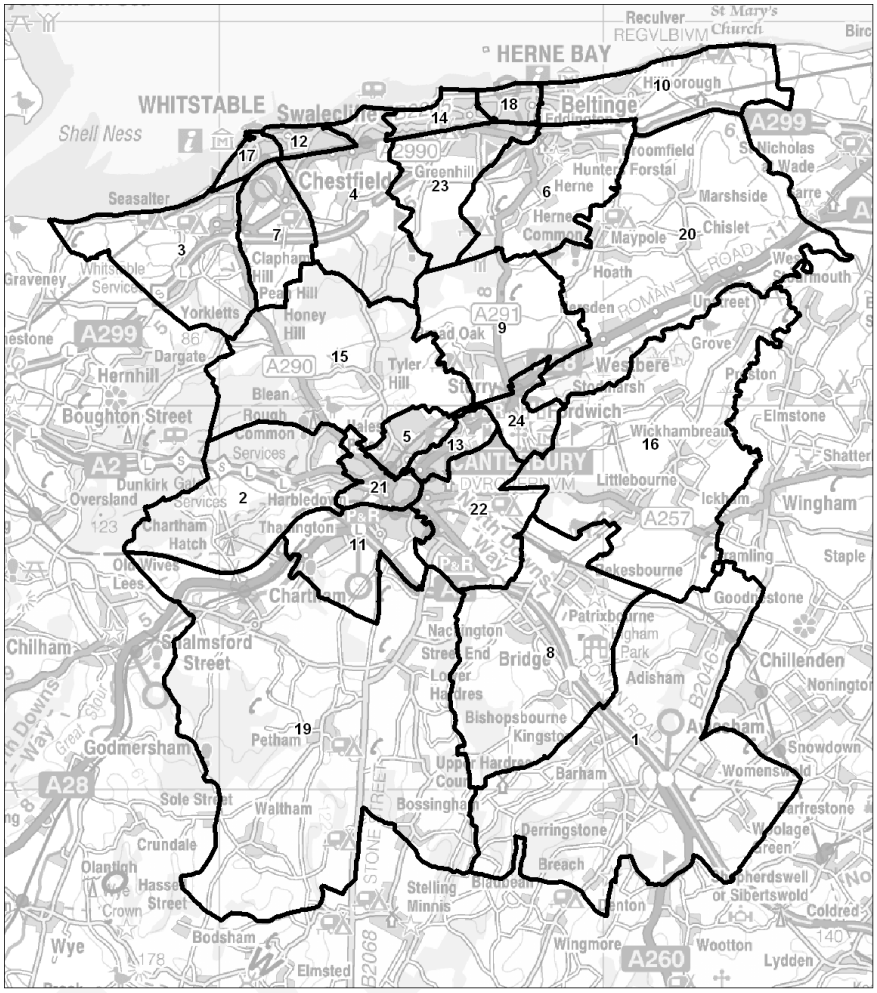
Figure xxx: Kent County map with Local Authority Boundaries



Canterbury shares boundaries with Ashford, Swale, Shepway, Dover and Thanet. The A28 passes through Canterbury connecting Ashford with Canterbury and Margate.

Figure 1 below shows the boundaries of the 24 electoral wards that make up Canterbury Local Authority.

Fig 1: Electoral Wards within Canterbury Local Authority

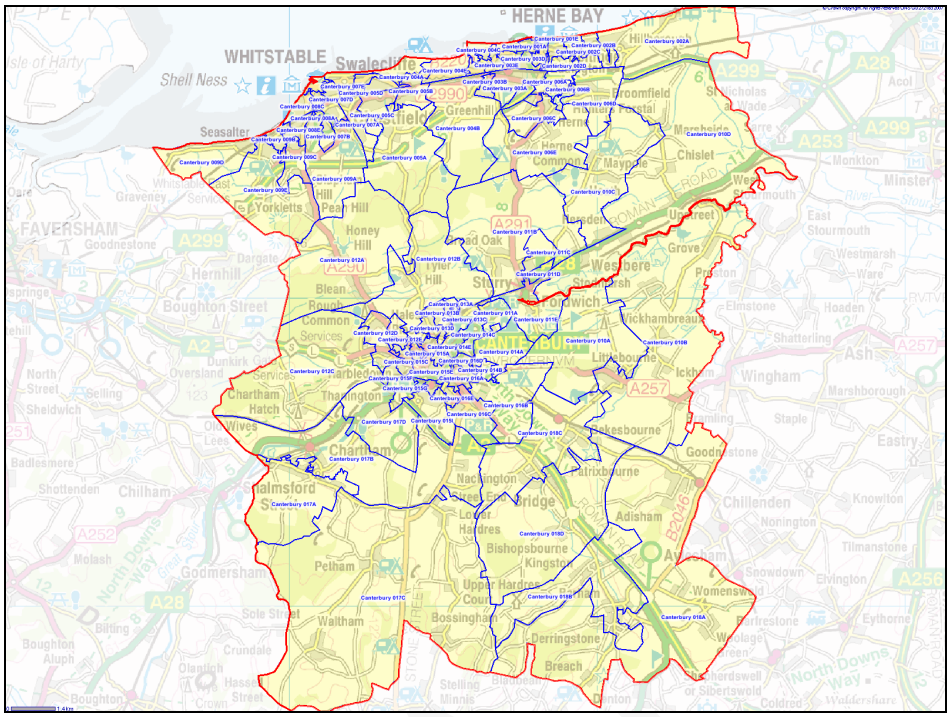


Key to ward map

No.	Ward Name	No.	Ward name
1	Barham Downs	13	Northgate
2	Harbledown	14	West Bay
3	Seasalter	15	Blean Forest
4	Chestfield and Swalecliffe	16	Little Stour
5	St. Stephens	17	Harbour
6	Herne and Broomfield	18	Heron
7	Gorrell	19	Chartham and Stone Street
8	North Nailbourne	20	Marshside
9	Sturry North	21	Westgate
10	Reculver	22	Barton
11	Wincheap	23	Greenhill and Eddington
12	Tankerton	24	Sturry South

The Office for National Statistics further sub-divides electoral wards into Super Output Areas (SOAs), which are small areas specifically introduced to improve the comparison of local statistics. There are Middle Layer SOAs with a minimum population of 5000 and Lower Layer SOAs with a minimum population of 1,000. The ONS also plans to create Upper Level SOAs in the near future. In England there are 32,482 Lower Level Super Output Areas and 6,780 Middle Level Super Output Areas. In Canterbury Local Authority there are 90 Lower Level Super Output Areas and 18 Middle Level Super Output Areas.

The figure below shows the 90 Lower Level Super Output Areas Canterbury.



Source:

Table 1. LSOAs within Canterbury

1	Canterbury 001A	31	Canterbury 007B	61	Canterbury 013C
2	Canterbury 001B	32	Canterbury 007C	62	Canterbury 013D
3	Canterbury 001C	33	Canterbury 007D	63	Canterbury 013E
4	Canterbury 001D	34	Canterbury 007E	64	Canterbury 014A
5	Canterbury 001E	35	Canterbury 008A	65	Canterbury 014B
6	Canterbury 002A	36	Canterbury 008B	66	Canterbury 014C
7	Canterbury 002B	37	Canterbury 008C	67	Canterbury 014D
8	Canterbury 002C	38	Canterbury 008D	68	Canterbury 014E
9	Canterbury 002D	39	Canterbury 008E	69	Canterbury 015A
10	Canterbury 003A	40	Canterbury 009A	70	Canterbury 015B
11	Canterbury 003B	41	Canterbury 009B	71	Canterbury 015C
12	Canterbury 003C	42	Canterbury 009C	72	Canterbury 015D
13	Canterbury 003D	43	Canterbury 009D	73	Canterbury 015E
14	Canterbury 003E	44	Canterbury 009E	74	Canterbury 015F
15	Canterbury 004A	45	Canterbury 010A	75	Canterbury 015G

16	Canterbury 004B	46	Canterbury 010B	76	Canterbury 015H
17	Canterbury 004C	47	Canterbury 010C	77	Canterbury 015I
18	Canterbury 004D	48	Canterbury 010D	78	Canterbury 016A
19	Canterbury 004E	49	Canterbury 011A	79	Canterbury 016B
20	Canterbury 005A	50	Canterbury 011B	80	Canterbury 016C
21	Canterbury 005B	51	Canterbury 011C	81	Canterbury 016D
22	Canterbury 005C	52	Canterbury 011D	82	Canterbury 016E
23	Canterbury 005D	53	Canterbury 011E	83	Canterbury 017A
24	Canterbury 005E	54	Canterbury 012A	84	Canterbury 017B
25	Canterbury 006A	55	Canterbury 012B	85	Canterbury 017C
26	Canterbury 006B	56	Canterbury 012C	86	Canterbury 017D
27	Canterbury 006C	57	Canterbury 012D	87	Canterbury 018A
28	Canterbury 006D	58	Canterbury 012E	88	Canterbury 018B
29	Canterbury 006E	59	Canterbury 013A	89	Canterbury 018C
30	Canterbury 007A	60	Canterbury 013B	90	Canterbury 018D

Demographics

Population

Canterbury has a population of around 149,700 people (2009 Ward Population Estimates for England and Wales, mid-2007 (experimental statistics)). Figure X shows the population by ward.

Figure X: 2007 ward population estimates

Ward Name	Persons	% of Canterbury population
Barham Downs	2697	2%
Barton	9822	7%
Blean Forest	6585	4%
Chartham and Stone Street	5780	4%
Chestfield and Swalecliffe	8285	6%
Gorrell	6061	4%
Greenhill and Eddington	6005	4%
Harbledown	2587	2%
Harbour	5641	4%
Herne and Broomfield	8035	5%
Heron	8651	6%
Little Stour	2634	2%
Marshside	3218	2%
North Nailbourne	2689	2%
Northgate	6941	5%
Reculver	8735	6%
St Stephens	10541	7%
Seasalter	7890	5%
Sturry North	2764	2%
Sturry South	2950	2%
Tankerton	4608	3%
West Bay	6365	4%
Westgate	9675	7%
Wincheap	8829	6%

Source: ONS mid-year population estimates 2001 census: Age, ethnicity, socioeconomic /multiple deprivation - by ward.

Population Projections

The table below shows the most recent population projections for the 12 local authorities within Kent, produced by the County Council.

Table 4: Projected populations for local authorities within Kent, 2001 to 2026

	2001	2006	2011	2016	2021	2026	% Change 2001 to 2026

Ashford	103,000	111,200	119,500	130,200	140,700	151,000	46.6%
Canterbury	**135,400**	**146,200**	**147,800**	**150,600**	**150,400**	**151,400**	**11.8%**
Dartford	86,000	89,900	98,600	105,300	111,500	118,500	37.8%
Dover	104,600	106,400	108,000	110,100	108,800	108,500	3.7%
Gravesham	95,800	97,400	98,500	98,600	104,200	110,500	15.3%
Maidstone	139,100	142,800	146,300	151,000	154,000	157,700	13.4%
Stevenoaks	109,200	113,700	113,600	113,300	113,200	113,700	4.1%
Shepway	96,300	99,600	99,700	99,000	97,400	96,600	0.3%
Swale	123,100	128,500	131,400	113,800	132,700	132,400	7.6%
Thanet	126,800	128,600	129,100	128,900	128,600	129,300	2.0%
Tonbridge & Malling	107,800	113,900	115,500	119,200	120,700	123,000	14.1%
Tunbridge Wells	104,000	104,600	106,000	105,200	104,500	105,000	1.0%
Kent County Council	1,331,100	1,382,800	1,414,000	1,425,200	1,466,700	1,497,600	12.5%

Source: Kent County Council, cited in [Wincheap]

This table shows that population of Kent is expected to grow by 12.5% between 2001 and 2026. However, some local authorities are expected to see little or no growth (e.g. Shepway and Tunbridge Wells) whilst the population of Ashford is projected to grow by 46.6%. Canterbury is one of six local authorities in Kent that is expected to grow by more than 10% between 2001 and 2026.

The table below shows the ward level population projections produced by Kent County Council for electoral wards within Canterbury from 2006 to 2016

Table 5: Population projections for electoral wards within Canterbury local authority, 2006 to 2016

Ward Name	2006	2011	2016	% Change 2006 to 2016
Barham Downs	2,700	2,600	2,600	-3.7%
Barton	9,800	10,200	10,400	6.1%
Blean Forest	4,500	4,300	4,400	-2.2%
Chartham and Stone Street	6,100	5,800	5,900	-3.3%
Chestfield and Swalecliffe	8,400	8,000	8,100	-3.6%
Gorrell	6,200	6,400	6,500	4.8%
Greenhill and Eddington	6,100	5,800	5,900	-3.3%
Harbledown	2,700	2,500	2,600	-3.7%
Harbour	6,100	6,200	6,300	3.3%
Herne and Broomfield	8,300	8,600	8,800	6.0%
Heron	9,400	9,700	9,900	5.3%
Little Stour	2,700	2,600	2,700	0.0%
Marshside	3,300	3,300	3,300	0.0%
North Nailbourne	2,700	2,600	2,700	0.0%
Northgate	**5,800**	**7,000**	**7,100**	22.4%
Reculver	8,700	8,700	8,800	1.1%
St Stephens	9,800	9,600	9,800	0.0%
Seasalter	7,600	7,400	7,500	-1.3%
Sturry North	2,900	2,800	2,800	-3.4%
Sturry South	3,000	2,800	2,900	-3.3%
Tankerton	4,800	4,700	4,800	0.0%
West Bay	6,500	6,300	6,400	-1.5%
Westgate	**9,300**	**10,700**	**10,900**	17.2%
Wincheap	8,800	9,200	9,400	6.8%
Canterbury Total	**146,200**	**147,800**	**150,500**	2.9%

Source: Kent County Council, cited in Wincheap

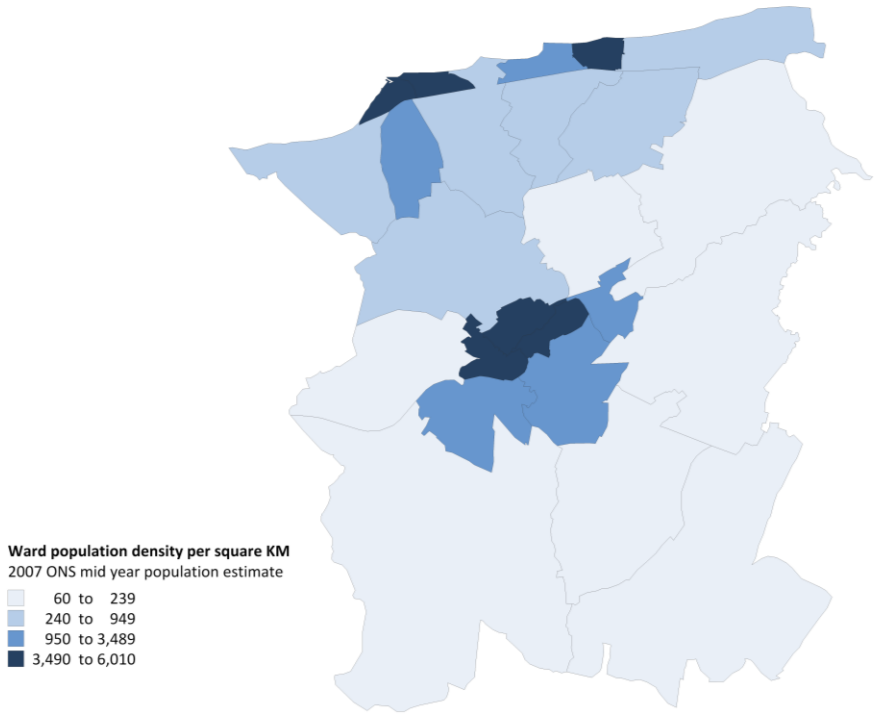
This table shows that the population of Canterbury is expected to grow by around 3% between 2006 and 2016.

Population Density

The population density for Canterbury as a whole is 479.2 persons per km^2

Within the district, the Whitstable wards of Harbour and Tankerton, Heron ward in Herne Bay and parts of the city centre are most densely populated.

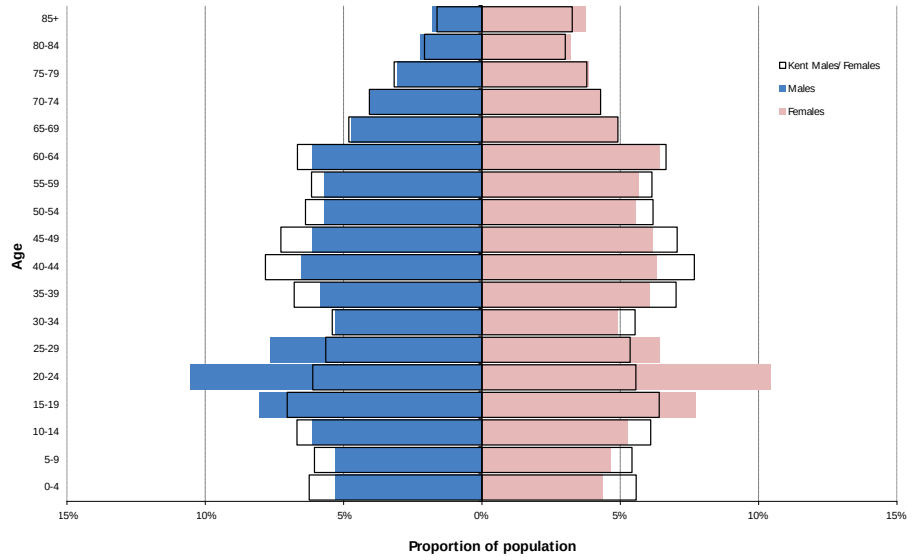
Figure X: Ward population density (persons per km2)



Age Structure

Age-based population estimates show a high percentage of young people aged 20-24 years, reflecting Canterbury's student profile.

Figure 5: 2008 Mid Year Population Estimates by 5 year age group and sex –Canterbury LA and Kent CC



Ethnicity

Around 3% of residents in Canterbury is from a black minority ethnic group [compared with other wards in Kent?]. The largest proportion of non-white ethnic groups lived in the Blean Forest ward.

[Erica, I'm not sure how useful the next table is – I'd prefer to omit it if you don't end up using it – please let me know. Linsey]

Table X: Ward population by ethnic group

	% of residents from a White Ethnic Group	% of residents from a Black Minority Ethnic Group (BME)
29UCGC Barham Downs	99%	1%
29UCGD Barton	93%	7%
29UCGE Blean Forest	84%	16%
29UCGF Chartham and Stone Street	98%	2%

29UCGG Chestfield and Swalecliffe	99%	1%
29UCGH Gorrell	98%	2%
29UCGJ Greenhill and Eddington	99%	1%
29UCGK Harbledown	94%	6%
29UCGL Harbour	97%	3%
29UCGM Herne and Broomfield	99%	1%
29UCGN Heron	98%	2%
29UCGP Little Stour	98%	2%
29UCGQ Marshside	98%	2%
29UCGR North Nailbourne	97%	3%
29UCGS Northgate	96%	4%
29UCGT Reculver	99%	1%
29UCGW Seasalter	98%	2%
29UCGU St Stephens	94%	6%
29UCGX Sturry North	99%	1%
29UCGY Sturry South	97%	3%
29UCGZ Tankerton	99%	1%
29UCHA West Bay	99%	1%
29UCHB Westgate	95%	5%
29UCHC Wincheap	96%	4%
Canterbury		
Kent		

Source: ONS 2001, Neighbourhood Statistics

Deprivation

Based on the average of lower super output area scores within the Index of Multiple Deprivation 2004, Kent is ranked the 106th most deprived of the 149 authorities in England. Within the region, Thanet, Swale and Shepway are the most deprived local authorities in Kent with Tonbridge and Malling and Sevenoaks being the least deprived areas. Canterbury ranks 7th out of 12 local authorities.

The table shows the overall average IMD 2007 score for each of the 12 local authorities within Kent.

Table X: 2007 deprivation score and national rank (out of 354 LAs) of the local authorities in Kent

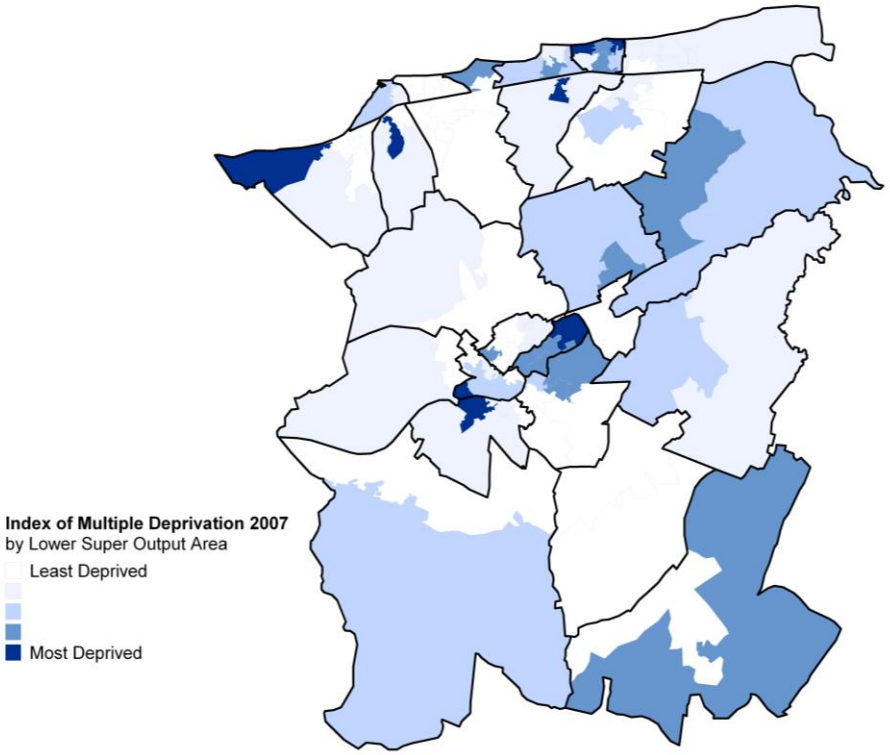
Deprivation rank within Kent	Kent LA	Average Score*	Rank of Average Score
1	Thanet	27.61	65
2	Swale	22.10	116
3	Shepway	21.35	123
4	Gravesham	20.37	142
5	Dover	19.12	153
6	Dartford	16.65	186
7	**Canterbury**	**16.17**	**198**
8	Ashford	14.37	227
9	Maidstone	12.99	248
10	Tunbridge Wells	11.45	273

11	Tonbridge and Malling	10.95	281
12	Sevenoaks	10.34	295

The highest score represents the most deprived local authority.

Source: Indices of Deprivation 2007, DCLG

Figure X: Index of Multiple Deprivation 2007, Canterbury LSOAs



Health & Wellbeing

Self-reported health

The table below shows the self reported health status of the population of Canterbury. The majority of people in Canterbury reported their health as being good.

Table X: Self-reported general health status of the population of Canterbury

				General health			
Ward	**All People**	**Good**		**Fairly good**		**Not good**	
Barham Downs	2551	1777	69.7%	570	22.3%	204	8.0%
Barton	9475	6644	70.1%	2064	21.8%	767	8.1%
Blean Forest	4677	3463	74.0%	977	20.9%	237	5.1%
Chartham and Stone Street	4941	3643	73.7%	969	19.6%	329	6.7%
Chestfield and Swalecliffe	7916	5162	65.2%	2006	25.3%	748	9.4%
Gorrell	5883	3989	67.8%	1384	23.5%	510	8.7%
Greenhill and Eddington	5211	3409	65.4%	1316	25.3%	486	9.3%
Harbledown	2593	1842	71.0%	564	21.8%	187	7.2%
Harbour	5698	3935	69.1%	1299	22.8%	464	8.1%
Herne and Broomfield	7339	5133	69.9%	1665	22.7%	541	7.4%

Heron	8478	5113	60.3%	2298	27.1%	1067	12.6%
Little Stour	2567	1835	71.5%	518	20.2%	214	8.3%
Marshside	2685	1818	67.7%	610	22.7%	257	9.6%
North Nailbourne	2570	1849	71.9%	509	19.8%	212	8.2%
Northgate	5713	3832	67.1%	1334	23.4%	547	9.6%
Reculver	7939	5036	63.4%	2038	25.7%	865	10.9%
St Stephens	8996	6409	71.2%	1951	21.7%	636	7.1%
Seasalter	6899	4512	65.4%	1726	25.0%	661	9.6%
Sturry North	2782	1790	64.3%	718	25.8%	274	9.8%
Sturry South	2910	2011	69.1%	690	23.7%	209	7.2%
Tankerton	4583	2884	62.9%	1240	27.1%	459	10.0%
West Bay	6221	3881	62.4%	1625	26.1%	715	11.5%
Westgate	8663	5972	68.9%	1964	22.7%	727	8.4%
Wincheap	7988	5455	68.3%	1883	23.6%	650	8.1%
Canterbury	**135278**	**91394**	**67.6%**	**31918**	**23.6%**	**11966**	**8.8%**
Kent							

Source: ONS Census 2001, Key Statistics, available from www.neighbourhood.statistics.gov.uk

Limiting long-term illness

The table below shows the number of persons reporting a limiting long term illness at the time of the 2001 Census. This table shows that the majority of people in Canterbury reported to be without a limiting long term illness at the time of the 2001 Census.

Table X: Limiting long-term illness by ward

		People with a limiting long-term illness	
Ward	**All people**	**Number**	**Percentage**
Barham Downs	2551	508	19.9%
Barton	9475	1642	17.3%
Blean Forest	4677	491	10.5%
Chartham and Stone Street	4941	672	13.6%
Chestfield and Swalecliffe	7916	1598	20.2%
Gorrell	5883	1109	18.9%
Greenhill and Eddington	5211	969	18.6%
Harbledown	2593	454	17.5%
Harbour	5698	928	16.3%
Herne and Broomfield	7339	1250	17.0%
Heron	8478	2105	24.8%
Little Stour	2567	467	18.2%

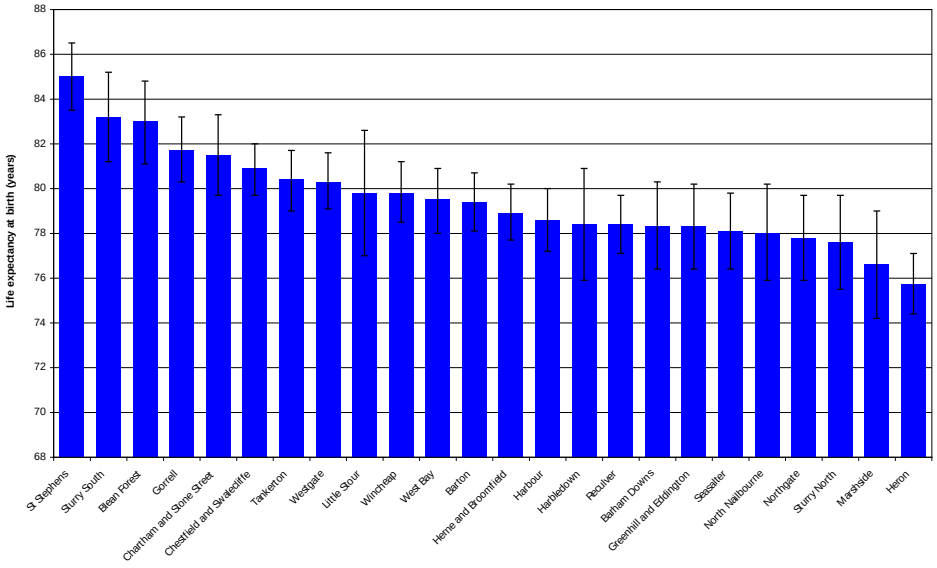
Marshside	2685	538	20.0%
North Nailbourne	2570	447	17.4%
Northgate	5713	1089	19.1%
Reculver	7939	1828	23.0%
St Stephens	8996	1348	15.0%
Seasalter	6899	1458	21.1%
Sturry North	2782	568	20.4%
Sturry South	2910	500	17.2%
Tankerton	4583	1108	24.2%
West Bay	6221	1474	23.7%
Westgate	8663	1514	17.5%
Wincheap	7988	1439	18.0%
Canterbury	**135,278**	**25,504**	**18.9%**
Kent			

Source: ONS Census 2001, Key Statistics

Life expectancy at birth

The figure below shows the average life expectancy at birth for the wards in Canterbury. The average life expectancy at birth was 79. 6 years.

Figure X: Life expectancy at birth for Canterbury Wards (1999 to 2003)

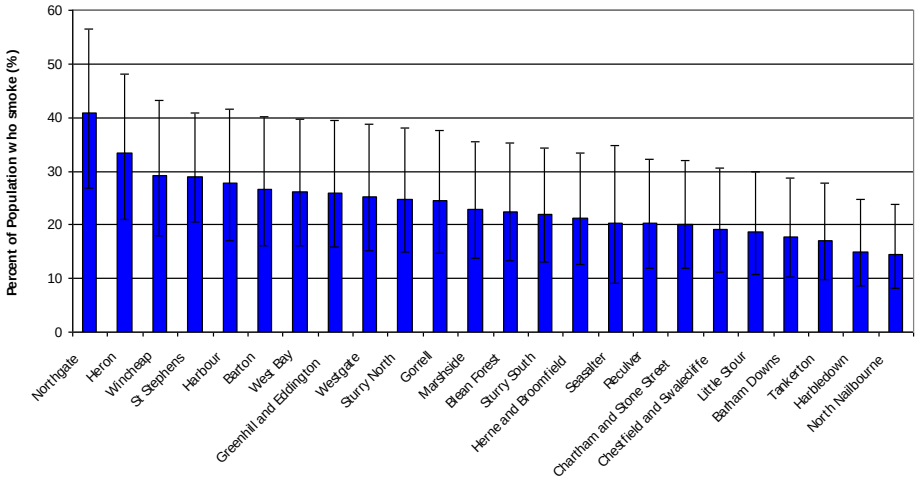


Source: ONS Ward level statistics 1999 to 2003

Smoking

The figure below shows the prevalence of smoking in each of the wards in Canterbury.

Figure X: Prevalence of smoking in wards in Canterbury, 2000 to 2002



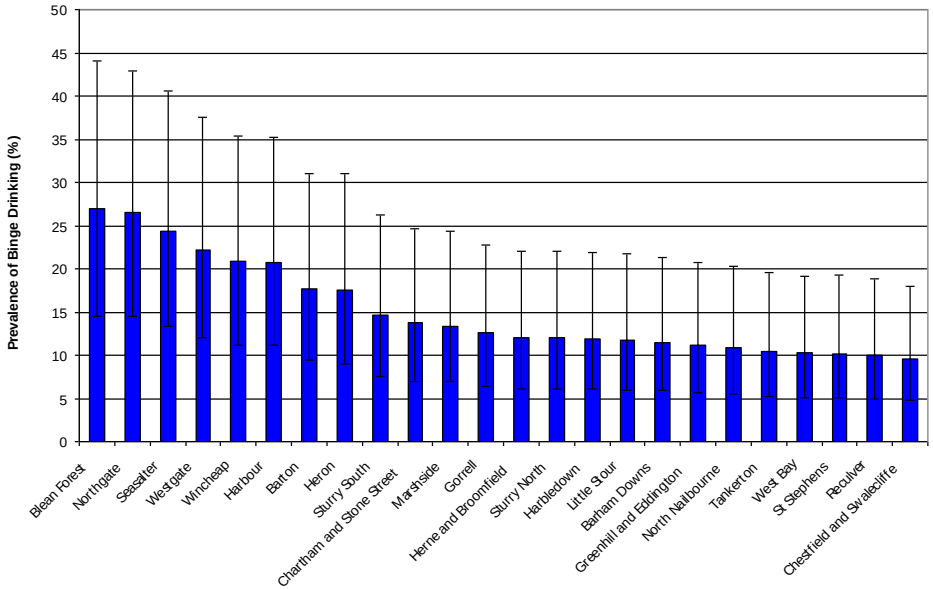
Source: Synthetic Estimates of Healthy Lifestyle Behaviours at Ward Level, 2000 - 2002

This chart shows that Northcate is estimated to have the highest smoking prevalence of the wards in Canterbury. Over 40% of adults over the age of 18 in Northcate smokes.

Damaging drinking

The figure below shows the estimated prevalence of binge drinking in the Canterbury Wards in the period 2000 to 2002.

Figure X: Prevalence of binge drinking in wards in Canterbury, 2000 to 2002



Source: Synthetic Estimates of Healthy Lifestyle Behaviours at Ward Level, 2000 – 2002

Under 18 conception rates

The figure below shows the under 18 conception rate for electoral wards within Canterbury for the years 2002 to 2004. The provisional 2008 under-18 conception rate for Canterbury was 29.8 per 1000 girls aged 15-17 – a decrease of 3.2% from the 2007 rate and the lowest rate for over 20 years.

Figure X: Under 18 conception rates for Kent County Council Local Authorities, 2001 to 2008

	2001-03			2004-06			2005-07			2006-08			*% change in rate*
Area of usual residence	Number	**Rate per 1000 female population aged 15-17**	*% leading to abortion*	Number	**Rate per 1000 female population aged 15-17**	*% leading to abortion*	Number	**Rate per 1000 female population aged 15-17**	*% leading to abortion*	Number	**Rate per 1000 female population aged 15-17**	*% leading to abortion*	***98/00 - 06/08***
Ashford	246	41.4	*40*	282	44.1	*47*	286	43.7	*51*	272	40.9	*49*	***-16.9%***
Canterbury	**266**	**33.3**	***47***	**253**	**28.9**	***49***	**257**	**29.3**	***51***	**259**	**29.8**	***52***	***-22.4%***
Dartford	220	47.3	*49*	208	40.5	*44*	216	40.7	*47*	203	38.0	*48*	***-13.3%***
Dover	211	34.4	*44*	277	41.3	*36*	255	37.2	*40*	264	38.1	*42*	***-15.0%***
Gravesham	203	34.7	*48*	235	38.4	*46*	219	35.8	*45*	233	38.7	*48*	***-10.1%***
Maidstone	257	35.0	*47*	299	38.2	*50*	293	36.8	*55*	299	37.9	*56*	***17.6%***
Sevenoaks	139	22.5	*58*	155	23.2	*63*	180	26.4	*62*	182	26.6	*64*	***-3.3%***
Shepway	277	52.8	*40*	242	41.7	*48*	250	43.4	*46*	252	44.9	*47*	***-16.7%***
Swale	327	45.3	*37*	371	47.9	*42*	394	50.3	*43*	383	48.6	*42*	***-1.5%***
Thanet	365	49.9	*35*	417	55.4	*39*	426	56.3	*40*	417	53.5	*38*	***-13.0%***

Tonbridge and Malling	159	26.2	*54*	195	29.8	*52*	191	28.4	*57*	186	27.0	*53*	***-6.2%***
Tunbridge Wells	178	27.8	*56*	179	23.7	*49*	184	23.1	*57*	189	23.2	*54*	***-4.3%***
Kent	**2,848**	**37.3**	***45***	**3,113**	**37.6**	***46***	**3,151**	**37.4**	***48***	**3,139**	**37.1**	***48***	***-9.7%***
SOUTH EAST	**14,984**	**34.1**	***48***	**15,630**	**33.5**	***50***	**15,753**	**33.3**	***51***	**15,654**	**33.0**	***52***	***-9.8%***
ENGLAND	**117,364**	**42.5**	***46***	**118,567**	**41.2**	***47***	**119,340**	**41.2**	***49***	**118,286**	**40.9**	***50***	***-9.1%***

Sources: Office for National Statistics and Teenage Pregnancy Unit

Practice populations

The practice populations within Canterbury are shown in the table below. Chartham Surgery had 7% of population aged 0-4 and Canterbury Health Centre had the lowest proportion of clients aged 65-74.

Table X: Practice populations for Canterbury GP practices, 2009

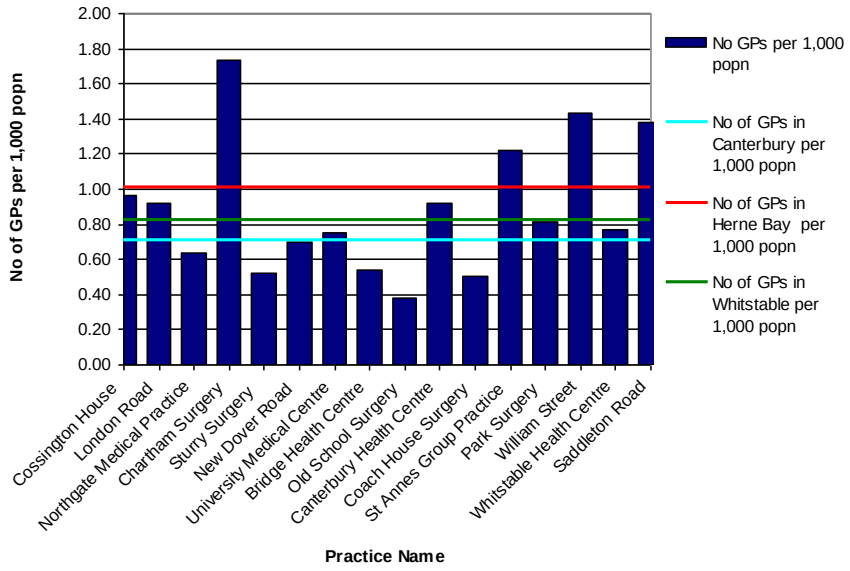
Practice Name	0-4	% 0-4	5-14	15 - 44	45 - 64	65 - 74	% 65-74	75 - 84	85 +	Total	No GPs[199]	No GPs per 1,000 popn
Cossington House	206	3%	979	2,828	1,906	651	9%	485	234	7,289	7	0.96
London Road	194	4%	442	1,915	924	383	9%	308	190	4,356	4	0.92
Northgate Medical Practice	874	6%	1,646	6,707	3,834	1,299	8%	981	440	15,781	10	0.63
Chartham Surgery	153	7%	195	929	649	199	9%	131	51	2,307	4	1.73
Sturry Surgery	633	5%	1,340	7,450	2,516	769	6%	484	210	13,402	7	0.52
New Dover Road	431	4%	919	4,233	2,594	853	9%	687	306	10,023	7	0.70
University Medical Centre	104	1%	190	10,855	577	117	1%	44	11	11,898	9	0.76
Bridge Health Centre	365	5%	1,055	2,452	2,141	681	9%	473	225	7,392	4	0.54
Old School Surgery	309	6%	731	1,996	1,402	466	9%	241	97	5,242	2	0.38
Canterbury Health Centre	234	5%	425	2,450	787	219	5%	160	63	4,338	4	0.92

[199] Obtained from http://nww.connectingforhealth.nhs.uk/ods/downloads/gmpdown

Coach House Surgery	250	4%	710	2,058	1,601	623	11%	466	211	5,919	3	0.51
St Annes Group Practice	644	4%	1,630	4,824	4,017	1,762	12%	1,315	586	14,778	18	1.22
Park Surgery	729	5%	1,650	4,985	3,669	1,211	9%	821	429	13,494	11	0.82
William Street	306	5%	708	2,140	1,490	452	8%	346	154	5,596	8	1.43
Whitstable Health Centre	1,582	5%	3,529	11,093	8,950	3,552	11%	2,583	1,112	32,401	25	0.77
Saddleton Road	118	4%	372	1,050	796	300	10%	208	59	2,903	4	1.38
Canterbury	5,432	7%	7,922	41,815	17,330	5,637	7%	3,994	1,827	82,028	58	0.71
Herne Bay	1,929	5%	4,698	14,007	10,777	4,048	10%	2,948	1,380	39,787	40	1.01
Whitstable	1,700	5%	3,901	12,143	9,746	3,852	11%	2,791	1,171	35,304	29	0.82

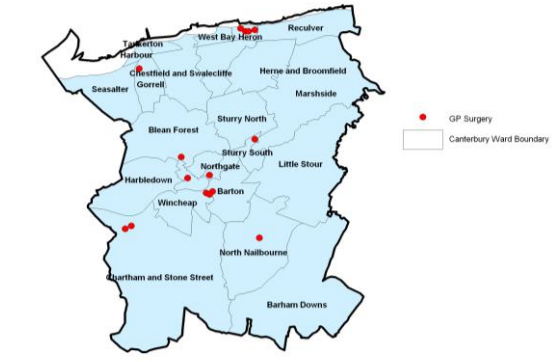
Source: Kent & Medway Public Health Observatory

Figure xxx: Number of GPS per 1,000 popn in Canterbury, Herne Bay and Whitstable



Locations of primary care practices

Figure X: Locations of GP practices Canterbury



Disease outcomes

Figure X: Prevalence of QoF conditions at GP practices in Canterbury, 2008/09

http://www.erpho.org.uk/viewResource.aspx?id=20449

Trend in QOF prevalence for 11 condition[200]s NHS EASTERN & COASTAL KENT PCT[201], 2004/05 to 2008/09,

Only available at PCT level

See http://www.erpho.org.uk/viewResource.aspx?id=20449

[200] These conditions include; Asthma, Cancer, Chronic Obstructive Pulmonary Disease, Coronary Heart Disease, Diabetes, Epilepsy, Heat Failure, Hypertension, Hypthyroidism, Mental Health, Stroke and Transient Attack

[201] Eastern and Coastal Kent Primary Care Trust (PCT) covers the geographical areas of Ashford, Canterbury, Dover, Shepway, Swale and Thanet local authorities.

Housing

Occupancy

The table below shows the number of households by occupancy level in Canterbury. This shows that there was a low number of unoccupied household spaces in Canterbury as at the 2001 Census, the largest number of vacancies being in Heron, Westgate and Herne and Broomfield wards.

Table X: Number of households by occupation status in Canterbury wards

		With no residents	
	With residents	**Vacant**	**Second residence / holiday accommodation**
Barham Downs	1,024	39	13
Barton	3,562	121	19
Blean Forest	1,142	40	5
Chartham and Stone Street	2,011	82	28
Chestfield and Swalecliffe	3,507	101	19
Gorrell	2,390	47	11
Greenhill and Eddington	2,036	79	4
Harbledown	1,043	28	12
Harbour	2,591	91	79
Herne and Broomfield	2,909	130	12
Heron	3,956	212	25
Little Stour	1,066	36	14
Marshside	1,035	24	5
North Nailbourne	1,053	49	8
Northgate	2,386	59	10
Reculver	3,310	86	37
St Stephens	3,612	128	22
Seasalter	2,990	92	74
Sturry North	1,137	37	0
Sturry South	1,191	32	6
Tankerton	1,987	77	20
West Bay	2,713	88	50
Westgate	3,610	168	36
Wincheap	3,323	116	12
Canterbury	55,584	1,962	521

Source: ONS 2001 Census

Council tax bands

Table X below shows the number and percentage of dwellings by Council Tax banding in Canterbury in March 2006.

Table X: Number of dwellings by Council Tax Band in Canterbury, March 2006

[Can we get this by ward please?]

		Canterbury	
Total Dwelling Stock	**Dwellings**	**61,325**	
Dwelling Stock by Council Tax Band; Band A	Dwellings	5,862	10%
Dwelling Stock by Council Tax Band; Band B	Dwellings	12,750	21%
Dwelling Stock by Council Tax Band; Band C	Dwellings	19062	31%
Dwelling Stock by Council Tax Band; Band D	Dwellings	11,383	19%
Dwelling Stock by Council Tax Band; Band E	Dwellings	6,506	11%
Dwelling Stock by Council Tax Band; Band F	Dwellings	3,687	6%
Dwelling Stock by Council Tax Band; Band G	Dwellings	1,964	3%
Dwelling Stock by Council Tax Band; Band H	Dwellings	111	0%
Dwelling Stock by Council Tax Band; Band I	Dwellings	0	0%
Dwelling Stock by Council Tax Band; Band X	Dwellings	0	0%

Add Housing domain on imd by Canterbury ward

Table X below shows the number of households living in privately owned, social rented, privately rented or rent free accommodation in Canterbury at the 2001 Census.

Table X: Percentage of households by tenure, Canterbury wards

			Rented	
Ward name	**All Households**	**Owner occupied**	**Council/ HA/RSL**	**Private/ Other**
Barham Downs	1024	83.0	8.1	8.9
Barton	3562	54.6	21.8	23.6
Blean Forest	1141	67.4	6.4	26.2
Chartham and Stone Street	2011	74.5	13.8	11.7
Chestfield and Swalecliffe	3507	86.9	7.0	6.1
Gorrell	2390	73.1	16.2	10.7
Greenhill and Eddington	2036	82.8	10.4	6.8

Harbledown	1043	83.3	4.6	12.1
Harbour	2591	68.5	7.7	23.8
Herne and Broomfield	2909	91.6	2.3	6.1
Heron	3956	59.5	12.6	27.9
Little Stour	1066	72.8	14.4	12.9
Marshside	1035	75.4	13.4	11.2
North Nailbourne	1054	76.2	5.8	18.0
Northgate	2386	38.6	40.2	21.2
Reculver	3310	86.0	4.7	9.3
St Stephens	3612	58.0	20.3	21.7
Seasalter	2990	87.1	6.2	6.7
Sturry North	1137	74.1	17.2	8.6
Sturry South	1191	88.8	4.0	7.2
Tankerton	1987	89.7	1.6	8.7
West Bay	2713	83.6	7.3	9.1
Westgate	3610	60.7	16.1	23.2
Wincheap	3323	63.5	18.6	17.9

Source: ONS Census 2001

Housing quality

Table X: Households with central heating and sole use of bath/shower and toilet, Canterbury wards

	All Households	With central heating and sole use of bath/shower and toilet	
Barham Downs	1024	970	94.7%
Barton	3562	3335	93.6%
Blean Forest	1142	1095	95.9%
Chartham and Stone Street	2011	1857	92.3%
Chestfield and Swalecliffe	3507	3358	95.8%
Gorrell	2390	2247	94.0%
Greenhill and Eddington	2036	1953	95.9%
Harbledown	1043	956	91.7%
Harbour	2591	2232	86.1%

Herne and Broomfield	2909	2804	96.4%
Heron	3956	3483	88.0%
Little Stour	1066	982	92.1%
Marshside	1035	968	93.5%
North Nailbourne	1053	986	93.6%
Northgate	2386	2224	93.2%
Reculver	3310	3158	95.4%
St Stephens	3612	3481	96.4%
Seasalter	2990	2890	96.7%
Sturry North	1137	1078	94.8%
Sturry South	1191	1122	94.2%
Tankerton	1987	1904	95.8%
West Bay	2713	2509	92.5%
Westgate	3610	3293	91.2%
Wincheap	3323	3080	92.7%

Source: ONS, 2001 Census

Economy

Table X: Percentage of people aged 16-74 years economically active, Canterbury wards

Ward	All people aged 16-74	Employed	Full time student	Unemployed
Barham Downs	1868	59.8	2.4	2.0
Barton	6796	53.7	5.8	2.7
Blean Forest	4087	24.5	12.5	0.8
Chartham and Stone Street	3564	64.5	2.5	2.7
Chestfield and Swalecliffe	5623	58.2	2.2	2.2
Gorrell	4044	59.3	2.7	2.9
Greenhill and Eddington	3590	59.8	3.0	3.1
Harbledown	1880	59.9	2.3	1.5

Harbour	3999	65.1	2.4	3.5
Herne and Broomfield	5193	63.9	2.6	1.9
Heron	5730	57.0	2.6	4.0
Little Stour	1826	63.5	2.3	2.8
Marshside	1917	61.5	1.9	2.6
North Nailbourne	1738	63.5	3.0	1.6
Northgate	4179	43.8	8.2	4.7
Reculver	5376	56.1	2.6	2.3
St Stephens	6922	46.4	7.9	2.5
Seasalter	4930	56.9	2.3	2.2
Sturry North	1988	59.4	2.3	2.7
Sturry South	2092	66.9	3.3	2.2
Tankerton	2951	58.2	2.2	1.9
West Bay	4277	56.3	1.7	3.4
Westgate	6327	49.9	5.4	2.7
Wincheap	5869	55.3	6.1	3.4

Source: ONS Census 2001

Table Xb: Percentage of people aged 16-74 years economically inactive, Canterbury wards

The table indicates that Blean Forest has the highest proportion of students, which correlates with the lowest percentage of economically active people in the previous table. Higher proportions of retired people live in the coastal wards of Reculver, Seasalter, Tankerton and West Bay. The highest percentage of unemployed people is found in Heron and Northgate wards.

Ward	All people aged 16-74	Employed	Full time student	Unemployed	Retired	Looking after home / family	Permanently sick / disabled	Student	Other
Barham Downs	1868	59.8	2.4	2.0	16.8	5.8	7.0	3.5	2.8
Barton	6796	53.7	5.8	2.7	11.4	6.7	4.5	11.8	3.4
Blean Forest	4087	24.5	12.5	0.8	6.9	2.2	1.5	50.7	0.9
Chartham and Stone Street	3564	64.5	2.5	2.7	12.9	7.4	3.8	3.5	2.8
Chestfield and Swalecliffe	5623	58.2	2.2	2.2	22.3	5.8	4.4	2.9	2.1
Gorrell	4044	59.3	2.7	2.9	15.1	8.1	4.6	4.6	2.7
Greenhill and Eddington	3590	59.8	3.0	3.1	16.0	7.8	5.6	2.7	2.1
Harbledown	1880	59.9	2.3	1.5	17.9	4.9	3.3	8.3	1.9
Harbour	3999	65.1	2.4	3.5	10.8	7.5	4.5	3.8	2.4
Herne and Broomfield	5193	63.9	2.6	1.9	15.4	6.6	4.6	3.1	1.9
Heron	5730	57.0	2.6	4.0	15.4	7.0	7.5	3.0	3.4
Little Stour	1826	63.5	2.3	2.8	15.2	6.4	3.3	4.2	2.5

Marshside	1917	61.5	1.9	2.6	13.5	8.3	5.7	3.7	2.8
North Nailbourne	1738	63.5	3.0	1.6	16.0	6.0	2.7	3.7	3.6
Northgate	4179	43.8	8.2	4.7	9.1	6.4	6.7	18.4	2.9
Reculver	5376	56.1	2.6	2.3	21.7	6.0	5.1	3.9	2.3
St Stephens	6922	46.4	7.9	2.5	10.8	5.7	3.8	21.3	1.7
Seasalter	4930	56.9	2.3	2.2	22.2	6.4	4.9	2.9	2.1
Sturry North	1988	59.4	2.3	2.7	18.3	6.2	5.5	2.8	2.9
Sturry South	2092	66.9	3.3	2.2	14.1	5.3	3.6	2.9	1.8
Tankerton	2951	58.2	2.2	1.9	22.3	5.8	4.0	3.2	2.4
West Bay	4277	56.3	1.7	3.4	20.6	6.5	6.4	2.7	2.5
Westgate	6327	49.9	5.4	2.7	13.1	3.9	4.2	18.8	2.0
Wincheap	5869	55.3	6.1	3.4	12.6	4.9	4.8	10.6	2.3

Table 19: Percentage of people aged 16-74 years in employment by occupational group, Canterbury wards

Ward	All people aged 16-74 in employment	Managers and senior officials	Profes-sional	Associate professional and technical	Administr-ative and secretarial	Skilled trades	Personal service	Sales and customer service	Process; plant and machine	Elementary
Barham Downs	1160	19.1	17.1	12.7	11.8	11.7	8.4	6.5	4.4	8.5
Barton	3979	11.6	17.7	21.6	9.7	7.1	6.9	8.9	3.8	12.8
Blean Forest	1359	11.5	18.7	11.6	11.1	7.4	6.0	12.5	4.3	17.0
Chartham and Stone Street	2379	18.3	16.1	13.9	12.1	10.5	7.9	5.5	5.4	10.4
Chestfield and Swalecliffe	3382	16.7	10.0	13.3	13.3	13.4	8.8	7.4	7.1	10.1
Gorrell	2495	13.8	9.0	12.5	13.9	14.4	8.7	7.1	6.5	14.2
Greenhill and Eddington	2244	12.6	5.7	11.9	12.7	15.2	10.5	10.4	9.0	12.3
Harbledown	1162	16.7	22.7	14.2	13.9	10.1	6.9	5.2	2.8	7.7
Harbour	2695	14.3	14.3	14.9	9.5	12.8	9.9	6.8	6.0	11.5
Herne and Broomfield	3443	15.9	8.2	13.3	14.6	13.6	8.8	9.1	7.0	9.6

Heron	3406	12.7	7.4	11.4	11.9	15.2	11.2	9.0	8.8	12.5
Little Stour	1198	18.4	18.0	12.9	11.3	10.4	8.4	5.5	4.6	10.4
Marshside	1206	19.1	9.6	11.5	11.8	13.8	7.8	6.2	7.4	12.9
North Nailbourne	1152	17.7	19.6	14.7	10.1	10.7	8.6	5.6	4.9	8.3
Northgate	2114	9.0	11.9	9.9	10.0	9.4	9.5	14.0	5.5	20.8
Reculver	3143	17.1	9.6	14.0	12.8	12.6	9.7	7.7	6.4	10.3
St Stephens	3676	11.9	19.3	12.8	11.5	8.1	6.4	11.6	4.9	13.7
Seasalter	2910	16.1	9.5	13.2	13.1	13.1	8.9	8.4	6.5	11.3
Sturry North	1219	13.9	7.3	10.6	12.3	14.8	10.0	9.7	6.9	14.6
Sturry South	1462	13.3	10.7	12.7	13.5	12.5	9.9	8.9	6.4	12.1
Tankerton	1776	17.9	12.6	14.1	14.6	11.9	7.4	7.3	4.8	9.5
West Bay	2472	13.4	7.0	10.4	13.0	15.1	11.8	7.6	8.7	13.1
Westgate	3455	13.4	22.7	13.2	10.1	8.1	7.2	9.4	4.3	11.6
Wincheap	3548	12.3	18.5	13.9	10.5	9.0	8.4	10.0	5.0	12.4

Source: ONS Census 2001

Environment

Air Quality Monitoring

Canterbury City Council has been monitoring air quality since 1993. Currently the council monitor, nitrogen dioxide (NO_2) (in particular, the Broad Street/Military Road area has been declared as an Air Quality Management Area) and particles (PM10).

This monitoring is carried out by analysers that measure the level of the pollutants 24 hours a day, every day. The monitors are housed in specially built cabinets. These are located at the Chaucer Technology School, Canterbury, St.Dunstans Street, Canterbury and Military Road, Canterbury. The continuous NO_2 analyser has been installed in the Broad Street/Military Road AQMA to get a more accurate picture of the air quality and to provide monitoring data for the Further Assessment of air quality within the AQMA.

The Council also monitors NO_2 using Diffusion Tubes at 18 other sites around the district, including one in Wincheap. Continuous monitoring has been carried out in other parts of the district. However, these sites have been taken out of operation as results have been consistently low and well below any government limits.

The table below shows the continuous monitoring results for Nitrogen dioxide in 2006, contained in the most recent Annual Progress Report published by Canterbury City Council in 2007.

Table X: Nitrogen Dioxide Continuous Monitoring Results for Canterbury, 2006

Site Name	Annual mean	Objective achieved?	Number of exceedences of 1 hour mean	Data Capture (%)
St. Dunstans[202]	34	Yes	0	83
Chaucer Technology School[203]	18	Yes	0	97
Military Road	37[204]	Yes	0	78

Source: Canterbury City Council (2007), Local Air Quality Management, Annual Progress report

These data show that both the annual mean and number of exceedences recorded at each of the three sites, meet the national targets set down for each local authority.

The table below shows the diffusion tube monitoring results for all the sites used in 2006. The sites in Blue at the bottom of the list are new monitoring sites for 2006.

[202] Data for January – December 2006 are provisional

[203] Data for October – December 2006 are provisional

[204] Data for Military road have been annualised for October – December 2006 in accordance with LAQM. TG (03)

Table X: NO2 Diffusion Tube Monitoring Site Results, 2006

Site Name	Annual Mean 2006 (µg/m^3)	Bias corrected annual mean 2006 (µg/m^3)	Projected annual mean 2010 (µg/m^3)
Rheims Way	41.5	34.9	29.7
Wincheap	48.3	40.6	34.5
Sturry Road 1	47.4	39.8	33.8
New Dover Road	36.3	30.5	25.9
St Dunstans	43.3	36.3	30.9
High Street, Herne Bay	44.5	37.4	31.8
High Street, Whitstable	48.4	40.7	34.6
A2990 Thanet Way	46.0	38.6	32.8
Littlebourne	39.3	33.0	28.1
Broad Street 1	68.7	57.7	49.0
Wincheap Playground	44.1	37.0	31.5
Broad street 2	69.8	58.6	49.8
Military Road	61.1	51.4	43.7
Sturry Road 2	53.2	44.7	38.0
North Lane	52.5	44.1	37.5
Old Tannery, Rheims Way	68.9	53.6	45.6
Kingsmead Road	45.6	38.3	32.6

Source: Canterbury City Council, cited in Wincheap

The results have been bias corrected using a locally derived correction factor of 0.84. The bias corrected results indicate exceedences at 5 monitoring locations outside of the existing Air Quality Monitoring Area namely at Wincheap, High Street Whitstable, Sturry Road 2, North Lane and Old Tannery.

Projecting these results to the nearest receptor façade suggests that North Lane and the Old Tannery, Rheims Way should be subject to a Detailed Assessment of nitrogen dioxide.

Transport

Road accidents

Number of accidents on the roads in Canterbury by severity of crash

The tables below show the number of crashes and the number of casualties resulting from crashes on the roads of Canterbury in the period 2004 to 2006.

Table Xa: Number of crashes on the roads in Canterbury by severity, 2004-06

Type of Crash	2004	2005	2006
Fatal	8	6	7
Serious	48	48	34
Slight	389	378	323
Total	445	432	364

Source: Kent County Council

Table Xb: Number of casualties from crashes on the roads in Canterbury by severity, 2004-06

Type of Crash	2004	2005	2006
Fatal	8	6	8
Serious	60	61	43
Slight	512	477	425
Total	**580**	**544**	**476**

Source: Kent County Council

The data above suggests that overall there has been a fall of 18% in both the number of crashes and the number of casualties from road traffic accidents in Canterbury over the three year period.

Car ownership

The table below shows the number of households owning a car or a van at the time of the 2001 Census.

Table X: Car and Van ownership in Canterbury

Can we get this as a percentage of the ward households?]

Comment [c1]: Add as data table. Label Canterbury row

WARD	All Households	Households with no cars or vans	Households with one car or van	Households with two cars or vans	Households with three cars or vans	Households with four or more cars or vans
Barham Downs	1024	107	414	372	98	33
Barton	3562	1109	1642	638	139	34
Blean Forest	1142	234	481	337	74	16
Chartham and Stone Street	2011	251	815	752	134	59
Chestfield and Swalecliffe	3507	637	1583	991	229	67
Gorrell	2390	551	1112	573	111	43
Greenhill and Eddington	2036	371	944	558	127	36
Harbledown	1043	145	453	346	71	28
Harbour	2591	771	1302	439	59	20
Herne and Broomfield	2909	348	1303	985	207	66
Heron	3956	1489	1713	605	110	39
Little Stour	1066	147	449	357	77	36
Marshside	1035	154	410	343	91	37
North Nailbourne	1053	154	419	385	75	20
Northgate	2386	1038	993	287	56	12
Reculver	3310	654	1433	958	213	52
St Stephens	3612	1010	1749	689	113	51
Seasalter	2990	491	1433	869	132	65
Sturry North	1137	229	525	302	60	21
Sturry South	1191	183	588	351	52	17
Tankerton	1987	451	909	494	108	25
West Bay	2713	622	1335	627	95	34
Westgate	3610	1222	1679	580	98	31
Wincheap	3323	993	1551	638	110	31
	55,584	13,361	25,235	13,476	2,639	873

Source: ONS Census 2001, Nomis

Overall, 76% of households in Canterbury owned a car or a van. Households in Northgate, Westgate and Barton were wards that had a higher proportion of households that did not own a car or van in 2001 compared to Canterbury overall.

Travel to work

Table X: Percentage of people aged 16-74 years in employment by mode of transport to work, Canterbury wards

Ward	All people aged 16-74 in employment	Mainly from home	Public transport	Car/ Motorcycle/ taxi	Cycle/On foot	Other
Barham Downs	1162	13.5	4.7	75.5	6.0	0.26
Barton	3979	7.2	5.5	46.5	39.0	1.81
Blean Forest	1357	9.3	8.6	56.9	24.8	0.44
Chartham and Stone Street	2379	13.8	6.6	71.3	7.8	0.55
Chestfield and Swalecliffe	3382	11.4	7.5	72.7	8.0	0.41
Gorrell	2495	9.1	9.1	67.1	14.3	0.36
Greenhill and Eddington	2244	9.3	7.6	73.5	9.1	0.45
Harbledown	1163	11.8	4.2	71.5	12.2	0.26

Harbour	2695	10.5	12.9	57.5	18.7	0.37
Herne and Broomfield	3442	10.8	6.4	77.4	5.2	0.23
Heron	3406	9.6	10.3	58.8	20.8	0.59
Little Stour	1197	12.5	5.0	75.2	6.7	0.58
Marshside	1206	13.0	6.1	72.5	7.9	0.58
North Nailbourne	1151	12.0	5.0	73.2	9.4	0.52
Northgate	2115	5.3	7.2	49.7	37.3	0.52
Reculver	3143	11.1	7.1	71.8	9.2	0.83
St Stephens	3676	8.4	7.2	54.4	29.9	0.16
Seasalter	2910	11.7	8.3	72.9	6.8	0.41
Sturry North	1219	11.9	6.4	72.9	8.3	0.49
Sturry South	1463	9.3	10.1	72.0	8.0	0.68
Tankerton	1776	12.2	8.2	67.5	11.7	0.45
West Bay	2472	9.3	7.4	72.3	10.6	0.36
Westgate	3455	9.1	7.7	50.7	31.6	0.81
Wincheap	3550	7.5	6.4	55.1	30.5	0.54

Source: ONS Census 2001

Social Cohesion

Crime

Office for National Statistics

Notifiable Offences Recorded by the police (2001-2009)

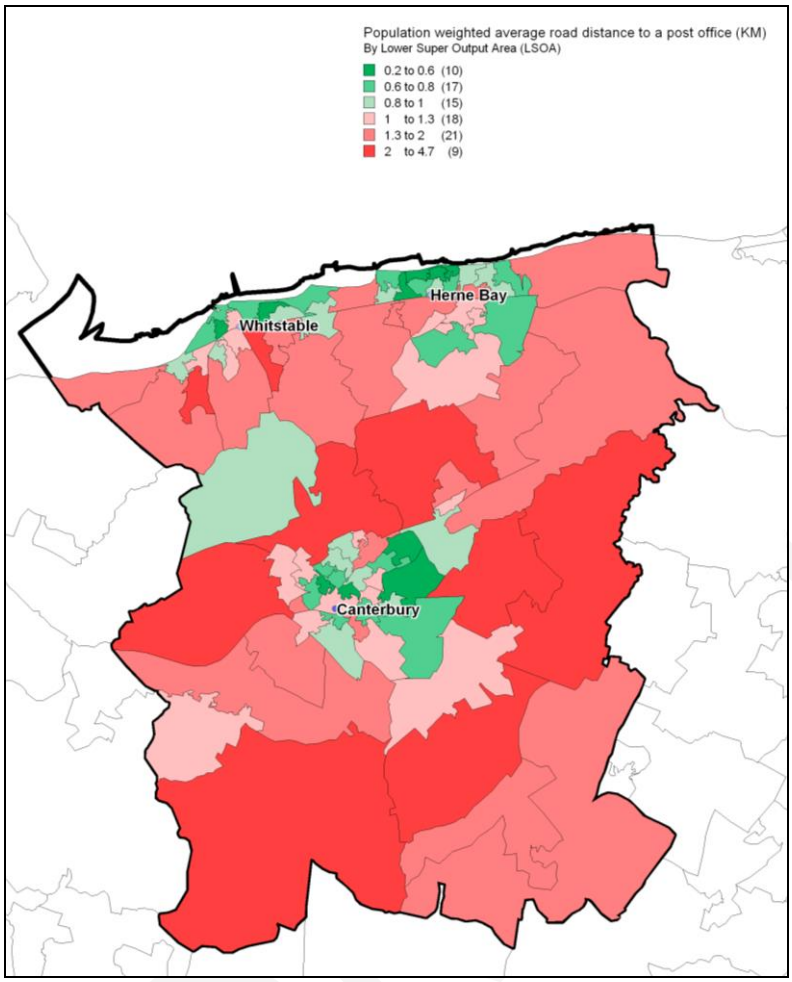
Post offices and community centres

The map below shows Population Weighted Average Road Distance to a Post Office. Red areas indicate residents who live over 2km from their nearest post office.

Figure X: Average road distance to a Post Office

Comment [c2]: Amend map legend as ranges overlap

Does it need to show ward boundaries out side Canterbury?



Source: Indices of Deprivation 2007, DCLG

Map of 21 post offices in Canterbury see

http://www.postoffice.co.uk/portal/po/finder?catId=20700386

Branch finder

List of community centres in Canterbury

Source: www.upmystreet.com (accessed 19/03/2010)

- Querns Community Centre, CT1 1PY
- Thannington Neighbourhood Resource Centre, CT1 3XR
- Hersden Neighbourhood Centre Association, Hersden, CT3 4HL
- Swalecliffe Community Association Bar, Whitstable, ct5 2qu
- Phoenix House, Sittingbourne
- Upchurch Village Hall, Sittingbourne

Educational attainment by ward