



North Essex Authorities Strategic Section One for Local Plans: Draft Publication (Regulation 19)

Draft Sustainability Appraisal (SA): Annex B - Baseline Information - June 2017







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1. Introduction

1.1 Background

Braintree District Council, Colchester Borough Council and Tendring District Council, together forming the 'North Essex Authorities,' in conjunction with Essex County Council as a key partner in its strategic role for infrastructure and service provision, commissioned Place Services of Essex County Council to undertake an independent Sustainability Appraisal (SA) for a Strategic Section One for the respective Council's Local Plans.

Place Services are acting as consultants for this work; therefore the content of this SA should not be interpreted or otherwise represented as the formal view of Essex County Council.

This document is Annex B to the Environmental Report of the SA for Section One. It also forms Annex B of the Section Two SAs for Colchester Borough Council and Tendring District Council.

1.2 Identifying Other Relevant Policies, Plans and Programmes

The SEA Directive requires the production of the following information:

“the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;” Annex 1(b);

“the environmental characteristics of areas likely to be significantly affected;” Annex 1(c); and

“any existing problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance such as areas designated pursuant to Directives 79/409/EEC and 92/43/ECC” Annex 1(d).

The baseline information identifies current sustainability issues and problems in the Strategic Area which should be addressed and provides a basis for predicting and monitoring the effects of implementing the document.

To ensure the data collected was relevant and captured the full range of sustainability issues it was categorised under 13 thematic topics. They cover all the topics referred to in Annex 1(f) of the SEA Directive and follow the order of:

- economy and employment;
- housing;
- population and society;
- health;
- transport;
- cultural heritage;



- biodiversity and nature conservation;
- landscapes;
- water environment ;
- climate and energy;
- air;
- waste; and
- minerals.

The summaries of each topic have been included within the main Environmental Report document while this annex contains the detailed baseline information.



2. Economy and Employment

2.1 Economy

The area covered by Section One comprises a large part of the Haven Gateway, an established partnership area which is identified in a range of existing strategy and investment documents. The Haven Gateway includes the Essex administrative areas of Braintree, Colchester, Maldon and Tendring Councils and extends northwards into parts of Suffolk.

Braintree and Colchester are the major centres of employment within the strategic area. While there are high levels of commuting to London, many residents work and live within the area with significant commuting across borough and district boundaries, reflecting a functional economic geography.

The area has a mixed economy focused on the service sector, including wholesale and retail, business services, tourism, health and education, alongside manufacturing, logistics and construction. Due to the extensive rural area outside urban settlements, agriculture and its related industries play an important part in the overall economy.

The Cultural, Visitor and Tourism sector, which encompasses a range of activities including visitor attractions, leisure facilities, food and accommodation, plays an important role in Tendring District's economy. This sector is worth more than £276 million per annum to the economy and is estimated to provide 3,000 jobs and around 350 businesses across Tendring. The majority of jobs (approx. 8%) and businesses (approx. 10%) in this sector are located in and around Clacton which is a similar concentration to the national average. In most of the rest of the towns in Tendring businesses operating within this sector are slightly more concentrated than the national average.

Table 1: Economic activity

	Tendring	Braintree	Colchester	East of England	Great Britain
Number of economically active	53,900	77,700	94,400		
Percentage of the population economically active	68.6%	78.8%	78.9%	79.9%	77.8%

Source: NOMIS Labour Supply (Jan 2016-Dec 2016)

**Table 2: Job density**

	Tendring	Braintree	Colchester	East of England	Great Britain
Job Count	43,000	62,000	98,000		
Job Density	0.57	0.67	0.83	0.81	0.83

Source: NOMIS Labour Supply (2015)

Tendring District has the lowest rate of economic activity at 68.6% compared to Braintree and Colchester District, as well as the region and country. Job density is again lower in Tendring than the other Districts, although Braintree is also lower than Colchester, the region and the country at 0.67.

Table 3: Business registration and de-registration rate

	Tendring	Braintree	Colchester	Essex	East of England	Great Britain
Birth	465	745	905	8,575	33,715	360,425
Death	350	460	570	5,230	20,905	218,670
All active enterprises	3,875	5,885	6,575	59,485	237,155	2,359,055

Source: ONS Business Demography 2015 (released November 2016)

There has been a slight increase in the number of active businesses in Tendring due to a higher rate of registrations than de-registrations. Compared to sub-national and national figures the district has experienced a lower start up rate and a lower de-registration rate indicating a slightly less robust local economy. Braintree and Colchester are more in line with the county and national business registration and de-registration rates.

**Table 4: Local business stock and employment size**

	Tendring	Braintree	Colchester	Essex	East of England	Great Britain
Business Entities	4,230	6,440	6,620	59,570	242,975	2,382,365
Micro (0 to 9)	87.5%	89.6%	87.9%	89.4%	89.1%	88.7%
Small (10 to 49)	10.8%	8.8%	10.0%	8.9%	8.9%	9.3%
Medium (50 to 249)	1.5%	1.3%	1.6%	1.3%	1.5%	1.6%
Large (250+)	0.2%	0.3%	0.5%	0.3%	0.4%	0.4%

Source: Inter Departmental Business Register, ONS (2015)

Nearly 90% of all local businesses within the three authorities employ 9 or less people and approximately 1.5% employ 50 or more people. These figures are similar to the county, region and country but with some slight variation. Tendring has a lower percentage of micro businesses than the region and the country and Colchester has a slightly higher proportion of large businesses.

Table 5: Location of businesses

	Tendring	Braintree	Colchester	Essex	East of England	Great Britain
Urban based businesses	53.9%	50.0%	62.2%	63.4%	63.1%	74.7%
Rural based businesses	46.1%	50.0%	37.8%	36.6%	36.9%	25.3%

Source: Defra (updated March 2014)

Tendring District is predominantly rural in nature; however the majority of businesses are located in an urban location. This is in contrast with Braintree which despite being predominantly rural has an equal split of businesses in rural and urban locations. There is no a small difference between the proportion of urban and rural businesses within Tendring District and no difference in Braintree, however the majority of businesses in Colchester are in urban areas. This difference is in line with county and national business compositions which recorded highest proportions within urban areas, but the contrast is in the difference between the proportions of urban and rural businesses within the three authorities.

Table 6: Proportion of businesses by industry type

Industry	Tendring	Braintree	Colchester	Essex	East of England	Great Britain
Agriculture, Forestry & Fishing	6.4%	6.3%	3.7%	3.7%	4.9%	5.4%
Production	7.0%	7.5%	5.8%	6.5%	6.0%	5.8%
Construction	16.7%	17.2%	15.3%	17.4%	14.2%	11.6%
Motor Trades	4.5%	3.5%	3.3%	3.3%	3.3%	2.9%
Wholesale	3.5%	5.2%	4.2%	4.7%	4.5%	4.2%
Retail	9.2%	5.6%	7.7%	6.8%	7.1%	7.8%
Transport & Storage (Including Postal)	4.4%	3.6%	2.6%	3.7%	3.7%	3.4%
Accommodation & Food Services	8.0%	4.5%	5.2%	4.7%	5.1%	6.0%
Information & Communication	4.5%	6.4%	7.8%	7.4%	8.2%	8.0%
Finance & Insurance	0.9%	1.0%	2.1%	1.8%	1.7%	2.0%
Property	2.8%	3.0%	3.7%	3.4%	3.4%	3.6%
Professional, Scientific & Technical	11.0%	16.1%	16.7%	16.6%	17.2%	18.1%
Business Administration & Support Services	7.1%	7.8%	8.1%	8.1%	7.9%	8.1%
Public Administration & Defence	0.6%	0.8%	0.4%	0.4%	0.5%	0.3%
Education	1.9%	1.7%	2.0%	1.7%	1.8%	1.7%
Health	5.1%	3.3%	5.1%	3.8%	4.0%	4.3%



Industry	Tendring	Braintree	Colchester	Essex	East of England	Great Britain
Arts, Entertainment, Recreation and Other Services	6.4%	6.6%	6.1%	6.0%	6.3%	6.8%

Source: ONS, 2015 data

There are comparatively more businesses in the industries of agriculture, forestry and fishing, production, motor trades, retail, transport and storage, accommodation and food services, health and arts, entertainment, recreation and other services within Tendring District than the county but noticeable fewer businesses within professional, scientific and technical. Other industries with proportionately lower business numbers than the county levels are construction, wholesale, information and communication, finance and insurance, property and business administration and support services. Braintree has more businesses in agriculture, forestry and fishing, production, motor trades, wholesale and arts, entertainment, recreation and other services than the Essex average, and a lower proportion of the remaining industries. Colchester is closer to the Essex average, with similar proportions for multiple industries and only slight variances in others. The most significant differences are in the construction, production, retail, health and transport and storage.

2.2 Employment

Tendring District is home to the Harwich International Port which has developed into a highly efficient, multi-purpose freight and passenger port handling bulk and container ships as well as roll-on, roll-off ferries and cruise ships. Harwich is one of the major UK ports for ferry and cruise tourism, with passenger figures for 2012-2013 showing an increase of 18% from 671,000 to 795,000. During 2014 a total of 43 port calls were made by cruise ships at the port. Harwich is also one of the leading UK freight ports for bulk and container ships. The figures for 2012-2013 showed an increase of 14% in tonnage of freight which passed through the port from 3,189 to 3,638 thousand tonnes. The port also supports the off-shore renewables industry providing an installation base for the Gunfleet Sands wind farm and support facilities for the installations at Foreness Point, Kent and Greater Gabbard off the coast in Suffolk.

In 2013 permission was granted for the expansion of Bathside Bay to create the new Harwich International Container Terminal, a small boat harbour with sheltered moorings and public amenity space. The new terminal is expected to include 1,400 metres of quayside, a 14.5 metre deep approach channel able to accommodate increasingly large container ships, 50 plus gantry cranes, a container storage yard and rail terminal. Bathside Bay also has the potential to be a multi-functional site for the manufacture and assembly of wind turbines. The expansion of Bathside Bay, with the provision of amenity and commercial space as well as port expansion will provide jobs at the port and in supporting industries both during construction and once in operation.

Internet shopping has become a major competitor to town centre shopping within Tendring District. In 2014 74% of all adults in the UK bought goods or services on-line, an increase of 21% from 2008. Increases in on-line shopping choice will mean traditional retailers and service providers will need to



compete not only in price and range but also in service and expertise. Town centres will need to provide an attractive, mixed-use shopping experience to retain and increase their share of consumer spending.

The industry class employing the most people in Colchester according to the 2011 Census was the 'wholesale and retail, repair of motor vehicles and motorcycles' class which accounted for 16.0% of jobs. The next three largest industry classes were 'human health and social work' which accounted for 13.5% of employment, followed by 'education' at 11.4%; and 'construction' at 8.3%. The largest employers in Colchester by approximate number of employees are Colchester District General Hospital with 3,000 employees; University of Essex with 2,000 employees; Colchester Borough Council with 1,500 employees; and Colchester Institute with 900 employees. The largest private sector employer is Mothkind Clean Ltd, an industrial cleaning company, which employs approximately 800 people.

The average gross household income is lower than the Essex and the East of England averages but higher than the national average. In Colchester average gross household income was £27,592 in 2012, it was £30,193 in Essex, £27,980 in the East of England and £27,302 in England. There are variations in prosperity and there are pockets of deprivation in parts of both the towns and rural areas.

Tourism plays an important part in the local economy. Tourism was worth £244 million to the economy of Colchester Borough in 2012, which is a rise of 5% from the previous year. The value of tourism to Colchester has risen in real terms by 158% from £63.1 million in 1993. Tourism supports more than 5,600 actual jobs in the Borough, this has risen by 109% since 1993 (5632 in 2011, 2685 in 1993).

Colchester attracted just over 5 million visitor trips in 2012. This is approximately 78% higher than the 1993 figure of 2.8 million visitor trips. This can be broken down as follows:

- 62,000 staying trips taken by overseas staying visitors;
- 216,000 staying trips taken by domestic staying visitors; and
- 4.7 million day trippers.

Colchester has 1,300 creative businesses providing employment to over 5,600 employees. Creative industries are a priority growth area for the town. This accounts for 18.3% of all businesses in the Borough, and includes advertising, design, film, arts and crafts, performing arts and publishing. Nationally, creative industries account for approximately 7% of the economy as a whole. This shows that Colchester is a well-performing town in terms of its creative economy but that there is considerable room for growth.

**Table 7: Employment and unemployment**

	Tendring	Braintree	Colchester	East of England	Great Britain
In employment	51,700 (65.8%)	75,100 (78.8%)	90,800 (75.8%)	76.8%	74.0%
Unemployed	3,500 (6.4%)	3,000 (3.8%)	3,800 (4.0%)	6.4%	4.8%

Source: NOMIS, Jan 2016-Dec 2016 data

A percentage of 65.8 of the working population in Tendring District are in employment which is lower than sub-national and national employment levels. Contrastingly, Braintree is above the regional and national percentages and Colchester is below the regional and above the national average for residents in employment. The proportion of the District's working population who are economically active but unemployed is 6.4% which is above Braintree and Colchester, in line with the sub-national and above national unemployment figures.

Unemployment within Tendring District had risen at a faster rate than that of regional and national levels but has since been in decline from 2013. During July 2007 and June 2008 around 6.1% of the working age population was unemployed in Tendring but following an increase to a high of 10.2% in April 2012-March 2013, unemployment had decreased to 5.4% during January 2015 and December 2015.

Unemployment in the District has declined in recent years and has not returned to below 2006 levels.

In Colchester, unemployment was high at 7.2% in April 2009 – March 2010 and steadily reduced to 6.2% in April 2011 – March 2012. Between July 2011 and September 2012, the unemployment rates rose sharply to 7.4% representing a peak in unemployment rates in Colchester since January 2004. This is in line with the economic downturn experienced across England at this time. Since then, the unemployment rate has decreased every monitoring period to the rate of 3.7% in January 2015 - December 2015 with the exception of 4.0% in January 2016 - December 2016.

Braintree has experienced similar trends, with the peak unemployment rate in the District of 6.9% evident in April 2012 – March 2013 as expected from the downturn in the English economy. Following this, the unemployment rate has consistently fallen to the 3.8% registered in January 2016 – December 2016.

February 2013 saw the proportion of jobseeker's allowance claimants hit a peak of 4.7% of the population aged 16-64 in Tendring, which was a higher proportion than national and regional figures. Since this peak, the proportion of claimants has decreased with the most recent figure for April 2016 of 2.7% being recorded for Tendring. However, despite the percentage of claimants decreasing consistently, the figures for Tendring remain higher than that of the region and nationwide.

A similar trend was apparent in Braintree and Colchester. In Braintree, the peak of February 2013 registered at 2.9% and has decreased consistently to 0.9% in November 2015. In Colchester, the peak was in February 2012 where the rate was 3.1% and has fallen to 0.9% in November 2015.

**Table 8: Working patterns**

	Tendring	Braintree	Colchester	East of England	Great Britain
Full time	60.1%	66.2%	59.9%	63.4%	67.6%
Part time	39.9%	33.8%	40.1%	36.6%	32.4%

Source: ONS business register and employment survey (2013 revised – released September 2015)

As of 2013, 60.1% of jobs within Tendring, 66.2% of jobs within Braintree and 59.9% of jobs within Colchester were classed as full-time. Tendring and Colchester are lower than the trends in working patterns found in Essex, but Braintree is higher than the county. Tendring, Braintree and Colchester all have a lower percentage of full-time jobs than Great Britain as a whole.

Table 9: Employment by industry

Group	Tendring	Braintree	Colchester	East of England	Great Britain
Soc 2010 major group 1-3	32.2%	35.3%	39.2%	44.2%	44.4%
1 Managers, directors and senior officials	#	5.8%	11.9%	10.3%	10.4%
2 Professional occupations	11.3%	13.4%	14.0%	19.0%	19.8%
3 Associate professional & technical	12.3%	16.1%	13.3%	14.7%	14.1%
Soc 2010 major group 4-5	21.7%	28.3%	25.6%	22.5%	21.4%
4 Administrative & secretarial	10.4%	12.6%	13.8%	11.0%	10.7%
5 Skilled trades occupations	11.3%	15.7%	11.9%	11.4%	10.6%
Soc 2010 major group 6-7	28.4%	17.5%	20.0%	16.1%	16.9%
6 Caring, leisure and Other Service occupations	18.9%	7.5%	13.4%	9.0%	9.2%
7 Sales and customer service occs	9.4%	10.0%	6.6%	7.1%	7.7%



Group	Tendring	Braintree	Colchester	East of England	Great Britain
Soc 2010 major group 8-9	17.8%	18.9%	15.1%	17.2%	17.2%
8 Process plant & machine operatives	#	9.7%	5.3%	6.5%	6.3%
9 Elementary occupations	9.7%	9.3%	9.8%	10.7%	10.8%

Source: NOMIS, Jan 2015 – Dec 2015 data

Note: # Sample size too small for reliable estimate

Numbers and % are for those of 16+

% is a proportion of all persons in employment

The majority of jobs within Tendring and across all areas are major group 1-3. For Tendring this accounts for 32.2% of all employee jobs, in Braintree it is 35.3% and Colchester is 39.2%. Despite this, the proportion of people in these employment groups for all areas is lower than the regional and national figures. The other industry in the district which provides a higher proportion of employee jobs compared to the sub-national and national equivalent is major group 6-7, consisting of services industries and sales and accounting for 28.4% of employees in Tendring. Braintree has higher levels of employees in major group 4-5 than the regional and national averages and Colchester also has slightly higher levels of employees in this major group.

Table 10: Gross weekly pay by residence and workplace

	Tendring	Braintree	Colchester	East of England	Great Britain
Gross weekly pay by residence					
Full time workers	£493.50	£592.10	£531.60	£551.00	£529.60
Male full time workers	£513.70	£653.20	£597.20	£595.60	£570.40
Female full time workers	£464.60	£517.70	£481.30	£481.30	£471.60
Gross weekly pay by workplace					
Full time workers	£461.20	£513.60	£479.10	£517.50	£529.00



	Tendring	Braintree	Colchester	East of England	Great Britain
Male full time workers	£494.10	£546.60	£534.30	£557.10	£569.90
Female full time workers	£422.90	£404.20	£426.90	£453.70	£471.50

Source: NOMIS, 2015 data

Residents of Tendring in full-time employment on average earn a weekly salary by residence of £493.50 which is lower than the average for Braintree (£592.10) and Colchester (£531.60), as well as the region and Great Britain. A breakdown of salaries shows that male residents earn considerably more (£513.70) than their female counterpart (£464.60) but both genders earn below the respective Great Britain averages. The difference between male and female worker weekly salaries is lowest in Tendring (£49.10), followed by Colchester (£115.90) and Braintree (£135.50).

Weekly salaries for those working in full-time employment by workplace within Tendring are lower than the other areas at £461.20, which is again lower than regional and national figures. Businesses within the East of England region in general pay lower salaries than Great Britain as a whole.

Table 11: Class A1 floorspace projections in Colchester

Location	Sales floorspace sqm net		
	Convenience	Comparison	Total
Up to 2016			
Commitments/town centre proposals	1,450	12,800	14,250
Colchester urban area	2,255	803	3,058
Tiptree	-	21	21
West Mersea	-	18	18
Other Colchester Borough	522	-	522
Total up to 2016	4,227	13,642	17,869
2016-2021			
Colchester urban area	2,610	9,079	11,689



Location	Sales floorspace sqm net		
	Convenience	Comparison	Total
Tiptree	-	48	48
West Mersea	-	33	33
Other Colchester Borough	174	-	174
Total 2016-2021	2,784	9,160	11,944
2021-2026			
Colchester urban area	3,101	13,805	16,906
Tiptree	-	74	74
West Mersea	-	49	49
Other Colchester Borough	209	-	209
Total 2021-2026	3,310	13,928	17,238
Total period 2012-2026			
Colchester urban area	9,416	36,487	45,903
Tiptree	-	143	143
West Mersea	-	100	100
Other Colchester Borough	904	-	904
Grand total	10,321	36,730	47,050

Source: Colchester Borough Council (2014)

The convenience goods projections in the (Colchester BC) Retail Study indicate there is scope for one large food store in Colchester urban area in the short term (up to 2016). It is unlikely that this food store can be accommodated within the Town Centre Core. In the medium to long term (2016 to 2021) there is a requirement for 1-2 new large food stores, which could be provided in a new district/neighbourhood centres anchored by a large food store, expansion of one of the five urban district centres and/or the provision of a freestanding out-of- centre food store.



In terms of the spatial distribution of food superstores in Colchester urban area, the Retail Study concluded that the priorities appear to be the south of Colchester urban area in order to serve existing and future residents and to the northwest to serve new residential areas. The proposed neighbourhood centre within the Colchester Northern Growth Area or the Northern Gateway site could serve proposed residential development within the northwest of the urban area.

The Retail Study concluded that vacant shop premises and planned investment within Colchester town centre should be sufficient to accommodate comparison expenditure growth and operator demand for small to medium sized premises up to and beyond 2016. If longer term growth (2016 to 2026), where development cannot be accommodated within the town centre, the Council should consider the potential to expand urban district centres or the provision of new shopping destinations in the urban area. There is insufficient available expenditure to support all of the current comparison retail proposals between 2016 and 2021. The Retail Study concluded that retail development should not be permitted outside the Town Centre Core unless it can clearly be demonstrated that the proposed development cannot be accommodated in the Town Centre Core, and the proposals will not harm the vitality and viability of designated centres and planned investment.

Creative Colchester recognises culture and creativity as a driver of job creation, economic growth and sustainable community development to raise the profile of the town overall. A vision document has been created, in which the main opportunities are set out for the development of the creative industries over the next five years.

Colchester Borough Council is leading regeneration programmes in East Colchester, North Colchester, the Town Centre and the Garrison. In East Colchester a new waterside community is emerging at the Hythe, the town's former port. The £13 million regeneration programme will create a mixed-use development alongside the River Colne with 100,000 sq ft of commercial space, 2000 new homes and improved transport links. The transformation of the area is already underway with new housing, employment areas, community centre, nursery and student accommodation for the University of Essex at University Quays. The University Knowledge Gateway will bring new business opportunities, hotels and leisure facilities.

To the North of the town, alongside the A12, lies a 100 hectare development site. Plans for the area will see the creation of 1500 new homes and new employment areas to create up to 3500 new jobs. Opened in 2008, the site is already home to the Weston Homes Community Stadium. As well as being Colchester United Football Club's new home, the venue also offers space for concerts, events, community space for Colchester United Community Sports Trust to develop its programme of activities and conference facilities for up to 400 people. As part of the regeneration programme for North Colchester a Master Plan has been prepared for North Station, which is a key gateway into the town.

A £1.5billion development of a new modern Garrison in the town has shown a further 35 years commitment to Colchester by the MoD. As well as creating improved accommodation and facilities for service personnel, land released by the MoD as a result of the new development is being used to create a sustainable mixed use urban village close to the Town Centre.

Improvements in the Town Centre have previously been focused on the St. Botolph's Quarter, with ongoing plans to develop a new cultural quarter, large retail scheme, Magistrate's Court, residential development and multi-storey car park. However, plans to improve the wider town centre are now underway with proposals being developed to reduce traffic and create a better pedestrian experience



with more public spaces for events and activities and better links for cyclists ensuring that Colchester continues to be a vibrant place during the day and in the evening.

The quantitative projection for new retail floorspace in the Tendring district to 2025, as identified in the Retail Study Update 2010, indicates that the major requirement for capacity will be in the Clacton urban area and identifies that 1,490 sqm of convenience and 14,410 sqm of comparison retail floorspace will be required. The study indicates that creating the additional floorspace in the centre of Clacton, rather than the expansion of out-of-centre stores, would present an opportunity to strengthen and protect the vitality of the Town Centre and to encourage and support sustainable shopping patterns across the District.

The Study also identifies that no convenience floorspace is required in the towns of Frinton-on-Sea, Walton-on-the-Naze, Dovercourt, Harwich, Manningtree and Brightlingsea, but that there is a total comparison retail floorspace requirement of 7,961 sqm in these areas. The Study indicates that location of additional floorspace in the town centres would improve market share, sustain vitality and viability and attract visitors, with the provision that any expansion should be in keeping with their unique and historic environments.

Clacton the Council's own study found that comparison retail floorspace was set to increase within the plan period. Should this be directed to the centre of Clacton rather than an out of town location, it will assist in the reduction of the use of the private car. Within other towns in Tendring District it was found that convenience retail floorspace will be required throughout the Plan period. This will increase the vibrancy and vitality of these smaller towns and also increase tourism within the plan period. It is apparent that the level of internet shopping will increase during the Plan period. This is likely to have a significant impact on the traditional forms of retail and make-up of town centres.

Braintree is the main market town in the District and provides employment, town centre retailing and community services. In addition, on the edge of the town, the Freeport Factory Outlet Centre and adjacent retail park provide retail and leisure facilities, which serve an area that extends outside of the District.

Witham and Halstead are smaller market towns which provide employment, retail and community services. All three of the settlements contain town centres with some areas in need of regeneration. There are also two large areas in need of regeneration at former factory sites in Silver End (between Braintree and Witham) and Sible Hedingham (north west of Halstead). Witham is situated on the main London to Norwich railway line, as are the adjoining villages of Hatfield Peverel and Kelvedon, and there are significant levels of commuting from these stations, particularly to London and Chelmsford. The towns of Haverhill and Sudbury adjoin the District and provide services for residents in the northern, more isolated, rural areas of the District.

In Braintree, Factories and warehouses accounted for the majority of industrial and commercial floorspace. Factory floorspace accounted for a higher proportion in the District than the average for the region and for England, whereas retail and offices accounted for a lower proportion in Braintree District than the regional and national averages.



2.3 North Essex Garden Communities Employment & Demographic Studies

Under the 'most likely' demographic scenario for each settlement (2,500 dwellings by the end of the plan period (2033), with construction continuing at similar annual rates thereafter until completion of each settlement; and assumptions for in- and out-migration based on those for similar new settlements), population is estimated to peak at: just over 32,000 inhabitants by 2056 in 'West of Braintree'; just over 43,000 by 2071 in Colchester Braintree Borders, and; just over 20,000 by 2051 in Tendring Colchester Borders.

Total population in each settlement is then expected to decline, due to ageing of the population (as older people form smaller households), and under the assumption of no new houses being built.

A faster, more ambitious, build-out rate would lead to a slightly higher peak population (which would be reached sooner), due to the larger numbers of young population and children moving into the settlements. During the earlier phases of the development, there is likely to be faster growth in children of primary and secondary school age under an accelerated build-out rate, as younger adults moving in are more likely to bring children with them or form families shortly after moving in, increasing demand for schools. Once the settlement is completed and the population starts to age, the number of children of primary and secondary school age will decline more steeply in an accelerated build-out rate scenario, resulting in a much lower requirement for local schools.

The number of people aged 70 and over would grow at a faster rate under an accelerated build-out rate, as more people move in during the early phases of the development and the existing population starts to age. As a result, at its peak (around 40 years after building is completed in each scenario), the elderly population is slightly larger in an accelerated build-out rate scenario, increasing the need for elderly care services.

Table 12: Summary of expected growth from the North Essex Garden Communities

	By 2033	By 2050
West of north Essex – jobs created under transformational scenario (scenario 3a) in excess of BAU baseline	5,400	8,300
NEGC1:		
<ul style="list-style-type: none"> West of Braintree – jobs created (excl construction jobs) 	2,551	6,508
NEGC jobs (excl construction jobs) as % of total increment	47%	78%
<ul style="list-style-type: none"> West of Braintree – jobs (excl construction jobs) per house 	1.02	0.70



	By 2033	By 2050
Central East of North Essex - jobs created under transformational scenario (Scenario 3b) in excess of BAU baseline	10,400	23,700
NEGC 2:		
• Colchester Braintree Borders – jobs created (excl construction jobs)	2,572	7,629
NEGC jobs (excl construction jobs) as % of total increment	25%	32%
• Colchester Braintree Borders – jobs (excl construction jobs) per house	1.03	0.82
NEGC 3:		
• Tendring Colchester Borders – jobs created (excl construction jobs)	3,572	8,885
NEGC jobs (excl construction jobs) as % of total increment	34%	37%
• Tendring Colchester Borders – jobs created (excl construction jobs) per house	1.43	1.17

Source: North Essex Garden Communities Employment & Demographic Studies (2017)

The table shows that:

- The NEGCs account for a significant component of the additional employment growth which is linked to the alternative scenarios (albeit through different processes). These are not the only component but they are associated with up to about 80% of the increment linked to Scenario 3a and up to about 40% of the increment linked to Scenario 3b.
- All three NEGCs are likely to be associated with significant jobs growth, albeit of varying forms. The presumption is that jobs linked to exogenous growth processes will be physically on site (and appropriate provision will need to be made for them). Those linked to homeworking will be physically associated with the homes of residents and therefore also on site; in relation to these jobs, the design of housing will be crucially important. Those related to the consumption of local services may or may not be on site, but all will be reasonably “local”; provision in relation to this component will need to be planned so as to complement, rather than displace, existing local service provision (e.g. in the town of Braintree)



- In terms of the TCPA aspiration of “one job per house”, all three NEGCs appear to be “within range”. Broadly, Tendring Colchester Borders does best – which is plausible, given its proximity to a growing and ambitious university, and the role universities can play in driving high value economic growth. West of Braintree has the most challenging profile – which again is plausible, given the wider economic dynamics of the sub-area of which it is a part, and its specific locational attributes.

In principle, then, the data in the table implies that all three NEGCs could potentially contribute to the delivery of aspirational growth scenarios across North Essex.

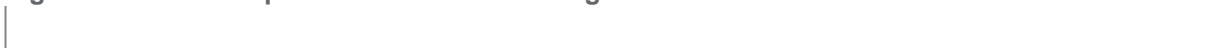


3. Housing

The reform of the planning system by the new Government has led to significant changes in the way housing targets are devised which will impact on future housing supply. The revocation of Regional Strategies (including the East of England Plan) has given local planning authorities the responsibility of setting their own housing targets based on housing land supply, need and robust supporting evidence.

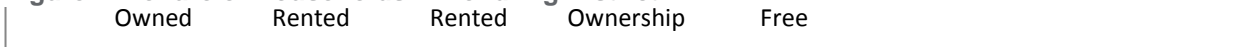
Based on figures taken from the 2011 Census, there were 62,105 households in the Tendring District, 10% were 1 bedroom, 38% were 2 bedrooms, 36% were 3 bedrooms, 12% were 4 bedrooms and 4% were 5 bedrooms or more. Of these, 73.7% were privately owned, 16.2% privately rented, 8.4% socially rented, 0.4% in shared ownership and 1.3% living rent-free. County wide 71.4% of homes were privately owned. Average household size in the district was 2.2 people, slightly lower than the national, regional and county, averages of 2.4 people. The average number of rooms was 5.4, according to the 2011 Census.

Figure 1: Bedrooms per household in Tendring District



Source: ONS 2011 Census data

Figure 2: Tenure of Households in Tendring District



Source: ONS 2011 Census data

A net of 209 dwellings were completed between 31 March 2013 and 1 April 2014, of which 3 were affordable housing units. A net of 1221 dwellings were completed over the past 5 years (2009/10 – 2013/14), which averages 244 dwellings per annum. The net number of completions in Essex for 2013/14 was 2860 and neighbouring Colchester and Babergh districts net dwellings built in the period 2013/14 were 725 and 291 and their 5 year averages (2009/10 – 2013/14) were 709 and 234 respectively.

There are 64 Residential Care Homes in Tendring the highest number in any district in Essex and the care sector is the second highest employer in the District. With the population of over 65s projected to rise by 39% during the period (2016-31) consideration will need to be given to the needs of an ageing population to encourage independent living and provide assisted living for those who require it. Development will need to assure that accommodation for our ageing population is integrated into communities to ensure that older people do not become isolated.

The provision of housing to meet local needs is a major issue in Tendring District. Identifying the objectively assessed housing need is also an important issue. Meeting the demand for affordable housing, including allocation of sites for gypsies and travellers, will also need to be considered and met within the Plan period. It will be increasingly important to match the population growth with economic growth within the District.

There are predicted to be 8,000 (13.1%) more households in Braintree District in 2021 than in 2011, driven by population growth (see Population and Social Issues topic above) and a reduction in average household size from 2.42 persons per household in 2011 to 2.36 in 2021. The population projection



analysis carried out by Edge Analytics suggests that the dwellings projection figure for Braintree District is that there will be a need for 824 additional dwellings per annum from 2009 to 2026. The SHMA 'stock flow analysis' suggests a need range of 761 to 883 additional dwellings per annum to 2026. The 2013 housing needs survey identified a shortfall of 362 market units per annum, based on market demand and supply data. The 2013 Affordable Housing Assessment Model identified a shortfall of 399 units a year. The Council has agreed that work on the new Local Plan will proceed on the basis of an objectively assessed housing need figure for the District in the period 2014-2033 in the range of 750-950 dwellings per year.

Evidence suggests that an overall affordable housing target of 40% can be justified to be negotiated from all suitable sites within Braintree District, subject to viability. The overall affordable tenure target balance could be set at 65% for social rent (including affordable rents) and 35% intermediate housing. The SHMA also provides guidance on appropriate property size targets as follows:

Table 13: Braintree SHMA guidance on property size targets

	1 to 2 bedrooms	3 to 4 bedrooms
Social rented	70%	30%
Intermediate market housing	65%	35%
Market housing	70%	30%

In relation to meeting the housing needs of older people, the SHMA also recommends that the Council considers:

- The type and quality of existing sheltered stock in meeting today's housing standards and preferences and the scale of need and demand for 648 units by 2018.
- The large future on-going requirement for 'extra care' accommodation to meet the significant growth in the number of people over 85.

Flats are considered to be the entry level stock in the District and the price for a one bedroom flat starts at £73,000. This would require an income of £19,800 and 61.4% of newly forming households earn below this amount. The need for a significant deposit has been a major factor in preventing access to the market for new forming households since 2008. 93.8% had less than £10,000 in savings and unless significant family financial support is available, these households will find it very difficult to access the local market and will be limited to the rental or intermediate market. Access to the private rented housing market is also restricted by cost.

According to the 2011 Census there were 71,634 households in Colchester. 10% were 1 bed, 27% were 2 bedrooms, 39% of households were 3 bedrooms, 17% were 4 bedrooms and just under 5% were 5 bedrooms or more. Of these, 66.3% were privately owned; 13.5% socially rented; 18.7% privately rented; 0.5% in shared ownership; and 1% living rent-free. County wide 71.4% of homes were privately owned in 2011. Average household size was 2.3 people in 2011, which is slightly less than the county, regional and national averages of 2.4 people. The average number of rooms was 5.5 according to the 2011 Census.



3.1 Housing Supply

The current trajectory for Tendring District shows that by 2033 there will be 6,115 completions (since 2015). Annual completion rates will fall significantly from 2020 below the 430 annual average rate of provision as set out in the East of England Plan (2008) which at time of writing is still a statutory planning document. As stated in Housing Trajectory and Statement of 5-Year Land Supply (2011) this reflects the fact that the sites identified in the Adopted Local Plan have been completed.

The SHLAA identifies a potential supply of 6,326 dwellings on deliverable and developable sites and 4,935 dwellings on land subject to constraints which may be overcome. A further 2,500 to 6,000 dwellings could be provided on six sites for new settlements which have been considered in the SHLAA. It will be the role of the Local Plan to identify strategic development areas for housing and the allocation of specific sites which bring forward housing supply.

In relation to potential supply, 1,061 homes have been built in 2011/12 and 2012/13. As at April 2013 1,970 homes had been granted Planning Permission on larger sites i.e 6 units or more. A further 243 are considered deliverable but do not have planning permission - these sites are phases of larger developments which were allocated in the previous Local Plan but have not yet been built. Historical evidence shows that windfall sites make a contribution to the number of annual completions, and it is forecast that in the light of available sites and planning policy, windfall sites will continue to be permitted and built in the future at a rate of 50 dwellings per year. Taking this into account this plan needs to deliver 6,286 homes on new sites. Since April 2013 a number of sites have been granted planning permission which will contribute to meeting this need.

Of the 543 new gross dwellings built during 2011/12, 254 were built on previously developed land (PDL). This was a comparatively larger number of dwellings built on PDL than recent years – the period from 2008 to 2011 had seen a decline in the proportion of new dwellings being built on PDL.

Data from Braintree District's 2013 Housing Needs Survey shows that 5,272 existing households are planning on moving to market housing in the District during the next five years, with the most popular destinations being Braintree, Bocking and Great Notley. 2,188 existing households are planning on moving to affordable housing in the District with the most popular location choices being Bumpstead, Upper Colne, Yeldham, Stour Valley North, Hedingham and Maplestead, Gosfield and Greenstead Green, Stour Valley South, and Three Colnes, followed by Braintree, Bocking and Great Notley.

In 2012/2013 there were 178 net additional dwellings (taking into account losses/demolitions) within the District. As at April 2013 the Managed Delivery Target for the District is 169 additional dwelling per annum to meet their minimum total housing requirement of 9,625 dwellings between 2001 and 2026, as set out in the Core Strategy.

The trajectory in Braintree shows that by 2026 there will be 9,625 completions across the plan period (since 2001). Projected annual completion figures will be generally lower than the completion rates reported between 2001 and 2011 but Braintree District will still exceed its minimum housing requirement by 816 dwellings or 108% for the whole plan period. This is due to supply up to 2012 substantially exceeding the annual average required to meet the overall housing requirement. Current national policy requires local planning authorities to provide a five year land supply of deliverable sites which excludes the current reporting year.

A total of 1,584 dwellings have been identified on deliverable sites over the next five years starting from



2013/14. This figure increases to 1,755 when the current year is also included. This equates to an average annual completion rate of 292 which is above the current published target of 247.

Of the 322 new gross dwellings built during 2011/12, 206 were built on previously developed land (PDL). Proportionately this is the smallest number of dwellings built on PDL since 2009/10. PDL figures no longer include dwellings built on gardens of existing dwellings following a change of definition by the Government in June 2010. The previous figures for PDL are therefore not comparable with the adjusted figures from 2009/10.

In 2011/12 this accounted for 63.98% of the total dwelling provision while the previous year dwelling completed on PDL represented 71.25% of the total provision. Under the old definition this would have been 75.78% and 77.29% respectively.

Under current policies an average of 830 dwellings are expected to be built in Colchester Borough each year. A net of 617 homes were built between 1 April 2012 and 31 March 2013. A net of 3,870 dwellings were built over the past five years (2008/9 – 2012/13), which averages 774 per annum. This is higher than any other local authority in Essex. Neighbouring Tendring and Braintree districts had an average of 278 and 339 completions per annum respectively over the previous five years. The net number of completions in Essex over the previous five years was 20,291, which averages at 4,058 per annum.

Table 14: Affordable housing supply in Tendring District (net)

Year	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15
Net Completed Dwellings	610	370	-	320	210	380	240	240	260
Affordable Completed Housing	20	70	30	140	20	160	70	10	10
Percentage Affordable Housing Completed	3.3%	18.9%	-	43.8%	9.5%	42.1%	29.2%	4.2%	3.8%

**Table 15: Affordable housing supply in Braintree District (net)**

Year	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15
Net Completed Dwellings	590	580	370	330	420	240	160	160	230
Affordable Completed Housing	240	110	140	140	150	70	100	100	170
Percentage Affordable Housing Completed	40.7%	19.0%	37.8%	42.4%	35.7%	29.2%	62.5%	62.5%	73.9%

Table 16: Affordable housing in Colchester Borough (net)

Year	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15
Net Completed Dwellings	1,290	1,490	780	690	700	860	650	740	650
Affordable Completed Housing	160	290	140	260	190	380	130	70	260
Percentage Affordable Housing Completed	12.4%	19.5%	17.9%	37.7%	27.1%	44.2%	20.0%	9.5%	40%

Note: - is where no data was available

Source: DCLG Live tables on house building (updated February 2016)

In 2014/15, 3.8% of the net dwelling completions, which accounts for 10 dwellings, were affordable within Tendring, as opposed to 73.9% in Braintree and 40.0% in Colchester. To date, the highest proportion of affordable housing achieved within the District was in 2009/10 at 43.8% which accounted for 140 of the total number of dwellings completed. In Braintree the highest percentage was in the years 2012/2013 and 2013/2014, of which 62.5% of new completed dwellings were affordable. Colchester saw its peak affordable housing completions of 44.2% in the year 2011/2012.



3.2 Existing Housing Stock

Table 17: Dwelling stock by tenure

Year	Local Authority (incl. owned by other LAs)	Private Registered Provider	Other public sector	Private sector	Total
Tendring	4.7%	3.9%	0.0%	91.3%	67,880
Braintree	0.0%	16.4%	0.0%	83.6%	63,770
Colchester	7.8%	6.3%	1.2%	84.7%	77,670
Essex	7.0%	7.5%	0.2%	85.3%	618,780
England	7.0%	10.4%	0.2%	82.4%	23,543,000

Source: DCLG Table 100 Dwelling Stock (2015)

The composition of dwelling stock for Tendring, Braintree and Colchester is similar to that of Essex and England with the majority of dwellings being in the private sector. However, Tendring District reported the highest proportion of stock within the private sector at 91.3% as well as a smaller proportion of Local Authority owned dwellings compared with Colchester, Essex and England at 4.7%. This is a higher difference between those figures than in Essex and England. In contrast there were proportionately fewer dwellings owned by Private Registered Providers in Tendring than any other area. Braintree has 0.0% local authority owned dwellings in the District.

Table 18: Mean dwelling prices (£)

Administrative area	Average dwelling price
Tendring	£168,829
Braintree	£215,851
Colchester	£202,625
Essex	£246,369
England	£246,746

Source: 2013 Land Registry Data, DCLG (updated April 2014)

The average dwelling price within Tendring District is £168,829. This is significantly lower than the county



and national averages. The average dwelling prices for Essex is similar to the national average, but Tendring District is much lower. Braintree has a higher average dwelling price than Tendring and Colchester at £215,851, but is still lower than the county and national average.

Dwelling prices within Tendring District have increased by 17% since 2003, despite fluctuating between 2009 and 2013. Average house prices in Braintree and Colchester increased by higher percentages over the same time period, at 23.2% and 23.4% respectively. The average dwelling prices within Tendring, Braintree and Colchester have continuously been lower than the sub-national and national averages and the price gap has widened in recent years between the Districts average and the national average. In 2003 the average dwelling price in Tendring was £143,750 which was £46,387 less than the Essex average of £190,137 and £23,034 less than the national average of £166,784. In 2013 the difference was £77,540 and £77,917 compared with Essex and England respectively. For Braintree, the difference compared with Essex in 2003 was £15,536 and in 2013 it was £30,518. Colchester registered a larger change than Braintree, where the difference compared to Essex in 2003 was £26,048 and in 2013 was £43,744.

3.3 Housing need – Strategic Housing Market Assessment (SHMA)

The SHMA Update observed that, due to the requirement for significant deposit to access a mortgage, few households aspiring to home ownership would have access to sufficient funds to purchase a home in the District. The Update identifies a notable increase in the proportion of households in the private rented sector and a decrease in all other tenure groups with owner-occupiers with a mortgage recording the biggest fall.

Table 19: Size mix of housing requirement (per annum)

Housing type	Count	Percentage
Market housing		
1 bedroom	38	8.8%
2 bedroom	121	27.9%
3 bedroom	176	40.6%
4 + bedroom	99	22.8%
Sub-total	434	100.0%
Shared ownership		
1 bedroom	6	100.0%
2 bedroom	0	0.0%



Housing type	Count	Percentage
Market housing		
3 bedroom	0	0.0%
4 + bedroom	0	0.0%
Sub-total	6	100.0%
Affordable rented / social rented housing		
1 bedroom	11	7.0%
2 bedroom	75	47.8%
3 bedroom	48	30.6%
4 + bedroom	23	14.6%
Sub-total	157	100.0%
All housing		
1 bedroom	55	9.2%
2 bedroom	196	32.8%
3 bedroom	224	37.5%
4 + bedroom	122	20.4%
Total	597	100.0%

Source: Braintree, Colchester, Chelmsford and Tendring District Councils SHMA update (Dec 2015)

The updated SHMA for Braintree, Colchester, Chelmsford and Tendring Councils indicates that the majority of market housing and affordable housing should be 2 and 3 bedroom properties. This trend is replicated when assessing all housing, with 70.3% of housing need across the Districts and Boroughs is 2 and 3 bedroom dwellings.



Year		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
	Acceptances	3	3	3										9

Source: Braintree District Council Homelessness Strategy Statistical Update Q1 2015/16 (June 2015)

The number of homeless people accepted in Braintree District in 2014/15 was 140. This is the third lowest figure across the study period with the lowest being the three previous years (2010/11 and 2011/12) at 104 and 137 homeless acceptances. Homelessness acceptances decreased from the previous year by 26, and early statistics from the first quarter of 2015/16 indicate there is likely to be a further reduction when the statistics for this year are completed.

**Table 21: Housing options service statistics in Tendring District**

Year	Number of Approaches	Housing Advice	Homelessness Prevention	Homelessness Applications	Homelessness Acceptances
2009/10	2099	1306	593	200	67
2010/11	2110	1461	485	164	75
2011/12	1862	1302	408	152	70
2012/13	1702	1255	337	110	45
2013/14	1774	1231	456	87	24

Source: Tendring Homelessness Strategy 2009-2014 statistical update

Following an increase in homeless acceptances in 2010/11, numbers have begun to fall steadily within Tendring District, with 2013/14 seeing the lowest number in the last 6 years of 24 acceptances. This is in contrast with national increases in homelessness acceptances.

During the 2013/14 financial year, there was a 23% decrease in the number of homelessness applications to the council. This follows the national trend as 111,960 applications were made to local authorities during 2013/14 which is a decrease of 1% from 113,520 in 2012/13.

In 2014/15 the number of applications in Colchester increased by 23% to 342 (the same total as 2012/13). Between 1 January and 31 March 2015, local housing authorities in England received 27,640 applications; this is 2 per cent higher than in the corresponding quarter in 2014.

The number of acceptances has also decreased by 22% in 2013/14 from the previous year. This is also in line with the national trend as during the 2013/14 financial year, 52,270 households were accepted by local authorities as being owed the main homelessness duty. This is a decrease of 3 per cent from 53,770 in 2012/13.

The 28% increase in acceptances in the last financial year 2014/15, almost mirrors the number of acceptances in 2012/13. In England there were 54,430 acceptances in financial year 2014-15, up 4 per cent from 52,290 in 2013-14.

Over the last 3 years there has been a significant reduction in the number of 16/17 year olds being accepted as homeless. Early intervention and prevention options have been developed for young people at risk of becoming homeless in the Borough.

(Source: Colchester Borough Council Homelessness Strategy Evidence Base update 2015)



3.5 Gypsy and Traveller Accommodation

Table 22: Gypsy and Traveller Count for Tendring District

Tendring		Authorised sites (with planning permission)				Unauthorised sites (without planning permission)				Total all caravans
Year	Month	Socially rented caravans	Private caravans			Number of caravans on own land	Number of caravans on land not owned by Travellers			
			Temporary planning permission	Permanent planning permission	All private caravans		“Tolerated”	“Not tolerated”	“Tolerated”	“Not tolerated”
2014	Jan	0	0	26	26	1	1	0	0	28
	Jul	0	0	26	26	0	2	0	14	42
2015	Jan	0	0	26	26	1	1	0	0	28
	Jul	0	0	26	26	0	2	0	0	28
2016	Jan	0	0	26	26	1	1	0	0	28

Source: DCLG Gypsy and Traveller Caravan Count (Jan 2016) Note: some figures include imputation. This is due to one of the following reasons: Local Authority non-response / Incomplete returns / Unable to carry out count due to not being able to access site



Table 23: Gypsy and Traveller Count for Braintree District

Braintree		Authorised sites (with planning permission)				Unauthorised sites (without planning permission)				Total all caravans
		Private caravans				Number of caravans on own land	Number of caravans on land not owned by Travellers			
Year	Month	Socially rented caravans	Temporary planning permission	Permanent planning permission	All private caravans	“Tolerated”	“Not tolerated”	“Tolerated”	“Not tolerated”	
2014	Jan	40	0	26	26	0	29	0	0	95
	Jul	40	0	39	39	21	0	0	0	100
2015	Jan	40	0	25	25	29	0	0	0	94
	Jul	40	0	65	65	0	0	0	15	120
2016	Jan	44	0	67	67	0	0	0	0	111

Source: DCLG Gypsy and Traveller Caravan Count (Jan 2016) Note: some figures include imputation. This is due to one of the following reasons: Local Authority non-response / Incomplete returns / Unable to carry out count due to not being able to access site



Table 24: Gypsy and Traveller Count for Colchester Borough

Braintree		Authorised sites (with planning permission)				Unauthorised sites (without planning permission)				Total all caravans
		Private caravans				Number of caravans on own land	Number of caravans on land not owned by Travellers			
Year	Month	Socially rented caravans	Temporary planning permission	Permanent planning permission	All private caravans		"Tolerated"	"Not tolerated"	"Tolerated"	
2014	Jan	0	0	38	38	2	0	0	0	40
	Jul	0	0	33	33	2	0	0	8	43
2015	Jan	0	0	36	36	1	7	0	0	44
	Jul	0	0	50	50	7	0	0	0	57
2016	Jan	0	0	49	49	6	0	0	0	55

Source: DCLG Gypsy and Traveller Caravan Count (Jan 2016) Note: some figures include imputation. This is due to one of the following reasons: Local Authority non-response / Incomplete returns / Unable to carry out count due to not being able to access site



4. Population and Society

4.1 Population

5,803 households migrated into Braintree District from outside the area over the last three years. The highest proportion had moved from Chelmsford (9.6%), followed by 9.0% who had moved from elsewhere in the UK and 7.4% from elsewhere in Essex; only 1.4% had migrated in from abroad. Out-migration from the District was mainly to elsewhere in the UK; the main reasons for leaving the District were family reasons and employment / access to work. In terms of migration patterns from Census 2001 and ONS 2011 data, the main in and out migration to and from the District was in Chelmsford, Colchester, Uttlesford and Greater London.

The predominant ethnic group in Tendring is White British with 97.6% of the population describing themselves as such. The ethnic minority population was 2.4% which in terms of numbers equates to a population of approximately 3,358 people. This is lower than both the estimates for both the East of England and Essex.

The increase in population within Tendring is the catalyst for a number of other sustainability issues within the District within the Plan period. These include additional pressure on public services such as education, health and transport. The additional housing will also promote environmental and climate change pressures.

As well as an overall increase in population over the Plan period, we can also expect to see an ageing population within Tendring District. This will also increase pressure on health provision and the care industry.

The predominant ethnic group in Colchester is White British with 87.5% of the population describing themselves as such. The ethnic minority population was 12.5% which is lower than the national average of 20.2% but higher than the Essex average of 9.2%.

Table 25: Population

	2001	2014	% change
Tendring	138,800	139,900	0.79%
Braintree	132,500	150,000	11.67%
Colchester	156,000	180,400	13.53%
East of England	5,400,500	6,018,400	10.27%
Great Britain	57,424,200	62,756,300	8.50%

Source: Based on 2014 mid-year population estimates from ONS

Tendring District has an estimated population of 139,900. Since 2001 the population has grown at a significantly lower rate than that of the region and the country. At 0.79% it is considerably below the



national population growth rate of 8.50%. Braintree and Colchester have populations that are growing at much faster rates. At 11.67% and 13.53% respectively, they are significantly higher than the average for Great Britain and are above the average for the region as well.

Table 26: Population age structure

	Tendring	Braintree	Colchester	Essex	UK
Persons aged 0-4	5.10%	6.07%	6.37%	6.00%	6.29%
Persons aged 5-14	10.02%	10.76%	11.15%	11.44%	11.48%
Persons aged 15-19	5.62%	5.80%	5.97%	5.89%	5.96%
Persons aged 20-44	23.21%	30.13%	35.14%	30.37%	33.25%
Persons aged 45-64	26.95%	27.18%	24.24%	26.41%	25.34%

Source: Based on 2014 mid-year population estimates from ONS

The majority of Tendring District's population are adults above the age of 65 years. The age bracket 45-64 is in line with the county and national averages as well as the percentages for people aged 15-19. However, the district has a much higher proportion of people aged between 20-44 and 45-64 years than children and teenagers. Similar trends are apparent in Braintree and Colchester, where the number of young children and teenagers is lower than adults. However, in Braintree the largest proportion of the population are in the 20-44 age bracket. The proportion of people in this bracket for Colchester is by far the highest, with a much smaller population aged 65 and over compared with the other Districts.

Table 27: Population projections

	2015	2017	2027	2039	Percentage change (2015 – 2039)
Tendring	140,000	142,000	152,000	166,000	15.66%
Braintree	151,000	153,000	164,000	176,000	14.20%
Colchester	183,000	187,000	205,000	222,000	17.57%
Essex	1,443,000	1,465,000	1,587,000	1,719,000	16.06%
England	54,780,000	55,640,000	59,493,000	63,282,000	13.44%

Source: ONS Population Projections (May 2016)

The population of Tendring District is projected to increase to 166,000 by 2039 which represents a 15.66% growth on the 2015 population figures. This percentage change is in line with than sub regional



growth figures but above national figures. Braintree has a growth rate of below the national average, with the population growing from 151,000 to 176,000 at a rate of 14.20%. Colchester has the highest growth rate, above that of the other districts and the county and national average. It is projected to increase from 183,000 to 222,000 at a rate of 17.57%.

Table 28: Population projections for Tendring based on broad age groups

Broad Age Groups	2015	2017	2027	2039
Children	21,000	22,000	23,000	25,000
Working Age	78,000	78,000	79,000	80,000
Older people	41,000	42,000	50,000	62,000

Table 29: Population projections for Braintree based on broad age groups

Broad Age Groups	2015	2017	2027	2039
Children	28,000	28,000	28,000	29,000
Working Age	97,000	95,000	98,000	97,000
Older people	31,000	31,000	41,000	51,000

Table 30: Population projections for Colchester Borough based on broad age groups

Broad Age Groups	2015	2017	2027	2039
Children	33,000	33,000	39,000	38,000
Working Age	119,000	122,000	128,000	136,000
Older people	32,000	34,000	40,000	49,000

Note: Children (0-14), Working age (15-64), Older people (65 and over)

Source: ONS Population Projections (May 2016)

The population within Tendring is projected to increase overall, but with a higher increase in the population of older people. Categorized as aged 65 years and over, there is projected to be 62,000 older people by 2039. Braintree District is also expected to see a much higher increase in population aged over 65 than the other age brackets. By 2039 the projected number of children in Tendring is 25,000 and Braintree is 29,000 compared with 62,000 and 51,000 aged 65 and over respectively, meaning that the



population will be an aging one and will likely result in changing requirements of the District's residents. Colchester however, has a strong majority of people of working age, and growth in all age brackets is expected at similar rates to result in the most stable population structure of the three Districts.

Table 31: Household projections

	2012	2017	2022	2027	2032	2037	Percentage change (2012-2037)
Tendring	62,311	64,596	67,646	71,163	74,814	78,349	20.5%
Essex	588,272	617,169	647,933	678,445	708,556	737,634	20.2%
England	22,304,760	23,396,215	24,505,101	25,578,405	26,604,790	27,548,270	19.0%

Source: ONS (Projections are based on revised 2012), updated December 2015

Household projections are 2012 based and are linked to the 2012 based population projections. In 2012 there were estimated to be 62,311 households within Tendring and by 2037 this is projected to increase by 20.5% to 78,349. This proportional increase is marginally above the county projected increase of 20.2% and more substantially above the national increase of 19.0%.

4.2 Education

There are 47 maintained schools in Tendring District, 40 primary schools and 7 secondary schools. There are 2 adult education centres offering a range of courses from beauty therapy and arts and crafts to training courses aimed at the business community.

Essex County Council has a statutory responsibility to ensure there are sufficient school places available every year, that there is diversity across the school system and parental preference is maximised. Commissioning School Places in Essex 2015-2020 sets out the requirement, supply and demand for places in maintained primary and secondary schools to 2020 and is updated annually to ensure projections of demand and capacity are as accurate as possible.

In 2015 there were 9,893 primary school pupils and 8,328 secondary school pupils. In 2013, the 6 schools providing sixth form education had 1,307 pupils over the age of 16.

Based on 2013 numbers, overall pupil numbers in secondary schools in Clacton are predicted to decline in the period 2013/18 to 8,000 (7.1% decrease) with housing 8,395 (2.5% decrease). However, demand for year 7 places in Clacton is forecast to increase from 2017/2018 onwards once pupils from anticipated new housing are included in the forecast. Pupil numbers in secondary schools/academies in the rest of the District are forecast to remain stable. The impact of any new housing in the locality of these schools will be closely monitored to ensure there are sufficient school places to meet any increase in demand.

Essex County Council Education Authority state that the numbers of primary and secondary pupils will increase up to 2018. These increases are significant and will have knock-on impacts in terms of sustainability. These impacts include increased vehicle movements which increase carbon dioxide



emissions, further pressure on health and the implicit pressure on the education system.

In Colchester, there are 79 maintained schools: 64 primaries, 11 secondaries and 4 special schools. There are 2 higher education colleges, Colchester Sixth Form College and the Colchester Institute, plus the University of Essex, making the Borough a major educational base with visiting students significantly adding to the diversity of the population. The provision of day care, nursery education and out-of-school care remains an issue for the Borough, with there being more demand than formal supply.

In the Stanway area there should be sufficient capacity overall to meet demand in the next three years. However, as the new housing developments planned progress there is likely to be pressure on school places and plans will be developed with the local schools to increase provision in the locality. ECC will have access to a new school site on commencement of phase three of the Lakelands development, if required. A consultation has commenced on proposals to increase provision at Monkwick Infant and Junior Schools, Montgomery Infant and Junior Schools and a further expansion of St John's Green Primary School. St George's New Town Junior School will increase its intake to 90 from 2014. In the Tiptree planning group there were 22% surplus places with two of the schools having more than 50% surplus places in school year 2012/13. Funding has been secured for a new 2 form entry school in Braiswick from 2015 and Essex County Council are currently seeking sponsors for a 420 pupil school on the Severalls development.

Year 7 intakes in Colchester are forecast to rise significantly from September 2017 onwards and two options will be explored to provide the additional places required: to expand an existing and high performing and popular school/ academy through the use of the Alderman Blaxill site, or to develop new provision such as a Free School or Academy on this site.

Table 32: Number attending and capacity of schools in Tendring District

	Net capacity 2015/16	Number on roll (2016)	Surplus/deficit 2015/16	Forecast number on roll 2020/21	Forecast surplus/deficit 2020/21 including adjustment for new housing
Primary School	10,242	10,111	131	10,214	-480
Secondary School	9,156	8,306	850	8,886	-407
Special School	-	351	6	-	-

**Table 33: Number attending and capacity of schools in Braintree District**

	Net capacity 2015/16	Number on roll (2016)	Surplus/deficit 2015/16	Forecast number on roll 2020/21	Forecast surplus/deficit 2020/21 including adjustment for new housing
Primary School	13,131	11,917	1,214	11,801	985
Secondary School	8,958	7,450	1,508	7,772	901
Special School	-	223	2	-	-

Table 34: Number attending and capacity of schools in Colchester Borough

	Net capacity 2015/16	Number on roll (2016)	Surplus/deficit 2015/16	Forecast number on roll 2020/21	Forecast surplus/deficit 2020/21 including adjustment for new housing
Primary School	15,884	14,691	1,193	15,909	643
Secondary School	10,946	10,039	907	11,825	-700
Special School	-	333*	10*	-	-

*Ramsden Hall Annexe, Langham, closed on 31 March 2015. Langham Oaks School opened on the same site on 1 April 2015.

Note: some datasets for Special Schools are missing from the Commissioning School Places in Essex report.

Source: Commissioning School Places in Essex 2015-2020 (Data Supplements).

School age population numbers are projected to grow relatively slowly and school capacity within Tendring is expected to be insufficient to accommodate children in the District. Primary schools are predicted to have a deficit of 480 places for the 2020/21 academic year. Secondary schools are predicted to have a deficit of 407 for the same time period including adjustments made to take account of the numbers of primary and secondary pupils it is anticipated will be produced by new housing.

Braintree has a surplus of places available for primary and secondary school level education and the



forecast figures suggest that the trend will continue including adjusting for new housing in the District. Colchester is in contrast with this. The forecasts including adjustments for new housing indicate there will be a deficit of places within the Borough in secondary schools despite adequate provision to accommodate the projected demand in primary school places.

All districts and boroughs registered a surplus of places in special schools, although this surplus was marginal in every case. Tendring has a surplus of 6 places in special schools, whereas Braintree registered a surplus of 2 and Colchester has a surplus of 10.

Table 35: Key Stage 4 – GCSE or equivalent

	All Pupils at the end of KS4 achieving 5+ A* - C	All Pupils at the end of KS4 achieving 5+ A* - G	All Pupils at the end of KS4 achieving 5+ A* - C including English and Mathematics	All Pupils at the end of KS4 achieving 5+ A*-G including English and Mathematics
Tendring	58.0%	91.5%	46.6%	89.2%
Braintree	62.8%	95.5%	51.7%	90.2%
Colchester	71.5%	95.6%	64.6%	93.7%
Essex	67.0%	94.3%	58.4%	92.0%
East of England	66.7%	94.7%	58.2%	92.5%
England	66.5%	94.3%	57.3%	91.7%

Source: Department for Education, (2014/15)

At 58.0% a lower proportion of pupils within Tendring attained five or more A*-C grades at key stage 4 (KS4) than the county, regional and national equivalent. Braintree and Colchester both registered higher than Tendring for this statistic, and Colchester is higher than the county, region and nation for the percentage of pupils achieving 5+ a*-C grades.

46.6% of pupils who gained five or more A*-C grades did so including English and Mathematics in Tendring, which is considerably less the national proportion of 57.3%. Again, Braintree and Colchester had higher percentages of people achieving 5+ * - C grades including Mathematics and English than Tendring, at 51.7% and 64.6% respectively. The proportion of pupils attaining five or more A*-G grades was also below the national figure for Tendring, however Braintree and Colchester had a higher percentage than the county, regional and national figures.

**Table 36: Adult qualifications**

	NVQ4 and above	NVQ3 and above	NVQ2 and above	NVQ1 and above	Other qualifications
Tendring	13,800	33,100	48,300	63,100	3,400
	18.2%	43.7%	63.9%	83.5%	4.5%
Braintree	26,700	46,900	66,600	79,800	6,100
	28.8%	50.5%	71.7%	86.0%	6.5%
Colchester	43,300	67,700	88,900	99,500	6,900
	37.8%	59.2%	77.7%	87.0%	6.1%
East of England	34.8%	53.5%	72.4%	85.9%	6.6%
Great Britain	38.2%	56.9%	74.3%	85.3%	6.6%

Note: N/A where the sample size is too small to provide a reliable estimate

Source: NOMIS, Jan 2016-Dec 2016

The population of Tendring District has in general fewer qualifications than the overall sub-national and national populations. 83.5% of the working age population of Tendring District which accounts for 63,100 people are qualified to at least level 1 or higher compared to 85.3% across Great Britain. Braintree is lower than Colchester at 86.0% and Tendring is the lowest of the three Districts. Both Braintree and Colchester are above the regional and national average for the percentage of the population with qualifications at NVQ1 or higher. Level 1 represents foundation GNVQ, NVQ 1 or up to 5 GCSEs at grades A*-C.

The most significant difference is that Tendring has comparatively lower proportions of the population qualified at Level 3 and above than the regional and national averages, with 43.7% of the population having attained at least 2 or more A levels, advanced GNVQ, NVQ 3 or equivalent (level 3) and 18.2% achieving a higher national diploma, degree and higher degree level or equivalent (level 4). Similarly, Braintree is lower than the region and nation for the same education levels, with 50.5% at NVQ3 or above and 28.8% at NVQ4 or above. Colchester however, is higher than the East of England and Great Britain at 59.2% with NVQ3 or above and 37.8% with NVQ4 or above.



4.3 Quality of Life

The overall count of instances of crime in Braintree District has increased between December 2015 and December 2016, increasing by 593 which is an 8.9% increase. The largest increase is in miscellaneous crimes against society which has increased by 41.6%. Tendring registered an increase of 1,536 which is a 16.4% increase. Colchester registered a smaller increase of 362 additional crimes in the borough representing a 3.0% rise in crime levels. Instances of crime across Essex increased by 9,734 which represents a 9.0% increase, significantly below that of Tendring, in line with Braintree and above Colchester.

According to ONS figures crime in Tendring District has risen in recent years by over 16%. With an increasing population, it may be that this figure will continue to rise. Planning can play a big part in kerbing this increase through developments that design out crime.

Increases in crime were apparent across all crime types with the exception of all theft offences barring bicycle theft, fraud offences, homicide and theft from the person. In Colchester, increases in crime were avoided in bicycle theft, criminal damage and arson, domestic burglary, drug offences, fraud offences, non-domestic burglary, shoplifting and theft from the person where counts either decreased or stagnated. In Braintree, decreases or plateaus were registered for bicycle theft and all other theft offences, drug offences, fraud offences, homicide, non-domestic burglary, sexual offences and theft from the person.

The community has access to a wide range of Council-run services including three leisure centres with swimming pools, sports centres, recreation grounds, country parks and the Princes Theatre, with an 820 seat auditorium which hosts local events as well as attracting national and international entertainers.

In Colchester, the community has access to a wide range of Council-run services and facilities, including those owned by the 31 Parish Councils in the Borough. Facilities include country parks at Cudmore Grove in East Mersea and High Woods in Colchester, a leisure centre including swimming pools and four multi-activity centres, and a 10,000 seat capacity football stadium.

Table 37: Indices of Multiple Deprivation 2015

Essex rank	Extent	Local concentration	Average score	Average rank
1	Tendring 70	Tendring 40	Tendring 50	Tendring 49
2	Southend 79	Southend 63	Southend 90	Harlow 71
3	Basildon 81	Basildon 83	Basildon 98	Southend 105
4	Thurrock 144	Thurrock 146	Harlow 101	Thurrock 111
5	Harlow 148	Colchester 161	Thurrock 125	Basildon 113
6	Colchester 167	Castle Point 170	Colchester 182	Colchester 185



Essex rank	Extent	Local concentration	Average score	Average rank
7	Castle Point 185	Harlow 176	Castle Point 187	Castle Point 187
8	Chelmsford 217	Chelmsford 211	Braintree 202	Braintree 197
9	Braintree 229	Braintree 229	Epping Forest 205	Epping Forest 199
10	Epping Forest 231	Epping Forest 231	Maldon 216	Maldon 204
11	Maldon 249	Maldon 239	Chelmsford 256	Chelmsford 261
12	Rochford 251	Rochford 254	Rochford 281	Rochford 285
13	Brentwood 299	Brentwood 283	Brentwood 297	Brentwood 294
14	Uttlesford 302	Uttlesford 321	Uttlesford 300	Uttlesford 297

Note: The number alongside each authority's name is that authority's national rank for that measure. The smaller the rank the more deprived the local authority.

Source: DCLG, September 2015

Tendring has the highest level of deprivation for a local authority within Greater Essex. Of the 326 local authorities within England, Tendring ranks within the top 25% for extent and the top 16% for the remaining three measures –local concentration, average score and average rank. Braintree and Colchester are less deprived, with Colchester ranking 6th in Essex on average and Braintree less deprived ranking 8th in Essex on average.

Deprivation is measured on a small scale with local authorities divided in small areas known as Lower Super Output Areas (LSOAs) which have an average of 1,500 people, a minimum of 1,000 and are sub-divisions of wards. There are 32,482 LSOAs in England. Extent is the proportion of a local authority district's population living in the most deprived Local Super Output Areas (LSOAs) in the country. Local concentration refers to 'hot spots' of deprivation by reference to a percentage of the local authority districts population. Average Score is the population weighted average of the combined scores for the LSOAs in a local authority district and average Rank is the population weighted average of the combined ranks for the LSOAs in a local authority district.

St Anne's Estate in St Anne's ward and Magnolia in St Andrew's ward were the small areas with the highest levels of deprivation in Colchester according to the Colchester Local Plan Sustainability Appraisal Scoping Report (2014). The least deprived small area in Colchester was Bergholt in West Bergholt and Eight Ash Green ward, followed by Wivenhoe Park in Wivenhoe Cross ward. 29 of the 104 small areas in Colchester were ranked in the 20% least deprived in England. In both 2007 and 2010 income domain, there were 28 small areas in Colchester which fell into the top 40% most deprived nationally. In both years, St Anne's Estate in St Anne's ward was the only small area ranked in the top 10% most income deprived nationally..



5. Health

The health of the population in Braintree District is generally better than the England average, but is significantly worse than the England average in respect of road injuries and deaths and hip fractures in the over 65s.

Braintree Council provides Careline, a subscription based service, which provides support to elderly, infirm or disabled clients, or people of any age living alone, who want to live independently in their own homes. Through a system of alarm buttons and sensors clients have access to 24/7 support, advice and assistance. The Council and the Careline Service have signed a service agreement with the Essex County Fire and Rescue Service to support the residents of the District. During Careline assessment appointments residents will be asked if they want a home visit from the Fire Service and, during Home Safety Visits, the Fire Service will enquire whether residents wish to be referred to Careline.

In 2015 there were 2,242 live births in Colchester. Only Basildon District had a higher number of births than Colchester (2,457). Braintree and Tendring registered fewer live births with 1,607 and 1,340 respectively. The total number of births in Essex in 2015 was 16,335.

5.1 Life Expectancy and Health

Table 38: Life expectancy

Area	2012-2014	
	Males	Females
Tendring	78.7	82.0
Braintree	80.1	83.4
Colchester	80.0	83.5
East of England	80.4	83.8
England	79.5	83.2

Source: DCLG, 2015

Life expectancy of residents within Tendring is lower than the national averages. Braintree and Colchester have higher life expectancies for men and women than the national figures, but are both below the regional figures. In general, life expectancy is increasing within the Districts and nationwide. Colchester has the highest life expectancies of the three Districts for women, at 83.5 and Braintree has the highest for men at 80.1. The implications of this will mean that as people live longer there will be increased pressure on services for the elderly.

**Table 39: Incapacity benefit and severe disablement allowance claimants**

	Tendring		Colchester		Braintree		East of England	Great Britain
Total population	139,900	N/A	180,400	N/A	150,000	N/A	6,018,400	62,756,300
Total claiming out-of-work benefits	2,070	2.7%	1,490	0.8%	1,040	0.7%	1.2%	1.8%
Total receiving severe disability allowance / incapacity benefit	530	0.4%	390	0.2%	370	0.3%	0.2%	0.3%
Males claiming benefits	240	45.3%	180	46.2%	160	43.2%	43.1%	44.7%
Females claiming benefits	290	54.7%	210	53.8%	220	59.5%	57.0%	55.3%
Claimants aged 18-24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.1%
Claimants aged 25-49	120	22.6%	110	28.2%	140	37.8%	35.4%	35.2%
Claimants aged 50+	410	77.4%	270	69.2%	290	78.4%	64.7%	64.8%

Note: N/A is when the sample size is too small for a reliable estimate. Percentages may not equal 100% in total due to rounding.

Source: Department for Work and Pensions, November 2015 and ONS 2016



A percentage of 0.4% of the total population of Tendring District claim either incapacity benefit or severe disability allowance. This is double the percentage of the population in the region claiming the same benefits and 50% more than the national figure. Colchester is in line with the regional average and below the national at 0.2% and Braintree is above the regional and in line with the national figures at 0.3%.

In general, a higher proportion of women claim benefits than men. This is more apparent at the national level where 55% of claimants are women and 45% are women, in line with the trends for Tendring District, Braintree District and Colchester Borough. With regards to age, the highest proportion of claimants in Tendring is aged 50+, followed by those within the age group 25-49 at 77.4% and 22.6% respectively. In Braintree, people aged 50+ and 25-49 accounted for 78.4% and 37.8% of claimants respectively and in Colchester, 69.2% of claimants were aged 50 or over and 28.2% were aged 25-49. Tendring, Braintree and Colchester were above the regional and national averages for claimants aged 50+, but Tendring and Colchester had a smaller percentage of claimants aged 25-49 than Braintree, the region and the country

Table 40: Estimated prevalence of excess weight in children

	Children (aged4-5)
Tendring	21.2%
Braintree	21.1%
Colchester	18.8%
Essex	20.9%
East of England	20.9%
England	22.1%

Source: NHS Digital, National Child Measurement Programme, Public Health England (2015/16 data).

Child obesity within Tendring District is considered by the National Centre for Health Outcomes Development to be worse than the corresponding county and regional averages. The prevalence of excess weight in children within the District is 21.2% which is higher than the county average of 20.9% but below the national average of 22.1%. Braintree also has a higher prevalence of excess weight in children than the Essex and regional average but is below the national level. Colchester has a lower prevalence compared with all other levels at 18.8%.



5.2 Physical Activity and Open Space

Table 41: Adult participation in sport at least once a week

	Active people survey 7 – Oct 2013	Active people survey 8 – Oct 2014	Active people survey 9 – Oct 2015
Tendring	29.4%	29.4%	26.7%
Braintree	34.4%	32.7%	33.0%
Colchester	35.2%	36.9%	36.8%
Essex	36.8%	35.7%	34.8%
East of England	35.9%	35.6%	35.6%
England	36.6%	36.1%	35.8%

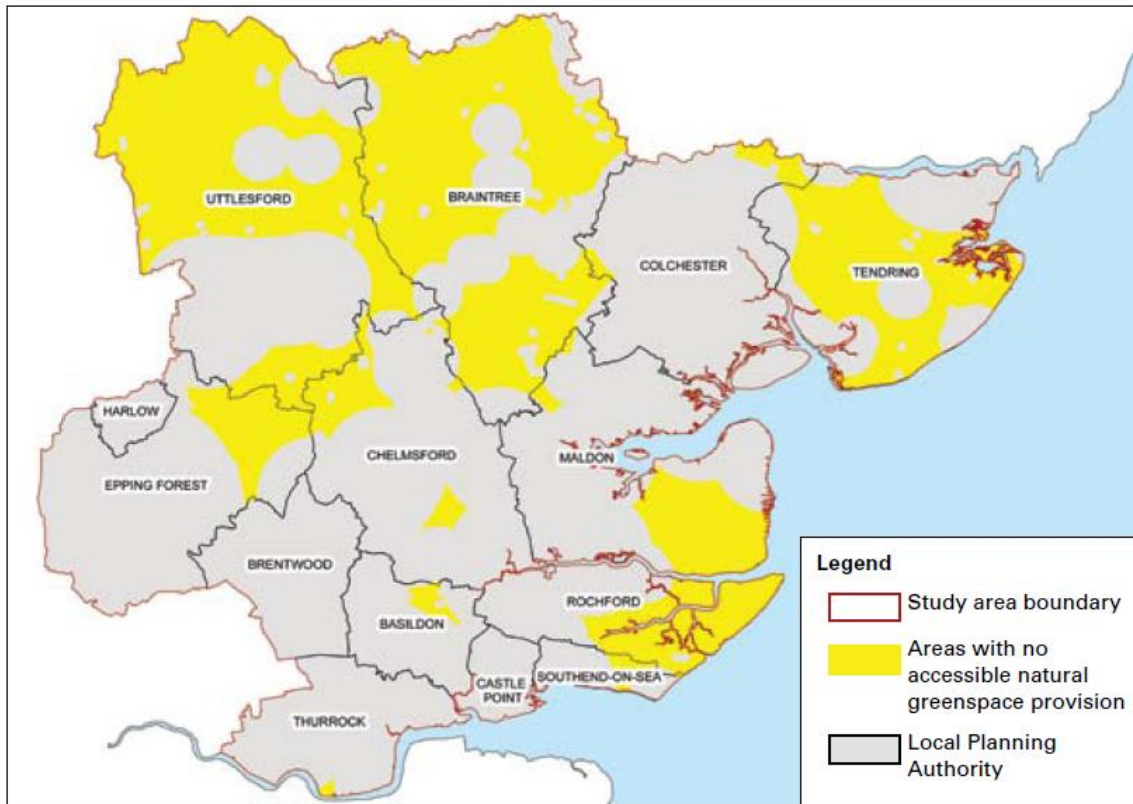
Source: Sport England Active People Survey 7, 8 and 9 (October 2015)

The proportion of adults participating in sport at least once a week has decreased in the most recent survey at the county and national levels. In Tendring District, this trend is also apparent with 26.7% of those in the survey active in sport between October 2014 and October 2015, a 2.7% reduction on the previous year. Colchester registered a 0.1% reduction on the previous year and participation in Braintree increased by 0.3%, although the most recent figure is 1.4% lower than APS7 in October 2012-October 2013.

Accessible Natural Greenspace Standard (ANGSt) created by Natural England sets out the minimum amount of accessible natural greenspace that any household should be within reach of. Analysis of Accessible Natural Greenspace Provision for Essex (2009) showed that only 7% of Essex households met all the ANGSt requirements while 14% didn't meet any. According to the report, "the areas that fare the worst according to the ANGSt criteria are the more rural parts of the county; although there may be greenspace surrounding rural inhabitants, there is often limited official public access beyond the footpath network".



Figure 3: Accessible Natural Greenspace in Essex



Source: Diagram taken from Analysis of Accessible Natural Greenspace Provision for Essex (2009)



6. Transport

Accessibility by public transport or walking to key services and educational facilities is improved considerably within and in close proximity to the three main towns of Braintree, Halstead and Witham. Just over half of residents live in these three main urban areas, leaving a substantial proportion living in rural areas where the private car is often the main means of transport. As such the private car is the most common means of getting to work and levels of private vehicle ownership are high.

Public transport networks in the towns are adequate during the day on weekdays but during the evening and in rural areas, the availability of public transport can be limited. This can make it difficult for those without access to a car to access key services and facilities, including the less well-off and the District's growing elderly population. Cycle networks are fragmented and mainly available in Witham and Braintree towns.

The major road routes in the District are the A120 and A12. Rail services between Braintree town and London are infrequent, being constrained by its location on a single track branch line.

Stansted Airport is located within Uttlesford District but it is a major employer of Braintree District residents and it is therefore a major cause of out-commuting, with potential negative effects on road congestion and road traffic-related air pollution and greenhouse gas emissions. The airport plans to address these issues by improving the attractiveness of public transport to the airport for both staff and passengers, for example offering discounted travel opportunities and working with bus, coach and rail operators to provide scheduled services that match working patterns where possible.

Tendring District is connected to a network of major roads via the A120, A133 and A137, which provide routes to Chelmsford, London, the M25, Stansted Airport and the Port of Felixstowe.

Transportation provision in the District includes 14 railway stations with connections to Colchester, Chelmsford, Ipswich, Norwich, Stratford and London. The average journey time between Clacton-on-Sea and London Liverpool Street is 1 hour 26 minutes. During 2014-2015 Abellio Greater Anglia invested £1.5 million to improve performance and service consistency across the network, £10,000 for customer-focussed service improvements and £300,000 to repair and upgrade rolling stock. A £170 million line upgrade programme was expected to be completed in 2015.

There are numerous bus routes throughout the District including frequent inter-urban routes linking villages to the larger urban areas of the District and the large town of Colchester in the adjoining borough. The dispersed geography of the District means that these services are stretched and causes a reliance on the use of private cars. One of the challenges to future development in Tendring is to minimise the dominance of the car as a main mode of travel.

Whilst rail services have received significant upgrades in the recent years, the same cannot be said for the District's bus network. With an increase in population, many of whom will be older people who may choose not to drive; the pressure on public transport (especially buses) will only increase. Moreover, with the relatively low number of people who work from home and the relatively high number of people who drive, the District is clearly a car-centric place to work. There is scope therefore for more sustainable modes of transport within the District. This can be helped by the planning system that can incentivise working from home, public transport and development located close to transport interchanges.



Colchester is connected to a comprehensive network of major roads via the A12 and A120, which provide routes to London, the M25, Harlow and Cambridge. Four sections of the A12 around Colchester fall into the top ten busiest sections on the A12 route. The Borough also lies in close proximity to the major seaports of Harwich (20 miles) and Stansted airport (30 miles). This strategic position has meant the area has been a magnet for growth resulting in a healthy and vibrant economy.

Transportation provision in the Borough includes six railway stations; bus routes operated by ten bus companies; and several cycle trails. One of the biggest challenges to Colchester's future development is traffic growth and the dominance of the car as the main mode of travel.

The results of the Colchester Travel Diary survey (July 2007) found that the largest proportion of trips (55%) in the AM peak (0600-0900) are journeys to the workplace, followed by journeys to school (11%), the remainder of journeys are to shops / local services, leisure services and for business. Analysis of survey results also determined that 67% of these journeys to workplace in the AM peak originate from homes in urban areas and accordingly, could potentially be undertaken via public transport, walking or cycling instead. The findings from the workplace travel plan surveys from organisations along the A134 (as show in the table below) confirm the view that workplace journeys are likely to be a significant contributor to congestion along this corridor.

Table 42: Workplace Travel Plan survey findings

	Colchester Council (2012)	Colchester Hospital (2012)	Colchester Institute (2013)	Culver Square (2010)
Drive (alone)	47%	64%	61%	64%
Car share	11%	9%	12%	0%
Get dropped off	3%	2%	N/A	N/A
Walk	13%	11%	10%	22%
Cycle	6%	4%	5%	7%
Bus	11%	5%	4%	0%
Train	6%	2%	2%	0%
Motorcycle	1%	0%	2%	7%
Taxi	1%	0%	N/A	0%
Work from home	2%	1%	1%	N/A
Other	0%	2%	3%	N/A

Source: Colchester Workplace Travel Plan Survey



Whilst significant progress has been made by these organisations, these results indicate that there is scope and opportunity for encouraging more modal shift for the journey to work, as car use is still high and many of these are relatively short journeys that could be undertaken by walking, cycling, bus or car sharing. The distances that staff travel to work is highlighted in the Travel Plan for Culver Square and reveal that 72% of staff live less than 4 miles (or a 30 minute cycle ride) from the Shopping Centre.

The travel survey results for North Colchester businesses have also been examined to identify barriers to travelling by more sustainable modes. Many of these are commonly cited barriers such as childcare responsibilities, having too much to carry, the cost and frequency of buses, difficulty finding suitable car sharers and feeling unsafe when cycling. Two local reasons that are regularly given and are to be addressed in conjunction with bus operators is the cleanliness and poor level of customer service on the bus.

6.1 Modes and Flows of Travel

Table 43: Private vehicle ownership

	No car or van	1 car or van	2 cars or vans	3 cars or vans	4 or more cars or vans	Total cars or vans
Tendring	14,502 (23.4%)	28,147 (45.3%)	14,436 (23.2%)	3,624 (5.8%)	1,396 (2.2%)	74,212
Braintree	9,866 (16.2%)	24,586 (40.3%)	19,605 (32.1%)	4,898 (8.0%)	2,088 (3.4%)	87,944
Colchester	14,741 (20.6%)	31,386 (43.8%)	19,607 (27.4%)	4,277 (6.0%)	1,623 (2.3%)	90,741
East of England	449,358 (17.7%)	1,039,677 (41.1%)	703,968 (27.8%)	166,426 (6.6%)	63,606 (2.5%)	3,231,763
England	5,691,251 (25.8%)	9,301,776 (42.2%)	5,441,593 (24.7%)	1,203,865 (5.5%)	424,883 (1.9%)	25,696,833

Source: 2011 Census, ONS

Proportionately more households own 1 car or van within Tendring District at 45.3%, which is slightly higher than national and regional statistics. Colchester is also higher than the regional and national figures at 43.8% and Braintree has the lowest proportion of households owning 1 or more car at 40.3%.



Table 44: Travel to work methods for the residential population of Tendring District, Braintree District and Colchester Borough

	Tendring		Colchester		Braintree		East of England		Great Britain	
	Count	%	Count	%	Count	%	Count	%	Count	%
All People	97,050	100.00%	106,718	100.00%	128,562	100.00%	4,245,544	100.00%	38,881,374	100.00%
Works mainly at or from home	6,231	6.42%	8,511	7.98%	8,617	6.70%	161,428	3.80%	1,349,568	3.47%
Underground, metro, light rail or tram	104	0.11%	196	0.18%	174	0.14%	33,110	0.78%	1,027,625	2.64%
Train	2,726	2.81%	6,120	5.73%	6,424	5.00%	205,077	4.83%	1,343,684	3.46%
Bus, minibus or coach	1,250	1.29%	1,619	1.52%	4,824	3.75%	106,303	2.50%	1,886,539	4.85%
Taxi or minicab	284	0.29%	229	0.21%	260	0.20%	13,227	0.31%	131,465	0.34%
Driving a car or van	33,483	34.50%	45,715	42.84%	46,907	36.49%	1,757,121	41.39%	14,345,882	36.90%
Passenger in a car or van	2,915	3.00%	3,540	3.32%	4,123	3.21%	143,749	3.39%	1,264,553	3.25%



	Tendring		Colchester		Braintree		East of England		Great Britain	
	Count	%	Count	%	Count	%	Count	%	Count	%
Motorcycle, scooter or moped	416	0.43%	446	0.42%	683	0.53%	22,475	0.53%	206,550	0.53%
Bicycle	1,683	1.73%	1,070	1.00%	3,310	2.57%	100,651	2.37%	742,675	1.91%
On foot	5,483	5.65%	6,468	6.06%	9,898	7.70%	288,663	6.80%	2,701,453	6.95%
Other	282	0.29%	286	0.27%	367	0.29%	17,708	0.42%	162,727	0.42%
Not currently working	42,193	43.48%	32,518	30.47%	42,975	33.43%	1,396,032	32.88%	13,718,653	35.28%

Source: Census data 2011 from ONS (updated Jan 2013)



Tendring District has a lower proportion of residents driving to work by either car or van (34.50%) when compared to regional and national levels, although this is only slightly lower than the national statistics. This could be lower as a result of a much higher number of people not currently working in the District. There is also a lower usage of trains as a mode of transport within the District compared to the national trend as well as fewer residents cycling or traveling by underground or on a bus, minibus or coach. The proportion of residents who walk to work is comparatively similar to the regional and national levels.

By contrast, Braintree District has a higher proportion of residents travelling to work by car or van than the regional and national average (at 42.84%). However, there are a similarly higher proportion of commuters using trains to travel to work than the region and the nation. Fewer people cycle to work in Braintree than in Tendring, Colchester, the region and the nation, but more people walk than in Tendring.

A much lower proportion of the population of Colchester drive to work in a car or van than in Braintree and the region. This could be due to the fact that there are more employment opportunities within the Borough and so the distance necessary to travel for work is smaller. More people travel by train than in the region and the nation and more people use buses, minicabs or coaches than in the East of England. Sustainable transport methods are more common in Colchester than in Tendring, Braintree, the East of England or England as a whole, with 2.57% of residents cycling to work and 7.70% walking to work.

The baseline evidence suggests that the proportion of Tendring District's population with one car or van is higher than the national and county average and those residents that use rail for commuting is lower than average. The evidence also suggests that the proportion of residents that use other sustainable modes such as walking and cycling is lower than the national average. Whilst it is considered that the rural nature of the district may have a key role to play in encouraging this, it is important that with the evolution of the plan further consideration is given to how future growth may be delivered to facilitate uplift in sustainable travel.

Table 45: Travel to work flows in Tendring District

Local Authority (LA)	Travel in to Tendring from LA for work	Travel out of Tendring to LA for work	Net flow
Colchester	3,784	8,737	-4,953
Babergh	670	632	38
Ipswich	406	1,071	-665
Braintree	391	811	-420
Suffolk Coastal	178	445	-267
Uttlesford	153	254	-101
Chelmsford	116	672	-556
Mid Suffolk	109	193	-84



Local Authority (LA)	Travel in to Tendring from LA for work	Travel out of Tendring to LA for work	Net flow
Maldon	82	161	-79
St Edmundsbury	31	97	-66
Westminster, City of London	0	869	-869
Tower Hamlets	21	244	-223
Total	6,788	17,412	-10,624

Note: Total net flow does not equal net flow exactly due to only the major commuting locations being included.

Source: NOMIS, census data 2011

The District of Tendring was recorded in the 2011 National Census as having 6,788 workers travelling in for employment within the District, and 17,412 travelling outside of the District for work. The job count within the district is lower than the working age population, resulting in people travelling out of the District to work. It can be seen that only 67.6% (36,388) of Tendring residents in employment worked in the area, meaning that almost a quarter of all residents travelled to work outside the District. This also indicates that just under a quarter of all the jobs in the area are taken by people living elsewhere, and travelling in.

The major employment destination of Tendring residents outside the District was the Colchester, with 8,737 (50.2%) of Tendring District outflows travelling to that destination for work. The next most popular destinations for employment were the neighbouring areas of Ipswich with 1,071 commuters (6.2%) and Westminster, City of London with 869 (5.0%).

The largest flows of people travelling to the District to work come from Colchester (55.7% or 3,784), Babergh (9.9% or 670) and Ipswich (6.0% or 406).

Table 46: Travel to work flows in Braintree District

Local Authority (LA)	Travel in to Tendring from LA for work	Travel out of Tendring to LA for work	Net flow
Colchester	3,617	3,665	-48
Chelmsford	2,634	6,854	-4,220
Maldon	1,339	1,363	-24
Babergh	1,142	1,211	-69
Uttlesford	886	3,830	-2,944



Local Authority (LA)	Travel in to Tendring from LA for work	Travel out of Tendring to LA for work	Net flow
Tendring	811	391	420
St Edmundsbury	620	878	-258
Ipswich	447	249	198
Basildon	320	867	-547
Southend-on-Sea	221	204	17
Westminster, City of London	5	2,889	-2,884
Tower Hamlets	33	887	-854
Brentwood	170	596	-426
Total	15,240	31,765	-16,525

Note: Total net flow does not equal net flow exactly due to only the major commuting locations being included.

Source: NOMIS, census data 2011

The District of Braintree was recorded in the 2011 National Census as having 15,240 workers travelling in for employment within the District, and 31,765 travelling outside of the District for work. The job count within the district is lower than the working age population, resulting in people travelling out of the District to work. It can be seen that only 59.9% (47,535) of Braintree residents in employment worked in the area, meaning that over a third of all residents travelled to work outside the District. This also indicates that just under a fifth of all the jobs in the area are taken by people living elsewhere, and travelling in.

The major employment destination of Braintree residents outside the District was Chelmsford, with 6,854 (21.6%) of Braintree District outflows travelling to that destination for work. The next most popular destinations for employment were Uttlesford with 3,830 commuters (12.1%) and Colchester with 3,665 (11.5%).

The largest flows of people travelling to the District to work come from Colchester (23.7% or 3,617), Chelmsford (17.3% or 2,634) and Maldon (8.8% or 1,339).

**Table 47: Travel to work flows in Colchester Borough**

Local Authority (LA)	Travel in to Tendring from LA for work	Travel out of Tendring to LA for work	Net flow
Tendring	8,737	3,784	4,953
Braintree	3,665	3,617	48
Babergh	2,440	1,266	1,174
Ipswich	1,315	1,434	-119
Maldon	1,137	1,384	-247
Chelmsford	949	2,525	-1,576
Suffolk Coastal	538	437	101
Mid Suffolk	420	245	175
Uttlesford	235	483	-248
Basildon	203	468	-265
Westminster, City of London	6	2,724	-2,718
Tower Hamlets	32	759	-727
TOTAL	23,036	24,850	-1,814

Note: Total net flow does not equal net flow exactly due to only the major commuting locations being included.

Source: NOMIS, census data 2011

The Borough of Colchester was recorded in the 2011 National Census as having 23,036 workers travelling in for employment within the District, and 24,850 travelling outside of the Borough for work. The job count within the Borough is lower than the working age population, resulting in people travelling out of the Borough to work. It can be seen that 73.7% (24,850) of Colchester residents in employment worked in the area, meaning that just over a quarter of all residents travelled to work outside the Borough. This also indicates that just over a quarter of all the jobs in the area are taken by people living elsewhere, and travelling in.

The major employment destination of Colchester residents outside the Borough was Tendring, with 3,784 (15.2%) of Colchester Borough outflows travelling to that destination for work. The next most popular destinations for employment were Braintree with 3,617 commuters (14.6%) and Westminster, City of London with 2,724 (11.0%).



The largest flows of people travelling to the Borough to work come from Tendring (37.9% or 8,737), Braintree (15.9% or 3,665) and Babergh (10.6% or 2,440).

6.2 North Essex Garden Communities Movement and Access Study (2017)

This document evaluates the current infrastructure capability within the Section One Strategic Area and identifies where there is likely to be issues with the quantum of development proposed in the garden communities. The report focuses on three garden communities, namely West Tendring / Colchester Borders (up to 11,400 homes by 2047), West Tey / Braintree borders (up to 27,800 homes by 2047) and West Braintree / Uttlesford borders (up to 13,000 homes by 2047). The key findings and recommendations are outlined below.

West Braintree / Uttlesford Borders – Initial Phases

Active Modes

- Rayne Road and Flitch Way Do Minimum Cycle Improvements.
- Capture funding opportunities from Tarmac Quarry S106 for the Rayne area.

Public Transport

- Revenue support for strengthened bus services to primary and secondary schools (Great Dunmow, Rayne and Braintree), key economic nodes and rail stations is essential. A strengthened 133 bus service route in terms of frequency and capacity (including an express variant) to Braintree and Stansted with revenue support from the developer is recommended. It is important to recognise that Stansted is a major employer with other nearby emerging developments such as the Tri-Sail Business Park.
- Development of a modular transit hub that is well located in the south of the site to enable its use by regional coach services, where time diverted off the strategic road network is at a premium. This necessitates the provision of new slip roads early to provide all movements in the vicinity.
 - Consideration be given to an interim Park and Ride service to Stansted making use of car parking that could be shared at a later date with employment / retail / leisure land uses to boost demand for the public transport service and enhanced frequency. The intention would be to still provide that park and ride function in the future (although not necessarily in the exact same location).
- New A120/B1256 western junction with westbound on-slip limited to rapid transit and HGVs (for construction and quarry traffic) to provide a head start for public transport and provide a viable diversion for regional coach and express services to call at the site.

Highways

- New A120/B1256 western junction with eastbound off slips for all vehicles. The westbound on slip will be constructed with passive provision for all vehicle lanes to be provided at a defined trigger in the post Plan Period (or as an alternative to the delivery of the Interim A120/B1256 Eastern Junction improvement).



- Quarry Planning Application – potential to future proof its junction access and its potential re-use post excavation and restoration?
- Improvements to B1256 / Blake End Junction (roundabout).

West Braintree / Uttlesford Borders – Local Plan Period

Local Plan Period (up to 2500 Homes)

- Travel demand demonstrates both the importance of achieving the ambitious mode share and also successfully internalising trips into the development, by providing as many services that people need locally (e.g. education, health).
- 700 two way trips at the south of the site by car with ambitious mode share achieved vs 1,275 two-way trips as per travel behaviours akin to the 2011 Census.

Active Modes

- ‘Flagship’ cycle routes following busway infrastructure throughout the site supported by a network of ‘quietways’ to cater for all journey types and confidence levels. • Quietways along Queenborough Lane and Shalford Road.
- Further expansion of greenway links and targeted conversion of public rights of way (PROW) to routes for all active modes.

Public Transport

- Proactive delivery of new express services to Chelmsford and Colchester and regional services to Cambridge.
- Busway infrastructure incrementally built out within the site to provide a coherent and operable network, with dedicated rapid transit/cycle only link to connect with new development in NW Braintree at Springwood Drive and Panfield Lane.
- Build on opportunities presented by the A120 Braintree-A12 improvement through express limited stop services on old A120 to West Tey and Colchester and also examine opportunities associated with tie-in of the new road to the existing A120 in the vicinity of Braintree Freeport and the resulting connections to Freeport station or a repurposed Braintree-Witham line for guided bus.
- Services running on to a Braintree – Witham Guided Bus Link at Freeport would provide residents and businesses with choice of services to London via Witham and Stansted (subject to business case and other funding streams).
- If the rail service is retained with enhanced frequency then both Freeport and Stansted will provide the opportunity for interchange to rail services as well as other journey purposes.

Highways

- Interim A120/B1256 eastern junction upgrade and provision of rapid transit lanes and priority measures on the B1256.



West Braintree / Uttlesford Borders – Post Plan Period

Public Transport & Highways

- The vehicular travel demand (1,600 two way trips in the peak hour at the south of the site) associated even with the ambitious mode share and internalisation of trips requires significant highway infrastructure for 8000 homes. In such scenarios measures to spread the traffic for east and west trips on to the A120 will be effective with two junctions for vehicular traffic.
- Delivery of full A120/B1256 Eastern junction scheme with Eastern Access Boulevard with dedicated rapid transit lanes and all vehicles lanes. It is assumed that this full upgrade is not possible until the quarry is exhausted adjacent to the junction and provided for restoration. It is recommended that the rapid transit lanes are provided at the outset for the Eastern Boulevard with the additional vehicle lanes provided at a defined trigger point to be monitored. This will help to reinforce the use of public transport services for external journeys.

West Tey / Braintree Borders - Initial Phases and Local Plan Period

Initial early phases

- One option that should be considered is whether a western distributor road, referred to in David Lock Associates' December 2016 Concept Framework as a single carriageway 'Parkway' could be delivered alongside the A12 widening to link the old A12 (if an off line option is chosen) or a new local road alignment (if an online option is chosen) to the A120 east of Coggeshall to provide an interim relief of Marks Tey. Crucially this would need to be designed to fulfil its future Parkway function with the full understanding that a final A120 scheme will be delivered in the near term. Its purpose is to provide the opportunity to unlock housing a few years earlier in the Local Plan Period than would otherwise be the case.
- It is recommended that a second lane in each direction is grassed over and provided upon reaching a defined trigger point following the Local Plan Period.

Strategic Highways and opportunities – Local Plan Period

- A12 widening, the provision of a Parkway distributor road and then the full A120 Braintree to A12 scheme will help to unlock the potential of the development. The task is to capitalise on the capacity unlocked to encourage the use of active modes and public transport before it is otherwise swallowed up by local vehicular traffic.
- An offline A12 option provides the opportunity should be taken to convert the existing A12 alignment to a boulevard function through the Garden Community with one carriageway repurposed for rapid transit and active modes.
- Should an online A12 option be pursued then a similar local distributor route function should be provided. The intention is that the Parkway connects to either the old A12 alignment or the new local road, with onward connections to a new all movements junction with the A12 at a location to be defined in conjunction with Highways England. This could include a location to the south of Marks Tey to also meet development aspirations in the Kelvedon area.



West Tey / Braintree Borders - Local Plan Period

Public Realm, Active Modes and Public Transport

- Marks Tey station will still be the main station for the Garden Community in the majority of if not all of the Local Plan Period. Hence improved connections by active modes to Church Lane and London Road from the existing Marks Tey community and development in this area will help unlock access to the station.
- Repurposing the existing Marks Tey Interchange with improved public realm and connectivity by active modes and public transport is integral to this goal. At the same time the opportunity should be taken to reconfigure slip roads for rapid transit / local traffic only.
- Active support and encouragement of use of enhanced train services from Marks Tey in collaboration with Network Rail and Greater Anglia including the Gainsborough Line and its extension to Colchester and potentially to Tendring will help to make rail an attractive option for journeys to Colchester as well as longer distance locations.
- Express rapid transit services to Colchester via the A12 and Cymbeline Way; and via Stanway and the B1022 Shrub End Road will help to provide a strong basis for public transport to/from major origins and destinations in Colchester. These services will use bus/cycle only roads within the Garden Community which can be built out in a phased pattern. The provision of car parking at a defined stop could provide additional park and ride (to the Garden Community) demand to anchor the service.
- Provision of improved active mode links to the rural hinterland and Stanway / Colchester will be desirable from an early stage.

Local Highways

- Regardless of the future A120 alignment (which will be a strategic road for strategic journey purposes), a Parkway link helps remove traffic from the core of the site and provide the opportunity for it to be reconfigured for active and sustainable modes.
- Use of less direct distributor roads through the site so that Stane Street is preserved for use of direct public transport services.
- Peak period access control points enforced by Automatic Number Plate Recognition (ANPR) technology on Stane Street close to Marks Tey station for defined time periods to provide bus priority and remove traffic.

West Tey / Braintree Borders – Post Plan Period

Post Plan Period at a defined trigger (up to approximately 25500 homes)

- New West Tey Town Centre railway station delivered with at least a train every 15 minutes to/from London and Colchester.
- Full build out of the rapid transit network with links through to the West Tendring / Colchester Borders Garden Community. The precise mode (guided bus or tram-train) and routeing is to be determined through further work on the separate rapid transit commission.
- It is clear that further highway improvements would still be required as even with an ambitious mode share and a high degree of internalisation achieved a Parkway link from Stane Street to



the A12 would still receive 1,750 two way vehicle trips in the typical AM peak (0800-0900) at full build out in 2047. As suggested the Parkway should be constructed as a single carriageway link with additional all vehicle lanes grassed over. These would be converted to vehicular use upon the meeting of a defined trigger point.

- Clear that the volume of vehicle traffic generated in a business as usual format would be highly unsustainable and will undo all the good work associated with the proposed Highways England schemes (6,500 vehicle trips would look to leave the Garden Community in an AM peak hour for full build out in 2047). In reality it could not be affordably accommodated and the scale of house building would reach a natural equilibrium long before.

West Tendring / Colchester Borders – Recommendations to date

Main Garden Community - Early Phases

- A120-A133 Link Road (initially provided as single carriageway but with additional carriageway grassed over outside of the junctions) to cater for construction traffic and to provide some relief of the A133 into Colchester.
- A133 Boulevard and cycle route build out linked to the provision of development in this area to provide a transformative public realm and environment for active modes and public transport prioritisation.
- Early phases of rapid transit priority measures, such as links between Elmstead Road and Greenstead Road for rapid transit
- Enhanced cycle links to Central Colchester.
- Potential provision of an eastern Park and Ride from an interim location by building a car park that can be repurposed for a future use as the town centre is built out and the Park and Ride relocated or another provided in the NE of the site. This could help to anchor demand for a high quality frequent rapid transit service from the early days of the new development.

Local Plan Period (By 2500 Homes)

- Gradual Build out of rapid transit network infrastructure within the site and into Central Colchester.
- Delivery of Salary Brook Trail Upgrade and connections to Welshwood Park for access to schools and leisure in North Colchester.

Garden Village

- Link from Bromley Road to the A120-A133 Link Road junction (south of the A120) to remove internal car movements from within the site. Again a focus is on the 'long way round' for cars, while providing more suitable construction traffic access.
- Consideration of access control point for peak periods to limit access to Bromley Road for travel into Central Colchester from the Garden Community / Garden Village thereby supporting a 'monitor and manage' approach prior to potential upgrade of the A137 / Bromley Road junction.
- Providing a variation of the rapid transit service from Colchester via the University that terminates at the Garden Village, supplementing services that currently use Bromley Road to Tendring and Colchester.



Urban Extension

- There is a need for careful tie-ins to the highway network given presence of schools on St Johns Road, residential areas around Plains Farm Close.
- Our suggestion is a three segment development that has no through car route between all three (at peak periods at least through ANPR access control points), but with rapid transit and cycle accessibility at all times. This would help to spread the load on to the highway network, minimise expenditure on junction capacity enhancements and supports sustainable / active modes as the default mode of choice.
- Provision of a rapid transit loop service up either Ipswich Road (or even Harwich Road) to serve the site and the neighbouring Betts Factory development site.
- Upgrades to existing PROW and greenway opportunities provides the opportunity for a continuous largely off road link between the Ipswich Road (connecting with existing and planned cycle routes), the University via Salary Brook, Garden Village and Garden Community.

Source: North Essex Garden Communities Movement and Access Study (2017)

North Essex Garden Communities Trip Generation

The North Essex Garden Communities provides projections for the likely volume of trips generated by the garden communities proposed development during peak travel times. This information is summarised in the below tables.

Table 48: External vehicle trips per site (AM peak: 0800-0900)

Development Site	Scenario	AM peak departures	PM peak arrivals*
West Braintree / Uttlesford Borders	Local Plan – 2,500 homes (Ambitious), 2032	481	294
	Local Plan – 2,500 homes (Census), 2032	854	532
	Full – 8,000 homes (Ambitious), 2047	1145	700
	Full – 8,000 homes (Census), 2047	2026	1263
Development Site	Scenario	AM peak departures	PM peak arrivals*
West Tey / Braintree Borders	Local Plan – 2,500 homes (Ambitious), 2032	417	145
	Local Plan – 2,500 homes (Census), 2032	756	265
	Full – 25,500 homes (Ambitious), 2047	3616	1436



Development Site	Scenario	AM peak departures	PM peak arrivals*
	Full – 25,500 homes (Census), 2047	6494	2630
Development Site	Scenario	AM peak departures	PM peak arrivals*
West Tendring / Colchester Borders	Local Plan – 2,500 homes (Ambitious), 2032	397	175
	Local Plan – 2,500 homes (Census), 2032	635	293
	Full – 10,700 homes (Ambitious), 2047	1444	605
	Full – 10,700 homes (Census), 2047	2261	996

* Excludes external demand (arrivals) for mixed use and education (to be determined during masterplanning).

Source: North Essex Garden Communities – Movement and Access Study (March 2017)

Table 49: External vehicle trips per site (PM peak: 1700-1800)

Development Site	Scenario	AM peak departures	PM peak arrivals*
West Braintree / Uttlesford Borders	Local Plan – 2,500 homes (Ambitious), 2032	330	318
	Local Plan – 2,500 homes (Census), 2032	582	576
	Full – 8,000 homes (Ambitious), 2047	843	864
	Full – 8,000 homes (Census), 2047	1490	1556
Development Site	Scenario	AM peak departures	PM peak arrivals*
West Tey / Braintree Borders	Local Plan – 2,500 homes (Ambitious), 2032	199	300
	Local Plan – 2,500 homes (Census), 2032	356	536
	Full – 25,500 homes (Ambitious), 2047	1696	2637



Development Site	Scenario	AM peak departures	PM peak arrivals*
	Full – 25,500 homes (Census), 2047	3027	4704
Development Site	Scenario	AM peak departures	PM peak arrivals*
West Tendring / Colchester Borders	Local Plan – 2,500 homes (Ambitious), 2032	198	263
	Local Plan – 2,500 homes (Census), 2032	349	465
	Full – 10,700 homes (Ambitious), 2047	698	973
	Full – 10,700 homes (Census), 2047	1233	1721

* Excludes external demand (arrivals) for mixed use and education (to be determined during masterplanning).

Source: North Essex Garden Communities – Movement and Access Study (March 2017)



7. Cultural Heritage

Braintree District is an area of undulating countryside, bordered by the River Stour valley to the north. The area is also drained by the upper reaches of the River Colne and the River Pant/Blackwater, as well as many smaller streams and tributaries creating a landscape of gentle slopes and small valleys. The historic features of this landscape and of the urban areas described below are potentially sensitive to development.

The urban areas of the District comprise Braintree, Witham, Kelvedon, Coggeshall and Halstead, all of which were medieval market towns, some having their origins in Roman times. The rural settlement pattern was historically very dispersed, comprising church/hall complexes, manors, farms, moated sites and small hamlets strung out along extensive network of linear and triangular greens, the latter located at road junctions. Post-1950s boundary loss varies widely.

The River Stour and River Colne valley bottoms are characterised by extensive meadows or meadow pasture. The higher ground between them is characterised by a complex mix of pre-18th century irregular fields of probable medieval origin or older and common arable fields enclosed by agreement largely before the mid-19th century. The Upper Pant/Blackwater valley, and the area to the southwest of Braintree town, are characterised by pre-18th century irregular fields. The Coggeshall area is complex, comprising a mix of pre-18th century irregular fields and pre-18th century co-axial fields. The southern part of the District has a more complex fieldscape with a mixture of irregular and regular fields, including some co-axial fields, and enclosed heathlands and commons. The area around Gosfield is notable for its Ancient Woodland and a number of large landscaped parks, some of which are medieval in origin, including Gosfield Hall, Gosfield Place and Marks Hall Park.

Tendring contains 9 Protected Lanes, preserved for their historic indication of ancient road patterns in the District.

The historic centres of Harwich, Manningtree, Mistley and St Osyth contain many impressive and unique historic buildings and monuments examples of which include the St Osyth Priory Gatehouse (Scheduled Monument, Grade 1 Listed building) an important example of a monastic building of the Augustinian order whose façade is one of the best preserved examples of knapped flint and stone flushwork to be found in East Anglia. The impressive 18th Century Mistley Towers (Scheduled Monument Grade 1 Listed building), the remains of a church designed by Robert Adam and The Harwich Redoubt (Scheduled Monument Grade II* Listed building) a circular fort which supported 10 gun embrasures, completed in 1810 to defend the harbour against invasion during the Napoleonic War. These are just a few examples of the heritage assets within the District. Within these historic centres there is a greater likelihood of archaeological remains due to their complex history and development of their communities over many centuries. These centres are sensitive to development in much the same way as is the ecology of an environmentally important area.

The Council realises the importance of the conservation, management and enhancement of the historic environment and its integration into development within Tendring District for the enjoyment of future generations.

Colchester has a rich and diverse heritage. As Camulodonum, it was the first capital of England and it is also Britain's oldest recorded town; recorded by Pliny the Elder in AD77. The Borough has a rich archaeological and cultural heritage, dating back to at least 4000BC.



7.1 Recorded Archaeological Sites and Finds in Tendring, Braintree and Colchester

The Essex Historic Environment Record (EHER) contains approximately 3,459 archaeological records relating to Braintree District out of a total of 24,699 for the County. There is evidence for prehistoric activity in and around Braintree, including a Late Iron Age ditched enclosure containing roundhouses on the site of the later Roman town. A second bank and ditch is known to have run along the southern side of the Coggeshall and Cressing Roads. It has been suggested that this feature is an Iron Age oppidum enclosing an area of about 50 ha on the northern slope of the Brain valley (Drury, 1976), however this has not been proven.

The Roman Small Town appears to have been confined within a triangular area between the main Roman roads of Stane Street (Rayne Road) and the Sudbury-Chelmsford route (London Road). Within the area of the Roman town there appears to have been two phases of development. The first century town was concentrated in the area of the modern Pierrefitte Way, and there is some suggestion of deliberate planning in the initial layout of the town with the minor roads and major boundary ditches running at right-angles to London Road, forming blocks approximately 145 m apart. In the second and third centuries the town expanded into the Rayne Road and George Yard area, and there appear to have been a second phase of road building, which cut across the original layout. The cemetery was located on the western edge of the built-up area.

There is evidence that there was a Saxon settlement in Braintree, but there is nothing to suggest that it was ever urban in nature. Occupation remains have been recovered from the area to the south-west of St Michael's Church, and the church itself may have had a Saxon predecessor. In the later Saxon period the Braintree area formed part of the estates of a Saxon thegn, Aetheric, who willed his Braintree lands to the Bishops of London in 991. The Bishops of London's estate at Braintree was probably administered from Chapel Hill, where their manor house was certainly sited in the medieval period.

The early settlement focus for Braintree was probably located in the area of St Michael's Church, with a second focus around the Bishop's manor house and St John's Chapel at Chapel Hill. It has been postulated that St John's Chapel was the original parish church for Braintree, and St Michael's was a subsidiary chapel, the roles being reversed at the beginning of the thirteenth century when the 'new town' was created. In 1199 a grant was made to the Bishop of London of a weekly market and annual fair. As a consequence of this grant he founded a 'new town' at Braintree on Episcopal estate land, on the eastern side of the main road junction. In the fourteenth and fifteenth centuries Braintree became an important cloth centre.

Braintree was still an important cloth town at the beginning of the post-medieval period, specialising in the manufacture of bays and says. However, the woollen cloth industry went into terminal decline in the eighteenth century, and the nineteenth century saw the rise of the silk industry, the principal firms of which were Courtauld and Walters. The importance of the market and the retail trade also continued to grow. In addition the first half of the twentieth century was dominated by the growth of metal manufacturing firms, notably Crittalls. In 1939 the parishes of Bocking and Braintree were united to form a single Urban District.

Archaeological deposits across Tendring, Braintree and Colchester range in date from the Palaeolithic, through to structures related to the Cold War. However, it should also be remembered that the EHER records represent only the known deposits with many new sites being identified each year.



Archaeological sites (and their setting) constitute a finite, non-renewable resource which is vulnerable to damage. There is a need for updated Historic Characterisation Studies within the Districts and Borough to provide a more accurate description of the archaeological deposits in order to better understand the vulnerability of the historic environment.

7.2 Listed Buildings

Table 50: Listed Buildings

Types of Listed Building	Tendring	Braintree	Colchester
Grade I	19	67	41
Grade II*	45	185	103
Grade II	905	2,945	1,419
Total	996	3,237	1,608

Source: Historic England 2016

There are 996 designated listed buildings within Tendring District and the majority of them are grade II listed. This means they are nationally important and of special interest. 1.9% of all the listed buildings are considered to be of exceptional interest and internationally important (grade I) and 4.5% are classed as particularly important buildings of more than special interest (grade II*).

Braintree has the highest number of listed buildings of the 3 Districts, with 3,237. The large majority of these listed buildings are grade II. This means they are nationally important and of special interest. 2.1% of all the listed buildings are considered to be of exceptional interest and internationally important (grade I) and 5.7% are classed as particularly important buildings of more than special interest (grade II*).

Colchester has a total number of 1,608 listed buildings. The large majority of these listed buildings are grade II. This means they are nationally important and of special interest. 2.5% of all the listed buildings are considered to be of exceptional interest and internationally important (grade I) and 6.4% are classed as particularly important buildings of more than special interest (grade II*).

According to the Heritage at Risk Register (2016), there are 15 assets listed as being at risk in Tendring. This consists of 7 scheduled monuments, 4 listed buildings and 4 conservation areas. Of the 4 listed buildings, Naze Tower is currently progressing through a repair scheme, Spring Valley Mill is in slow decay with no solution agreed and the Church of St George and the Church of St Michael are in very bad and poor conditions respectively. Both churches are at immediate risk of further rapid deterioration or loss of fabric with no solution agreed.

The 7 scheduled monuments are:

- Crop mark site south of Ardleigh, Ardleigh (archaeology)
- Beacon Hill Fort: a late 19th and 20th century coastal; artillery fortification, Harwich (archaeology)



- Martello Tower “K”, Kirby Road, Walton on the Naze, Frinton and Walton.
- Martello Tower “D”, 450 metres south-south-west of Clubhouse, Clacton Golf Course, Clacton on Sea
- Martello Tower “E”, 300 metres south west of junction of Marine Parade West and Wash Lane, Clacton on Sea
- Beacon Hill Fort, Harwich
- St Osyth’s Priory, St. Osyth

The 4 listed buildings at immediate risk or vulnerable of becoming so are:

- Church of St Michael, The Street, Frinton and Walton
- Church of St George, Badley Hall Road, Great Bromley
- Spring Valley Mill, Spring Valley Lane, Ardleigh
- Naze Tower, the Naze, Frinton and Walton

The 4 Conservation Areas at risk are:

- Clacton Seafront, Clacton-on-Sea
- Dovercourt, Harwich
- St Osyth, St. Osyth
- Thorpe-le-Soken Station and Maltings, Thorpe-le-Soken

There are 7 assets listed as being at risk in Braintree. This consists of 3 scheduled monuments, 2 listed places of worship and 2 conservation areas. The 2 listed places of worship, Parish Church of All Saints, The Street and Parish Church, Hall Road are currently both progressing through a repair scheme after being categorised as in very bad condition.

The 3 scheduled monuments are:

- Long mortuary enclosure and round barrow 160m south west of Frame Farm
- Roman villa 480m south east of Hill Farm
- Circular cropmark at Ferriers Farm, 190m south-west of Hill Farm

The 2 listed places of worship at immediate risk or vulnerable of becoming so are:

- Parish Church of All Saints, the Street
- Parish Church (Dedication Unknown), Hall Road

The 2 conservation areas at immediate risk or vulnerable of becoming so are:

- Sible Hedingham South (Swan Street)
- Silver End

There are 10 assets listed as being at risk in Colchester. This consists of 4 scheduled monuments, 2 listed places of worship, 1 listed building and 3 conservation areas. The 2 listed places of worship, Church of St Botolph, St Botolph’s Street and Church of St Peter, north Hill are currently both categorised as in poor condition and are in slow decay with no solution agreed. The listed building, Municipal Water Tower (Jumbo), Balkerne Passage, is also in poor condition and in slow decay with no



solution agreed.

The 4 scheduled monuments are:

- Small multivallate hillfort known as Pitchbury Ramparts
- Remains of St Mary the Virgin's Church
- Roman villa 450m south of Warren's Farm
- Remains of St Mary's Church

The 2 listed places of worship at immediate risk or vulnerable of becoming so are:

- Church of St Botolph, St Botolph's Street
- Church of St Peter, north Hill

The listed building at immediate risk or vulnerable of becoming so are:

- Municipal Water Tower (Jumbo), Balkerne Passage

Source: Historic England 2016

7.3 Scheduled Monuments

Colchester Borough boasts 52 Scheduled Monuments, which is the highest number when compared with Braintree and Tendring. Braintree District contains 40 Scheduled Monuments and Tendring District benefits from 27 Scheduled Monuments which include above and below ground features.

7.4 Historic Parks and Gardens

There are 3 registered parks and gardens within Tendring District which have each been designated by English Heritage as being "a park or garden of special historic interest". They are:

- St Osyth's Priory (Grade II) - Late-C19/early-C20 gardens, laid out within C16 garden walls beside medieval buildings, set within a park which retains possible monastic fish ponds, developed as a whole in the C18, with C19 reworking. The c.76ha site is bounded by a farm track and agricultural land to the north, by the main road from Colchester to the east, and by the road known as The Bury and the village green to the south.
- Thorpe Hall (Grade II) - Early C20 shrub and water gardens developed by the owner, Lady Byng, from 1913 onwards. Thorpe Hall lies on the south side of the village of Thorpe-le-Soken which is situated c 16km to the east of Colchester and c 5km to the west of the Essex coast at Walton-on-the-Naze. The c 12ha site is bounded to the west by Station Road, to the south by a public footpath bordering arable land, to the east by farmland and Hall Lane, and to the north by the gardens of houses running along Abbey Street. The relatively flat land is set on the edge of the village in a busy rural part of the county.
- Clacton Seafront Garden (Grade II) - Seafront gardens laid out to a design by the County Surveyor, Daniel Bowe, in 1921. The Seafront Gardens at Clacton are located in the centre of the resort, on the south-west side of the Pier, with fine views out to sea. The long, thin, c 0.5ha level site is bounded to the north-west by Marine Parade West, to the north-east by Pier Gap (a



short drive linking Marine Parade to the Pier), and to the south-east by a narrow band of cliffs leading down to Kings Parade, a pedestrian promenade running along the beach. At the south-west end of the gardens, the land between Kings Parade and Marine Parade West is laid to grass banks, partially planted in a naturalistic fashion.

There are 8 registered parks and gardens within Braintree District which have each been designated by English Heritage as being “a park or garden of special historic interest”. They are:

- Hatfield Priory
- Spains Hall
- Gosfield Hall
- Faulkbourne Hall
- Saling Hall
- Belchamp Hall
- Saling Grove
- Terling Place

There are 4 registered parks and gardens within Colchester Borough which have each been designated by English Heritage as being “a park or garden of special historic interest”. They are:

- Layer Marney Tower
- Colchester Castle Park
- Wivenhoe Park
- Severalls Hospital

Source: Historic England 2016



7.5 Conservation Areas

Braintree has the most conservation areas compared with the 3 Districts with 39. Both Tendring and Colchester have 22 conservation areas which are defined as historical settlements and buildings having 'special architectural or historical interest, the character of which is desirable to preserve or enhance'. The objective of the Conservation Area designation is to ensure that the character of the defined area is protected from developments which do not preserve or enhance its character. The names of all the conservation areas are listed in the table below.

Table 51: Conservation Areas

	Tendring	Braintree	Colchester
1	Ardleigh	Ashen	Birch
2	Bradfield	Belchamp Otten	Boxted
3	Brightlingsea	Belchamp St. Paul	Chappel
4	Brightlingsea Hall and All Saints Church	Belchamp Walter	Colchester – Abbey Field
5	Clacton Sea Front	Birdbrook	Colchester – Distillery Pond
6	Dovercourt	Braintree Town Centre and Bradford Street (2)	Colchester – Hythe
7	Frinton-on-Sea	Bocking Church Street	Colchester – Lexden Road, The Avenue
8	Frinton Park	Bulmer	Colchester – Lexden Village
9	Great Bentley	Bures Hamlet	Colchester – North Hill, East Hill, St Johns Green
10	Great Clacton	Castle Hedingham	Colchester New Town
11	Great Holland	Coggeshall	Copford Green
12	Great Oakley	Cressing	Dedham



	Tendring	Braintree	Colchester
13	Harwich	Earls Colne	Fingringhoe
14	Kirby-le-Soken	Feering	Fordstreet
15	Lawford	Finchingfield	Great Tey
16	Manningtree and Mistley	Foxearth	Little Horkesley
17	Ramsey	Gosfield	Messing
18	St Osyth (replaced)	Great Bardfield	Rowhedge
19	Tendring Village	Great Saling	Stratford St Mary
20	Thorpe-le-Soken	Great Yeldham	West Mersea
21	Thorpe-le-Soken Station and Maltings	Halstead Town Centre	Wivenhoe
22	Walton	Helions Bumpstead	Wormingford
23		Kelvedon	
24		Pebmarsh	
25		Rayne	
26		Ridgewell	
27		Sible Hedingham	
28		Silver End	
29		Steeple Bumpstead	
30		Stisted	
31		Terling	



	Tendring	Braintree	Colchester
32		Toppesfield	
33		Wethersfield	
34		White Colne	
35		White Notley	
36		Witham Town Centre	
37		Chelmer & Blackwater	

Source: Historic England 2016



8. Biodiversity and Nature Conservation

Tendring District has large areas of unspoilt open countryside and a wealth of attractive natural and historic landscapes including areas of importance to nature conservation, particularly around its coast and estuaries. It also contains many buildings of historic and architectural importance, many of which are found in Conservation Areas. These assets are key to the District's attractiveness and its tourist economy but, at the same time, are sensitive to the development pressures stemming from new jobs and homes needed to meet local demands and address the social and economic issues facing the district.

The Naze at Walton, the most easterly peninsular in Essex, is a stunning and increasingly rare example of natural and wild coastline of geological and biological importance which benefits both visitors and wildlife alike. It is an important site for migrating and nesting birds including many rarities and the perfect place for an introduction to marine wildlife with harbour porpoises out to sea, grey seals in the backwaters and a whole host of species to be found on the beaches and in the mud pools. The 70 foot high cliffs, an internationally important Site of Special Scientific Interest, made up of London Clay, Red Crag and Thames sands contain many fossils, such as shark's teeth, shells and wood, which can frequently be found on the beaches. The Naze is rich in history and is dominated by the iconic Naze Tower, built in 1720 by Trinity House to mark the premonitory to shipping approaching Harwich Harbour. The Tower is now open to the public during the summer months and provides a gallery for the display of works by local artists and craftspeople and boasts a 360 degree view of the surrounding land and seascapes from its viewing platform.

Tendring District Council, in partnership with Essex Wildlife Trust, The Naze Protection Society and The Naze Tower, has set up a £1.2 million Naze Heritage Project to protect and help secure the future of the Naze. In 2011 the first phase of the Naze Heritage Project 'the Crag Walk', a 110 metre long viewing platform, was completed. This provides protection from coastal erosion and a stable educational and public access viewing platform from which the public can view the geology of the cliffs. The second phase of the Project, the Naze Education and Visitor Centre, will provide facilities for education, understanding of the natural environment and the ecological and historic importance of the Naze.

The countryside in Tendring District is one of its key assets both in terms of tourism and the living environment for our residents. The Council, working with the Essex Wildlife Trust, has identified over 100 Local Wildlife Sites (LoWS) in the Tendring District including meadowland, grasslands, churchyards and ancient woodlands. LoWS are areas of land with significant wildlife value which provide important wildlife refuges and a green infrastructure network and, although these sites are not protected by law, they are worthy of nature conservation and are protected by planning policy. During the Local Plan period, the Council will work with developers, the Essex Wildlife Trust and other partners to protect LoWS and to create new wildlife habitats as an integral part of new development and as stand-alone projects such as the recent tree planting scheme north of Elmstead Market.

In the north west of the District is the Dedham Vale Area of Outstanding Natural Beauty (AONB), designated for conservation due to its significant landscape value. Made famous by the paintings of Constable and Gainsborough, its traditional grasslands, wildflower meadows and hedgerows provide an opportunity for both residents and visitors to enjoy the peace and beauty of what are among some of England's most precious and vulnerable landscapes. Tendring is also home to the Stour, Orwell and Colne Estuaries and Hamford Water, SPA and RAMSAR sites, designated for the conservation and protection of the habitats of migratory and endangered birds, scarce plants and invertebrates and for the conservation of wetlands and are sites of national and international importance. The Council will work in



partnership with adjoining authorities to ensure the management of these sites and their protection from development which would harm or otherwise fail to protect their sensitive character and natural beauty.

Maintaining and enhancing the natural environment of the District is very important to the residents and communities of Tendring. All future developments will need to take account of current natural assets as well as continuing to protect and enhance them. One key consideration will be the preservation of countryside areas and strategic green gaps between settlements.

Whilst many of the ecologically important sites have protection under national and international law, the same cannot be said for the locally designated sites. It will be an important issue for the Council to consider how significant new development will be on these sensitive sites throughout the Plan period.

There are no international biodiversity designations (Special Areas of Conservation, Special Protection Areas or Ramsar sites) or Nature Improvement Areas (NIAs) in Braintree District. A HRA will be undertaken during the plan preparation process and its results used to inform the Braintree District SA.

There are four Sites of Special Scientific Interest (SSSIs) in Braintree District at Belcher's and Broadfield Woods; Bovingdon Hall Woods; Chalkney Wood; and Glemsford Pits. The condition of these SSSIs is generally favourable, with Belcher's and Broadfield Woods, Chalkney Wood, and Glemsford Pits assessed as 100% favourable and Bovingdon Hall Woods as 93.3% favourable. The 6.7% of Bovingdon Hall Woods assessed as being in 'unfavourable – no change' condition is due to inappropriate deer grazing/browsing rather than development pressure.

There are seven National Nature Reserves (NNRs) located in Essex; none of these are in Braintree District. Braintree District has a total of seven Local Nature Reserves (LNRs) at: Bocking Blackwater; Brickfields / Long Meadow, Earls Colne; Brockwell Meadows, Kelvedon; Colne Valley (dismantled Railway); Cuckoo Wood, Great Notley; Sandpits, Gosfield; Whetmead, Witham. There are three further LNRs located on the border between Essex and Suffolk; Rodbridge Picnic Site, Borley; The Railway Walks from Sudbury to Long Melford where the former railway crosses through Borley parish and the Haverhill Railway Walks on the border of Sturmer parish. All three are part of the Suffolk County Council LNR.

There are 251 Local Wildlife Sites (LWSs) scattered throughout Braintree District, with many concentrated in the centre of the District. There are no SSSIs designated for their geological diversity or any Local Geological Sites in the District.

The Dedham Vale AONB is partially within Colchester Borough, and covers the lower part of the Stour Valley on the Essex/Suffolk border. At its heart is an area known as Constable Country centred on the villages of East Bergholt, Flatford and Dedham which Constable painted two centuries ago. His scenes of a working landscape strongly influenced the designation of the area that has come to represent the epitome of lowland English countryside.

The AONB stands apart from other lowland river valleys because of its association with Constable and the assemblage of features he painted that can still be seen today. These features include a meandering river and its tributaries; gentle valley slopes with scattered woodlands; grazing and water meadows; sunken rural lanes; historic villages with imposing church towers and historic timber framed buildings; small fields enclosed by ancient hedgerows and a wealth of evidence of human settlement over millennia. Despite intrusions of human activity in the twentieth and twenty first centuries, the area retains a sense of tranquillity in terms of minimal noise, light and development intrusion.

Colchester has a rich biodiversity with many sites designated for their nature conservation interest. Much of the coastline is designated under international and European notifications including the Mid-Essex



Estuaries Special Area of Conservation, the Mid-Essex Special Protection Area, the Blackwater Estuary Special Protection Area and Abberton Reservoir Special Protection Area. The Special Area of Conservation and Special Protection Areas are notified under the Habitats Directive (92/43/EEC) and Birds Directive (79/409/ECC) respectively. They are also notified as Ramsar sites under the Ramsar Convention.

Abberton Reservoir is a large, shallow, freshwater storage reservoir approximately 6 miles south-west of Colchester. It is built in a long, shallow valley and is the largest freshwater body in Essex. It is one of the most important reservoirs in Britain for wintering wildfowl, with a key role as a roost for wildfowl and waders feeding in adjacent estuarine areas. The site is also important for winter feeding and autumn moulting of waterbirds. The margins of parts of the reservoir have well developed plant communities that provide important opportunities for feeding, nesting and shelter. Abberton Reservoir is important especially as an autumn arrival area for waterbirds that subsequently spend the winter elsewhere. Abberton Reservoir is a public water supply reservoir. Reduced water availability, and increased demand, in recent years has led to generally low water levels; greater numbers of waders therefore use the site, and as a result no decrease in wildfowl has been attributed to low water levels. Water entering the site has elevated nitrate levels, leading in most summers to algal blooms, but there is no evidence of impacts on wildlife. The Water Company has a consultative committee which addresses conservation issues at all its sites, and the Abberton Reservoir Committee (involving Essex Wildlife Trust and Natural England) addresses local issues.

The Blackwater Estuary is the largest estuary in Essex and is one of the largest estuarine complexes in East Anglia. Its mud-flats are fringed by saltmarsh on the upper shores, with shingle, shell banks and offshore islands a feature of the tidal flats. The surrounding terrestrial habitats; the sea wall, ancient grazing marsh and its associated fleet and ditch systems, plus semi improved grassland, are of high conservation interest. The diversity of estuarine habitats results in the sites being of importance for a wide range of overwintering waterbirds, including raptors, geese, ducks and waders. The site is also important in summer for breeding terns. Water based recreation and in particular jet skis are identified as one of the site's sensitivities. The main threat to the site is erosion of intertidal habitats due to a combination of sea level rise and isostatic forces operating on the land mass of Great Britain. The situation is worsened with increasing winter storm events, whilst the hard sea walls along this coastline are preventing the saltmarsh and intertidal areas from migrating inland. This situation is starting to be addressed by alternative flood defence techniques. A shoreline management plan has been prepared for the Essex coast which seeks to provide a blueprint for managing the coastline sustainably.

The Colne Estuary is located in the southern end of Colchester's coastal area. It is a comparatively short and branching estuary, with five tidal arms that flow into the main channel of the River Colne. The Colne Estuary encompasses a diversity of soft coastal habitats, dependent upon natural coastal processes. The vulnerability of these habitats is linked to changes in the physical environment: the intertidal zone is threatened by coastal squeeze and changes to the sediment budget, especially up drift of the site. Limited beach feeding is under way to alleviate the sediment problem. The site is vulnerable to recreational pressures which can lead to habitat damage (saltmarsh and sand dunes) and to disturbance of feeding and roosting waterfowl. Pressures for increased use and development of recreational facilities are being addressed through the planning system and under the provisions of the Habitat Regulations. Jet and water-skiing are largely contained by the Harbour Authorities. Most grazing marshes are managed under ESA/

Countryside Stewardship Agreements, but low water levels are of great concern, and low freshwater flows into the estuary, may be affecting bird numbers and/or distribution. This is being addressed through reviews of consents under the Habitats Regulations. Unregulated samphire harvesting is being



addressed by notifying all pickers of the legal implications of uprooting plants without the consent of landowners. To secure protection of the site, an Estuarine Management Plan is in preparation, which will work alongside the Essex Shoreline Management Plan and the emerging Marine Scheme of Management. The Environment Agency aim to reduce the nutrient enrichment arising from sewage and fertiliser run-off.

Following a review in 2008, 168 Local Wildlife sites have been designated in the Borough along with 10 local nature reserves. These are non-statutory nature conservation sites which along with the statutory sites play a key role in helping conserve the Borough's biodiversity.

8.1 Biodiversity Action Plan

The Essex Biodiversity Action Plan (EBAP) 2011 comprises of initiatives relating to 11 habitat types. These are:

- Arable Field Margins
- Hedgerows
- Traditional Orchards
- Lowland Dry Acid Grassland
- Lowland Meadows
- Lowland Heathland
- Ponds
- Floodplain and Coastal Grazing Marsh
- Lowland Raised Bog
- Reedbeds
- Coastal Salt Marsh

In addition to the above, wet woodlands are BAP habitats and will be taken into consideration alongside the listed BAP species and habitats in the SA/SEA of relevant policies and sites in the District's Local Plan.

Source: Essex Biodiversity Action Plan (EBAP) 2011

8.2 Designated Sites

There are 3 international designations in Tendring, with the Colne Estuary, Stour and Orwell Estuary and Hamford Water designated as Ramsar, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). Nationally designated sites include 1 National Nature Reserve (NNR) and 15 Sites of Special Scientific Interest (SSSIs). There are also 125 locally important nature conservation areas which are designated as Local Wildlife Sites (LoWSs). The largest LoWSs within the District are St. Osyth covering 91.3 ha and Lower Farm Marshes covering 61.2 ha.

There are no Ramsar sites, Special Protection Areas (SPAs) Special Areas of Conservation (SACs), or candidate Special Areas of Conservation (cSACs), in Braintree District.



In Colchester, the Blackwater Estuary, Colne Estuary and Abberton Reservoir are designated as Ramsar sites and Special Protection Areas (SPAs) with international protection.

The only NNR within Tendring District is the Colne Estuary, which is also a SSSI. Colne Estuary NNR is a 2,915.2 ha site, the main habitat of which is wetland. Situated within Colchester and Tendring Districts, the Colne Estuary is comparatively short and branching, with five tidal arms which flow into the main river channel. The estuary is of international importance for wintering Brent Geese and Black-tailed Godwit and of national importance for breeding Little Terns and five other species of wintering waders and wildfowl. The variety of habitats which include mudflat, saltmarsh, grazing marsh, sand and shingle spits, disused gravel pits and reed beds, support outstanding assemblages of invertebrates and plants. Two areas of foreshore at East Mersea are of geological importance. Colne Point and St. Osyth Marsh are of geomorphological interest. In Colchester, the Blackwater Estuary and Colne Estuary are designated as NNRs as well as SSSIs. Braintree District does not contain any NNRs.

In Tendring there are 15 SSSIs are:

- Ardleigh Gravel Pit
- Cattawade Marshes
- Clacton Cliffs & Foreshore
- Colne Estuary
- Hamford Water
- Harwich Foreshore
- Holland Haven Marshes
- Holland-On-Sea Cliff
- Little Oakley Channel Deposit
- Riddles Wood
- St. Osyth Pit
- Stour and Copperas Woods, Ramsey
- Stour Estuary
- The Naze
- Weeleyhall Wood

In Braintree there are 4 SSSIs:

- Belcher's & Broadfield Woods SSSI
- Bovingdon Hall Woods SSSI
- Chalkney Wood SSSI
- Glemsford Pits SSSI

In Colchester there are 8 SSSIs:

- Abberton Reservoir SSSI
- Blackwater Estuary SSSI



- Bullock Wood SSSI
- Colne Estuary SSSI
- Marks Tey Brickpit SSSI
- Roman River SSSI
- Tiptree Heath SSSI
- Upper Colne Marshes SSSI
- Wivenhoe Gravel Pit SSSI



Table 52: Condition of Sites of Special Scientific

Tendring SSSI	% Area meeting PSA target of favourable or unfavourable condition	Braintree SSSI	% Area meeting PSA target of favourable or unfavourable condition	Colchester SSSI	% Area meeting PSA target of favourable or unfavourable condition
Ardleigh Gravel Pit	100.00%	Belcher's and Broadfield Woods	100.00%	Abberton Reservoir	100.00%
Cattawade Marshes	100.00%	Bovingdon Hall Woods	93.30%	Blackwater Estuary	98.44%
Clacton Cliffs & Foreshore	100.00%	Chalkney Wood	100.00%	Bullock Wood	100.00%
Colne Estuary	99.82%	Glemsford Pits	100.00%	Colne Estuary	99.82%
Hamford Water	100.00%			Marks Tey Brickpit	100.00%
Harwich Foreshore	100.00%			Roman River	100.00%
Holland Haven Marshes	100.00%			Tiptree Heath	100.00%
Holland-On-Sea Cliff	100.00%			Upper Colne Marshes	100.00%
Little Oakley Channel Deposit	100.00%			Wivenhoe Gravel Pit	100.00%
Riddles Wood	100.00%				



Tendring SSSI	% Area meeting PSA target of favourable or unfavourable condition	Braintree SSSI	% Area meeting PSA target of favourable or unfavourable condition	Colchester SSSI	% Area meeting PSA target of favourable or unfavourable condition
St. Osyth Pit	100.00%				
Stour and Copperas Woods, Ramsey	100.00%				
Stour Estuary	98.01%				

Source: Data taken from Natural England, 2016



There is a Public Service Agreement (PSA) target of at least 95% of all nationally important wildlife sites being brought into favourable condition. All 15 SSSI sites in Tendring and all 8 sites in Colchester are meeting this target. 3 of the 4 SSSIs in Braintree are meeting the target, but Bovingdon Hall Woods is at 93.30% favourable or unfavourable recovering. The table above shows the breakdown of each SSSIs condition as of June 2016. Colne Estuary in Tendring and Colchester, Stour Estuary in Tendring, Bovingdon Hall in Braintree and Blackwater Estuary in Colchester are the only SSSIs and not meeting the PSA target for 100% of their area, however the area not in a favourable or favourable recovering condition is small.

In addition to designated sites, consideration should also be given to non-designated value in regards to ecology on a site-by-site basis in order to protect and enhance species and habitats, including those that are protected. This could include Greenfield sites and areas of habitat considered to enrich appreciably the habitat resource within the context of local areas, such as species-rich hedgerows, municipal parklands or individual veteran trees.

8.3 HRA Screening Report for North Essex Authorities Strategic Part 1 for Local Plans (2016) - LUC

The requirement to undertake HRA of development plans was confirmed by the amendments to the Habitats Regulations published for England and Wales in July 2007 and updated in 2010 and again in 2012. Therefore, when preparing the Local Plan, the North Essex Authorities (NEA) are required by law to carry out a Habitats Regulations Assessment, undertaken in this case by LUC on their behalf.

Summary of Braintree Section Two Local Plan HRA Screening Report

The Braintree Part 2 HRA Screening concluded that because there are no European sites within Braintree District it is not possible for the Braintree District Draft Local Plan to result in direct likely significant effects on European sites. However, it is possible for the Draft Local Plan to give rise to likely significant effects on European sites beyond the District boundary.

The HRA Screening considered all European sites within 20km of the District boundary, plus European sites beyond this boundary where a pathway for likely significant effects could exist. As a result, 15 European sites were included in the HRA Screening.

The HRA Screening focused on Part 2 of the Braintree District Draft Local Plan (i.e. it did not include an HRA of Part 1 North Essex Authorities Shared Strategic Plan, which is common to Braintree District, Colchester Borough, and Tendring District).

The HRA Screening found that the Braintree District Draft Local Plan Part 2 alone will not give to rise to likely significant effects on any European sites alone.

However, the HRA Screening found that there is the potential for likely significant effects in combination with the Part 1 North Essex Authorities Shared Strategic Plan, with respect to human disturbance of the network of Essex Estuarine Maritime Sites, comprising:

- Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar.
- Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar site.
- Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site.



- Dengie (Mid-Essex Coast Phase 1) SPA and Ramsar site.
- Essex Estuaries SAC.

The key recommendation of the HRA Screening was to undertake an HRA Screening assessment of Part 1 North Essex Authorities Shared Strategic Plan, to consider the potential for likely significant effects on European sites, particularly the Essex Estuarine Maritime sites, either alone or in-combination with the Part 2 Local Plans for each of the three local authorities. The HRA

Screening recommended that an assessment of in-combination effects may need to extend to include other nearby local authorities, particularly Chelmsford City and Maldon District, but it may also need to be further extended to include Babergh District in Suffolk with respect to Hamford Water SPA and Ramsar site, and the Stour and Orwell Estuaries SPA and Ramsar site. Although likely significant effects with respect to these European sites from the Braintree District Draft Local Plan have been ruled out, the Part 1 North Essex Authorities Shared Strategic Plan includes Colchester Borough and Tendring District within which several European sites are located.

The Braintree HRA Screening has been reviewed by Natural England which provided comments regarding the methodology and also confirmed that they '*do not generally dispute the conclusions reached*'.

Summary of Colchester Section Two Local Plan HRA Screening Report

The Colchester Part 2 HRA Screening matrices conclude that the policies within the Part 2 Local Plan may result in likely significant effects on the Stour and Orwell Estuary SPA and Ramsar, the Colne Estuary SPA and Ramsar, Essex Estuaries SAC, and Blackwater Estuary SPA and Ramsar. Impacts which could not be ruled out were in respect of water quality and recreational disturbance. A summary of the likely significant effects is provided for each of the European sites below:

- Stour and Orwell Estuaries SPA and Ramsar – water quality issues associated with proposed dwellings at Dedham and Langham.
- Colne Estuary SPA and Ramsar – recreational pressures associated with proposed housing at Mersea Island, Mersea Caravan Park, and Wivenhoe.
- Essex Estuaries SAC – recreational pressures associated with proposed housing at Mersea Island, Mersea Caravan Park, and Wivenhoe.
- Blackwater Estuary SPA and Ramsar - recreational pressures associated with proposed housing at Mersea Island.

The HRA Screening is currently being reviewed by Natural England. It is understood that further discussions are taking place between NE and Colchester Borough Council regarding the distances used in applying Zones of Influence to European sites. In particular, visitor monitoring undertaken by Colchester Borough Council, on behalf of the NEAs has identified discrepancies relating to the distance travelled by visitors to the Stour and Orwell Estuaries SPA and Ramsar. This is discussed in more detail in the Screening Assessment in Chapter 4.

Summary of Tendring Section Two Local Plan HRA Screening Report

The Tendring Part 2 HRA Screening highlighted that a number of European sites lay within and surrounding the District. It concluded that it is possible for the Local Plan to give rise to likely significant



effects on European sites within and beyond the District boundary. The HRA considered all European sites within a 20km of the District boundary.

The HRA Screening found that the Tendring District Local Plan Part 2 has the potential to give rise to likely significant effects in relation to the loss of offsite functional habitat in respect of SPA birds, recreational pressures on the coastal sites, and water quantity and quality for the following European sites:

- Essex Estuaries SAC (water quality/quantity, recreation);
- Hamford Water SPA and Ramsar (recreation, loss of offsite habitat);
- Stour and Orwell Estuaries SPA and Ramsar (recreation, loss of offsite habitat);
- Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar (water quality/quantity, recreation, loss of offsite habitat);
- Abberton Reservoir SPA and Ramsar (loss of offsite habitat).

It was recommended that further assessment be undertaken at the Appropriate Assessment stage to determine whether the Part 2 Local Plan would result in adverse effects on the integrity of the European sites.

In addition to this, it was recommended that an HRA Screening assessment of Part 1 North Essex Authorities Shared Strategic Plan be undertaken, to consider the potential for likely significant effects on European sites either alone or in-combination with the Part 2 Local Plans for each of the three local authorities. The HRA Screening concluded that the assessment of in-combination effects may need to extend to include other nearby local authorities.

The Tendring Part 2 HRA Screening has been finalised and reached the conclusions summarised above, but is yet to be issued to, or reviewed by Natural England.

Appropriate Assessment (2017) - LUC

Loss of Offsite Habitat

The HRA's of the Braintree and Colchester Section 2 Local Plans concluded that their Plans would not result in the adverse effects on European Sites as a result of the loss of offsite habitat. The Tendring Section 2 Local Plan identified likely significant effects as a result of loss of offsite land for Abberton Reservoir SPA/Ramsar; Blackwater Estuary SPA/Ramsar; Hamford Water SPA/Ramsar; Stour and Orwell Estuaries SPA/Ramsar; and Colne Estuaries SPA and Ramsar.

The HRA of the Tendring Section 2 Local Plan included a detailed desk-based assessment of the site allocations which identified that the majority of site allocations were considered to have low or negligible potential to support significant numbers of SPA/Ramsar qualifying bird species, either alone or cumulatively with other allocations, and were therefore discounted from further consideration in terms of offsite functional land. However, the Tendring Colchester Borders Garden Community was identified as a strategic site allocation with potential to support lapwing and golden plover associated with the above European sites.

This allocation has factors which are likely to limit its potential importance for golden plover and lapwing, such as flight lines interrupted by urban settlements, distance from European sites, and the presence of edge features. As a result, the HRA of the Tendring Section 2 Local Plan indicated that no single allocation is, on its own, likely to be important in maintaining the integrity of the bird populations at the



Stour and Orwell SPA/Ramsar, Hamford Water SPA/Ramsar, Colne Estuary SPA/Ramsar, Blackwater Estuary SPA/Ramsar, and Abberton Reservoir SPA/Ramsar.

The HRA of the Tendring Section 2 Local Plan concluded that whilst the Tendring Colchester Borders Garden Community provides suitable offsite foraging habitat for golden plover and lapwing in the form of arable fields and short grazed pasture, in isolation the importance of such sites for these species is likely to be low when compared with the extensive areas of habitat of increased suitability both within the NEA's and the wider land areas surrounding these European sites, particularly given the influence of the limiting factors described above. As a result, the potential for the loss of offsite habitat to adversely affect these species related primarily to the cumulative effect of reducing the extent of feeding areas. The likelihood of this occurring was considered low given the quality of the habitat affected and the small amount of habitat affected as a proportion of that available around each of the European sites.

Nevertheless, despite the above, uncertainty remains under the precautionary principle as to whether the loss of the Tendring Colchester Borders Garden Community will, cumulatively with the loss of smaller non-strategic allocations adversely affect the integrity of the SPA/Ramsar sites in relation to golden plover and lapwing. Given the dependency of these species on offsite arable fields and grasslands, inclusion and implementation of appropriate safeguards and mitigation will be required in the Strategic Section 1 Local Plan to provide certainty that there will be no adverse effect on the integrity of the Stour and Orwell SPA/Ramsar, Hamford Water SPA/Ramsar, Colne Estuary SPA/Ramsar, Blackwater Estuary SPA/Ramsar, and Abberton Reservoir SPA/Ramsar. Mitigation requirements are described below.

In order to provide certainty that the loss of offsite functional habitat will not adversely affect the integrity of the above sites, the following safeguards are required for incorporation within the Section 1 Strategic Plan:

- Wintering bird surveys will be required for Tendring Colchester Borders Garden Community as part of any project level development proposals and masterplanning, to determine the sites individual importance for golden plover and lapwing and inform mitigation proposals.
- A commitment to mitigation and phasing of Tendring Colchester Borders Garden Community is required within the Section 1 Strategic Plan dependent on the findings of bird surveys. This will need to take into account the cumulative numbers of SPA birds affected as parcels of land come forward for development. In the unlikely but possible event that cumulative numbers of SPA birds affected are likely to exceed thresholds of significance (i.e. >1% of the associated European Site), appropriate mitigation in the form of habitat creation and management in perpetuity, either on-site or through provision of strategic sites for these species elsewhere, will be required. If required, mitigation will need to create and manage suitably located habitat which maximises feeding productivity for these SPA species, and such mitigatory habitat would need to be provided and fully functional prior to development which would affect significant numbers of SPA birds.

Recreation

Detailed and site specific management measures will be provided in the RAMS and would be specifically informed via the workshops and consultation described above. It is likely that key aspects of any RAMS will include, but is not limited to the following:

- Provision of physical barriers to movement (fencing, screening, planting and bird hides)
- Provision of wardening, whether part-time, permanent or seasonal.
- Provision of educational resources including promoting self-regulation.



- Education initiatives such as provision of interpretation boards and signage, leaflets, posters, and liaison with local schools and leisure operators.
- Provision of infrastructure to encourage activities to focus on specific areas. E.g. via path upgrades, provision of benches and signage etc.
- Clear route signage.
- Closure and rerouting of paths during sensitive periods.
- Promoting a code of conduct aimed at providers and participants of water based recreational.
- Habitat management and enhancement to provide locations for birds away from disturbance sources (e.g. high tide roosts).

As described above, to ensure that the RAMS continue to be based upon up-to-date information, regular monitoring will be required, with visitor and bird monitoring being required no less frequently than every 5 years. Bird surveys are regularly undertaken at each of the European sites as part of the BTO's WeBS Core Counts and Low Tide Counts and it is therefore predicted that such information will be available, but to ensure certainty, a commitment will be required by the Council that in the event that suitably up to date bird survey data is not available during each 5 year period, albeit unlikely, they will undertake equivalent survey work to inform the RAMS.

In summary, the implementation of recreation strategies is now a widely advocated means of mitigating impacts associated with recreation at European sites. As a result, there is a high degree of confidence in the appropriateness and likely effectiveness of such a measure. The production and implementation of RAMS which include a commitment to regular monitoring, and which have the flexibility to adapt to findings and pre-empt impacts before they affect integrity is considered likely to provide an effective form of mitigation and avoidance for recreational pressures arising from the Strategic Section 1 for Local Plans. As a result, providing that the North Essex Authorities continue to collaborate and prepare the necessary RAMS in line with the broad principles outlined above, and in close consultation with Natural England, and the RAMS are ready for implementation prior to adoption of the Section a and Section 2 Local Plans, the Strategic Section 1 Local Plans is not predicted to result in adverse effects on the integrity of the Stour and Orwell Estuaries SPA/Ramsar, Hamford Water SPA/Ramsar, Essex Estuaries SAC, Colne Estuary SPA/Ramsar, or Blackwater Estuary SPA/Ramsar, either alone or in-combination with other plans and projects as a result of recreation.

Water Quality & Quantity

In light of the findings of the Section 2 HRAs, it is concluded that, whilst there are currently issues regarding capacity of water recycling centres in both Colchester Borough and Tendring District, with subsequent risks to European sites associated with changes in water quality, the safeguards which will be included within the Section 2 Local Plans for each, will ensure that a given development will not proceed until the necessary infrastructure upgrades have been provided as necessary in accordance with Anglian Water and Environment Agency advice. Therefore, in conclusion, the measures provided in the Section 2 Local Plans will also provide sufficient certainty that the overall strategic growth proposed in North Essex as part of the Section 1 for Local Plans will not result in significant adverse effects on the Stour and Orwell Estuaries SPA/Ramsar, Colne Estuary SPA/Ramsar, or Essex Estuaries SAC as a result of changes in water quality.

Source: HRA Report for North Essex Authorities Strategic Section 1 for Local Plans Prepared by LUC (May 2017)



9. Landscapes

The rurality of the Strategic Area also means that there are large areas of open countryside, including protected natural and historic landscapes. Areas of importance for nature conservation are to be found particularly along the coast and river estuaries, while the villages and towns include many built heritage assets.

The District has large areas of unspoilt open countryside and a wealth of attractive natural and historic landscapes including areas of importance to nature conservation, particularly around its coast and estuaries.

In the north west of the District is the Dedham Vale Area of Outstanding Natural Beauty (AONB), designated for conservation due to its significant landscape value. Made famous by the paintings of Constable and Gainsborough, its traditional grasslands, wildflower meadows and hedgerows provide an opportunity for both residents and visitors to enjoy the peace and beauty of what are among some of England's most precious and vulnerable landscapes.

There is no Area of Outstanding Natural Beauty (AONB) in Braintree District but proposals are under consideration to extend Dedham Vale AONB westwards towards Sudbury, crossing over into the north east part of the District. This is being proposed by the Stour Valley Partnership and is supported by Essex County Council, Braintree and Colchester local authorities.

Braintree District is the subject of two Landscape Character Assessments; the Essex Landscape Character Assessment (2003) and the Combined Landscape Character Assessment (2006). The information contained within these can be used to determine the sensitivity of certain landscape areas to development.

The rural landscape of the Borough has a rich ecological character influenced by geology and landform. Habitats include woodland, grassland, heath, estuary, saltmarsh, mudflat and freshwater as well as open water habitats. Many sites are recognised for their value by international and national notifications, including the coastal and estuary areas in the south east and the Dedham Vale Area of Outstanding Natural Beauty in the north of the Borough.

9.1 Landscape Features

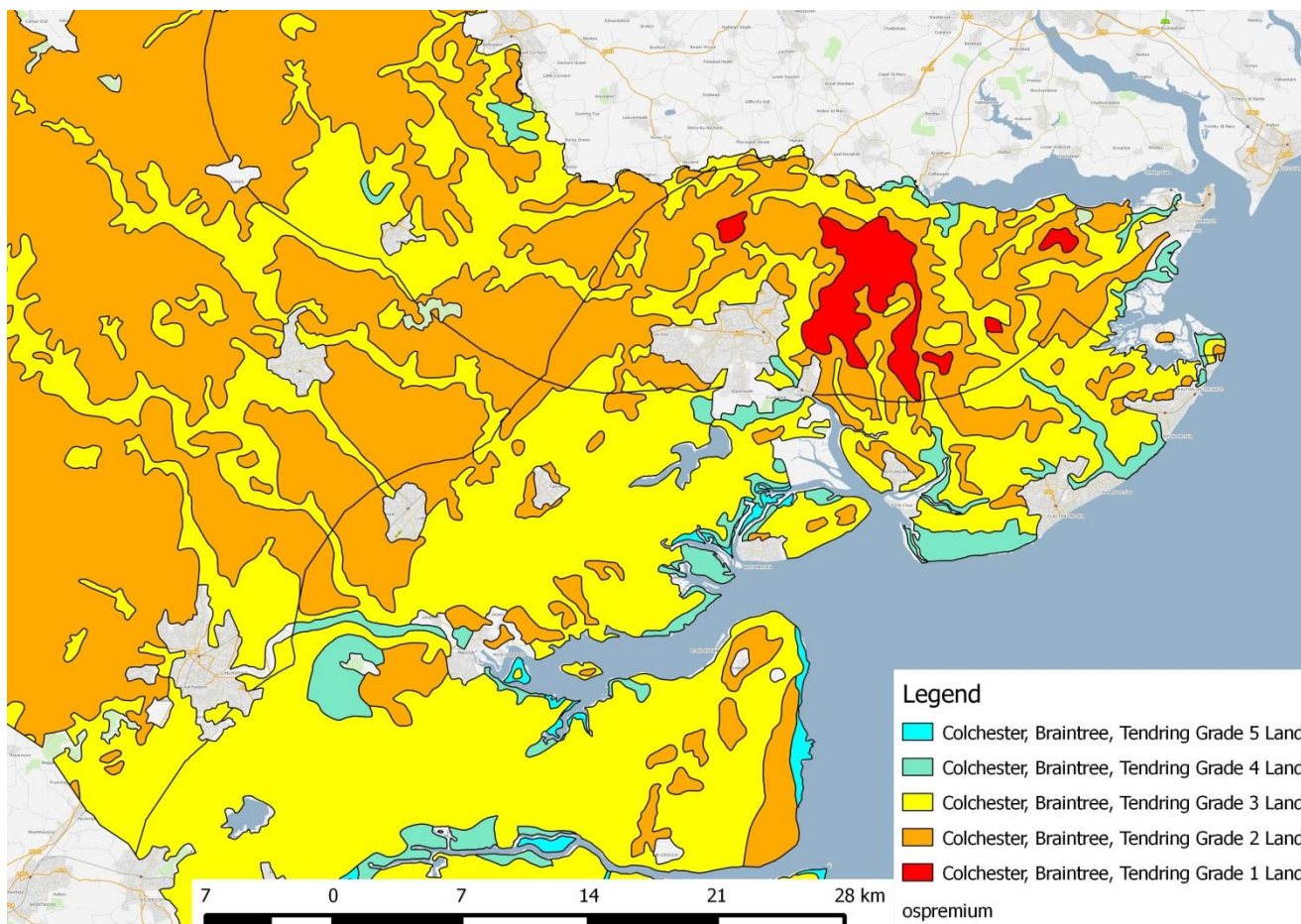
The Landscape Character Assessment for Tendring District identified 30 separate landscape character area types. There is a need for an updated Landscape Character Assessment. Braintree District is categorised into 22 landscape character area types according to the Landscape Character Assessment (2006). Colchester Borough Landscape Character Assessment identified 32 landscape character areas within the Borough.

Ancient Woodland

Tendring District is noted for its ancient broad-leaf woodland that occurs across a central belt within the District. Three of these woodlands are of national importance, and Stour and Copperas Woods SSSI together form, at 77ha, the largest area of broad leaf ancient woodland in north-east Essex.

9.2 Agricultural Land Classification

Figure 4: Agricultural Land Classification in Colchester, Braintree and Tendring District



Source: Place Services, (2016)

Brickearth is the basis of the rich agricultural land of Tendring District giving rise to the Tendring and Wix Soil Series, which are coterminous with the brickearth across the area and are the most extensive soil types in the District. The plateau is classified as Grade 1 or Grade 2 Agricultural Land due to its soils richness and fertility.

Much of soil on the plateau is of the Tendring Soil Series. The soil is usually deep and stoneless and drains reasonably well, although it can also contain sufficient water to avoid drought in most years. The land is agricultural grade 2 and 3.

The Tendring Soil Series is characterised by usually deep and stoneless loams which drain reasonably well, although it can also contain sufficient water to avoid drought in most years. The agricultural land is of the highest grade.

At the headwaters of the Holland brook the Windsor Soil Series are mapped. These are characterised by deep clayey soils mostly with brown subsoils formed upon London Clay. Their high clay content makes them difficult to work and prone to seasonal waterlogging and compaction under arable cropping and poaching under grassland. They are often woodland soils. These soils are often of poorer quality



agricultural land.

The majority of agricultural land in Braintree District is classified as Grade 2 or 3, with 65.8% (40,243 hectares) of agricultural land classified as Grade 2 and 29.9% (18,304 hectares) as Grade 3. Grade 1, 2 and 3a agricultural land is considered to represent the best and most versatile agricultural land (note the national agricultural land classification maps do not distinguish between grade 3a and 3b agricultural land, which can only be established through more detailed survey work).

The existence of large historical manufacturing industries in the Braintree District, has led to some degree of contamination of sites through associated industrial processes, or activities which are now defunct. Contamination of land can have adverse impacts on health and well-being as well as damaging wildlife and contributing to pollution of water bodies.

Tendring has a significant concentration of grade 1 and 2 agricultural land to the north west of the District on the border with Colchester Borough. The majority of the central party of the District is grade 3 land, with small areas of grade 2 running from south west to north east through the centre of Tendring. Coastal areas have lower quality land, with grade 4 land to the south around Colne Point and Holland-on-Sea and grade 4 and 5 land around Harwich and Dovercourt.

Grade 1 and 2 agricultural land is predominantly in the north east of Colchester Borough, with some areas of grade 2 land to the west and north west. Land to the south of the borough is lower quality, the majority of which is grade 3 with some areas of grade 4 and 5 along the banks of the river Colne and Abberton reservoir.

Braintree predominantly features grade 2 agricultural land across the majority of the District, with areas of grade 3 land throughout. Some more concentrations of grade 3 land are notable towards the north of the District. There is an area of poor quality grade 5 land to the east of Stisted and Braintree town.



10. Water Environment

10.1 Water Courses

The main water courses running through Braintree District are the Rivers Blackwater, Colne, Brain, Pant, Stour and Ter. Braintree District contains Source Protection Zones and major aquifers within the northern half of the District, together with scattered minor aquifers in the south of the District.

Following a national review of Catchment Abstraction Management Strategies (CAMS) boundaries, water resources in the South Essex CAMS (excluding the Mardyke catchment) are now incorporated with the North Essex CAMS into the Combined Essex CAMS. The Combined Essex CAMS document sets out the issues for the whole of Essex. The document splits the County into Water Resource Management Units (WRMU), of which two relate to areas which include watercourses within Braintree District. These are WRMU1 and WRMU2.

The integrated WRMU status for WRMU 1 was 'over-abstracted' and for WRMU 2 it was 'no water available' at February 2007. The Combined Essex CAMs Annual Update (March 2008) noted that the availability of water within the Roman River / Layer Brook catchment had changed, however the water availability and restrictions for the remainder of WRMU 1 had not changed since the publication of the CAMS in February 2007.

Essex falls within the Anglian River Basin District. The Anglian River Basin District is subdivided into catchment areas and the Essex Rivers catchment area lies within the counties of Essex and Suffolk, as well as a small part of Cambridgeshire. The Combined Essex catchment area is further subdivided into water body catchment areas. The water bodies which are associated with Braintree District are: R1, Doomsey Brook; R4, Ter; R16, River Chelmer; R23, Blackwater Pant; R91, Brain; R102, Boreham Tributary; and R115, River Blackwater. The majority of water bodies within Braintree District are given a 'moderate' current overall potential Water Framework Directive (WFD) status. However the River Blackwater and the River Chelmer are both given a 'poor' current WFD status.

The open character, nature conservation importance and recreational importance of the floodplains of the River Stour, Colne, Brain, Pent, Blackwater, Ter Valley and their tributaries and the Chelmer and Blackwater Navigation are potentially sensitive to inappropriate development close to these watercourses.

10.2 Water Quality

Tendring's potable drinking water comes from Ardleigh Reservoir. The reservoir covers 120 acres and, as well as providing the District drinking water, is also used for recreational activities including sailing and fishing and is home to the University of Essex Rowing Club. National daily domestic per capita water consumption, according to the WWF, is 150 litres. Nationally, we are expected to reduce the per capita consumption of water to 130 litres (or less) by 2030. In 2010 amendments to the Building Regulations required that new dwellings do not exceed a per capita consumption of water of more than 125 litres per day.

Climate change is leading to more frequent droughts with consequent reduced water availability which,



added to the relatively high amount of water consumed by residents within the District, could lead to water shortages. In terms of greenhouse gas emissions, the Council has, in the past few years, reduced its carbon dioxide emissions. However, the per capita emissions in the District have increased slightly in the same period.

All of the watercourses in Braintree District which could potentially receive an increase in discharge from the WwTW (Waste water Treatment Works) (the Rivers Brain, Colne and Pant/Blackwater) are classified as being Heavily Modified under the WFD (Water Framework Directive). This categorisation of Heavily Modified Water Body (HMWB) means that the channel has undergone significant morphological changes. In the District the majority of these historical changes were for flood protection and navigation. The WFD requirement for HMWBs is to reach good ecological potential (GEP) as opposed to 'good status', however the water quality standards required are consistent, regardless of the designation as HMWB.

Colchester's potable drinking water comes from Ardleigh Reservoir. National daily domestic water use (per capita consumption) according to the WWF is 150 litres. Nationally we are expected to reduce per capita consumption of water to an average of 130 litres per person per day by 2030. Amendments to building regulations in 2010 require per capita consumption of water to be limited to 125 litres.

Colchester Borough is primarily served by Anglian Water Services, although a small area around Dedham and one around Wivenhoe fall within the area supplied by Tendring Hundred Water.

Both Anglian Water and Tendring Hundred Water are confident that they can supply demand within the Region to at least 2035 (the end of their draft Water Resource Management Plans).

However, AWS recognise that there are potential supply deficits either against dry year averages or critical peak period forecasts and have proposed a range of activities to address these deficits over the next 27 years.

Colchester Borough is serviced by fifteen sewage treatment works of which two (Dedham and Tiptree) also receive discharges from adjacent Local Authority areas.

10.3 Flood Risk

The risk of flooding posed to properties within the District arises from a number of different sources including river flooding, sewer and surface water flooding.

The Mid Essex Strategic Flood Risk Assessment (SFRA), which includes Braintree District, was published in October 2007, with an Appendix relating to Braintree District in July 2008. Flood risk issues and flood management strategies identified in this document are outlined below but the SFRA provides a detailed analysis of flood risk associated with individual sites identified as potential locations for development at that time. This analysis, together with the planned addendum to the SFRA to analyse new sites, will be referenced in the SA of site allocations.

With over 60 Kilometres of coastline, the District contains a number of areas at high risk from tidal flooding and coastal erosion. The Essex and South Suffolk Shoreline Management Plan (SMP), prepared in partnership between the Environment Agency, Essex County Council and District Councils, is a strategy for managing flooding and coastal erosion over the next 100 years, in three time periods of 0-20 years, 20-50 years and 50-100 years. The main aims of the SMP are to protect all dwellings and key infrastructure against flooding and erosion, to sustain the quality of the natural and historic environment and to allow natural shoreline evolution where possible to take place. The SMP sets out four strategies to



support these aims:

- Hold the Line (HtL) – hold the existing line of defences by maintaining or increasing the standards of defences,
- Advance the Line (AtL) – Build new defences seaward of the existing defences,
- Managed Realignment (MR) – allowing or enabling the shoreline to move with associated management to control or limit the effect on land use and the environment, and;
- No Active Intervention (NAI) – no investment in coastal defences or operations.

The 'Hold the Line' strategy, maintaining the existing defence line, can be seen in the Coastal Protection Scheme between Clacton and Holland on Sea. In 2014 the Clacton to Holland on Sea Coastal Protection Scheme was implemented to provide protection to more than 3,000 homes and commercial premises which would be at serious risk from erosion by the sea during the next 100 years. The £36 million Scheme, funded by the Environment Agency in partnership with Tendring District Council and Essex County Council, covers an area of 5km of coastline from Clacton Pier to Holland Haven. The Scheme will see the installation of 23 fish-tail groynes to combat the effects of erosion and 950,000 cubic metres of sand and shingle beach recharge to replace the substantial amount of beach frontage lost in this area. The groynes will create 22 attractive new beaches in separate bays which can be enjoyed by both residents and visitors at all states of the tide and will encourage greater use of these beaches. Phase 1 of the Scheme was completed in January 2015 providing seven sandy bays, and Phase 2 is expected to be completed by the end of 2015.

Climate change is increasing the magnitude and frequency of intense rainfall events that cause flooding and the risk of flooding from the River Colne and Stour which are also heightened by increased winter precipitation. There is a risk of flooding from a number of sources: fluvial, tidal and pluvial. Tidal flood risk is concentrated along the coastal frontage including Harwich, Parkeston Jaywick and Brightlingsea, which are all low lying. Tidal flood sources are the most dominant in Tendring and tidal flooding can result from a storm surge, high spring tides or both events combined over defended and undefended land. This being said, the Council in partnership with other key stakeholders is tackling tidal flooding by the insertion of new flood defences between Holland-on-Sea and Clacton. The main pathway of fluvial flooding is from high river flows resulting in out of bank flows. Flood defences and control structures could potentially fail and actually increase flood risk. Pluvial flooding can occur as a result of severe storms, which create run-off volumes that temporarily exceed the natural or urbanised sewer and drainage capacities, creating flash flooding. This is likely to increase as a result of higher intensity rainfall, more frequent winter storms and increased urban development.

Tendring Strategic Flood Risk Assessment (SFRA)

A 2015 SFRA update was produced to accompany the emerging Local Plans. The SFRA is a planning tool that enables the council to select and develop sustainable site allocations away from vulnerable flood risk areas. The SFRA will assist the council to make the spatial planning decisions required to inform the Local Plan and contained the following recommendations:

- When assessing the suitability of land for development the Council will consider both PPS25 and the SFRA and apply the sequential and exception tests.
- The Council should object in principle to new development within Flood Zones 2 and 3 through policy.
- If brownfield floodplain redevelopment is proposed, the Council should push for the removal of buildings and restoration of the natural floodplain. Where this is not practical the site



redevelopment must not exceed, and where possible reduce, the overall building footprint. Additionally the land use of the site should be changed to a land use with a less vulnerable classification. Brownfield redevelopments within the functional floodplain must be fully flood resilient to minimise damage and enable quick recovery from flooding.

- SUDS should be applied where appropriate.
- The Council will require a site specific flood risk assessment to be submitted with all planning applications unless they are for developments <1ha located in Flood Zone 1, where there are no existing drainage issues.
- The Council should review their Emergency Plan with respect to flooding and raise awareness amongst residents on the measures which can be taken to mitigate against future flooding events.
- Development proposals adjoining the main rivers, ordinary watercourses and culverts should be set back.
- Opportunities should be sought to restore/deculvert rivers.

Fluvial Flooding

A hierarchy of flood zones are defined as:

Zone 1 – (Low Probability)

- Encompasses land assessed as having a less than 1 in 1000 annual probability of flooding in any year (<0.1%).

Zone 2 – (Medium Probability)

- Comprises land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% – 0.1%).

Zone 3a – (High Probability)

- Covers land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) in any year.

Zone 3b – (The Functional Floodplain)

- This zone consists of land where water has to flow or be stored in times of flood. It is land which would flood with an annual probability of 1 in 20 (5%) or greater in any year.

The dominant fluvial systems within Braintree District are the River Blackwater, the River Brain and the River Colne. These rivers run close to a number of settlements. The River Brain flows through the towns of Braintree and Witham. The River Blackwater flows through Braintree, Coggeshall, Kelvedon and to the south of Witham. The confluence of the Rivers Brain and Blackwater is situated to the south east of Witham town centre. The River Colne flows through Great Yeldham, Sible Hedingham and Halstead.

Northern areas of Braintree town are within Flood Zones 2 and 3. These and other areas identified by the Mid Essex SFRA are subject to a higher risk from fluvial flooding.



Surface Water Flooding

Surface water flooding can occur from sewers, drains, or groundwater and from runoff from land, small water courses and ditches as a result of heavy rainfall.

The Mid Essex SFRA found no indication that groundwater flooding forms a significant risk within the District. Approximately 70% of the District is underlain by London Clay, including all of the main settlements. This forms an impenetrable barrier to groundwater at depth, limiting the risk from this source.

Typically, a Surface Water Management Plan (SWMP) is prepared to identify the causes and effects of surface water flooding and recommend the most cost effective way of managing surface water flood risk for the long term. A SWMP identifies areas where the surface water flood risk is most severe and designates them as Critical Drainage Areas (CDAs). Essex County Council is currently working on a SWMP and its findings will be reflected in the SA once it becomes available.

The updated Flood Map for Surface Water (uFMfSW) provided as part of the Jaywick Strategic Flood Risk Assessment update (2015) predominantly follows topographical flow paths of existing watercourses or dry valleys with some isolated ponding located in low lying areas. It should be noted that, because of its broad-scale nature, wherever possible these mapped outlines should be used in conjunction with other sources of local flooding information to confirm the presence of a surface water risk. Source: Haven Gateway Water Cycle Study (Nov 2009).

The 2007 Braintree SFRA recommended that runoff rates should be restricted for both greenfield and brownfield developments in Bocking, Braintree, Witham and Coggeshall in particular. This is also likely to be appropriate within other settlements to ease surface water flooding and drainage capacity exceedance.

Infiltration techniques are unlikely to be appropriate where the site is underlain by London Clay, such as in Bocking, Braintree, Witham, Halstead, Coggeshall and Kelvedon. Attenuation techniques should be imposed in these circumstances.



Table 53: Colchester: Summary Timeline of Water Supply, Wastewater, Environment and Flooding

Department Area		2008-2011	2011-2014	2014-2017	2017-2021
North Colchester	Water Supply Resources	Green	Green	Green	Yellow
	Wastewater Treatment	Red	Red	Red	Red
	Flooding	Green	Green	Green	Green
	Environment – Water Quality	Yellow	Yellow	Yellow	Yellow
	Wastewater Infrastructure	Red	Red	Red	Red
	Waste Supply Infrastructure	Grey	Grey	Grey	Grey
Colchester Town Centre and Fringe	Water Supply Resources	Green	Green	Green	Yellow
	Wastewater Treatment	Red	Red	Red	Red
	Flooding	Yellow	Yellow	Yellow	Yellow
	Environment – Water Quality	Yellow	Yellow	Yellow	Yellow
	Wastewater Infrastructure	Red	Red	Red	Red
	Waste Supply Infrastructure	Grey	Grey	Grey	Grey
South Colchester (Garrison)	Water Supply Resources	Green	Green	Green	Yellow
	Wastewater Treatment	Red	Red	Red	Red



Department Area		2008-2011	2011-2014	2014-2017	2017-2021
	Flooding	Green	Green	Green	Green
	Environment – Water Quality	Yellow	Yellow	Yellow	Yellow
	Wastewater Infrastructure	Red	Red	Red	Red
	Waste Supply Infrastructure	Grey	Grey	Grey	Grey
East Colchester	Water Supply Resources	Green	Green	Green	Yellow
	Wastewater Treatment	Red	Red	Red	Red
	Flooding	Yellow	Yellow	Yellow	Yellow
	Environment – Water Quality	Yellow	Yellow	Yellow	Yellow
	Wastewater Infrastructure	Red	Red	Red	Red
	Waste Supply Infrastructure	Grey	Grey	Grey	Grey
Stanway	Water Supply Resources	Green	Green	Green	Yellow
	Wastewater Treatment	Red	Red	Red	Red
	Flooding	Green	Green	Green	Green
	Environment – Water Quality	Yellow	Yellow	Yellow	Yellow
	Wastewater Infrastructure	Red	Red	Red	Red



Department Area		2008-2011	2011-2014	2014-2017	2017-2021
	Waste Supply Infrastructure				
Colchester – Other Areas	Water Supply Resources				
	Wastewater Treatment				
	Flooding				
	Environment – Water Quality				
	Wastewater Infrastructure				
	Waste Supply Infrastructure				
Wivenhoe / Roehedge	Water Supply Resources				
	Wastewater Treatment				
	Flooding				
	Environment – Water Quality				
	Wastewater Infrastructure				
	Waste Supply Infrastructure				
Tiptree	Water Supply Resources				
	Wastewater Treatment				



Department Area		2008-2011	2011-2014	2014-2017	2017-2021
	Flooding	Green	Green	Green	Green
	Environment – Water Quality	Green	Green	Green	Red
	Wastewater Infrastructure	Red	Red	Red	Red
	Waste Supply Infrastructure	Grey	Grey	Grey	Grey
West Mersea	Water Supply Resources	Green	Green	Green	Yellow
	Wastewater Treatment	Green	Green	Green	Green
	Flooding	Green	Green	Green	Green
	Environment – Water Quality	Green	Green	Green	Green
	Wastewater Infrastructure	Red	Red	Red	Red
	Waste Supply Infrastructure	Grey	Grey	Grey	Grey
Marks Tey	Water Supply Resources	Green	Green	Green	Green
	Wastewater Treatment	Red	Red	Red	Red
	Flooding	Green	Green	Green	Green
	Environment – Water Quality	Red	Red	Red	Red
	Wastewater Infrastructure	Green	Green	Green	Green



Department Area		2008-2011	2011-2014	2014-2017	2017-2021
	Waste Supply Infrastructure				
West Bergholt and Great Horkesley	Water Supply Resources				
	Wastewater Treatment				
	Flooding				
	Environment – Water Quality				
	Wastewater Infrastructure (Horkesley)				
	Wastewater Infrastructure (West Bergholt)				
	Waste Supply Infrastructure				
Other Villages – Eight Ash Green (EAG) and Langenhoe	Water Supply Resources				
	Wastewater Treatment - EAG				
	Wastewater Treatment - Lan				
	Flooding				
	Environment – Water Quality (EAG only)				
	Wastewater				



Department Area		2008-2011	2011-2014	2014-2017	2017-2021
	Infrastructure				
	Waste Supply Infrastructure				

Source: Haven Gateway Water Cycle Study Stage 2 Report (Nov 2009)

The key activities required to resolve the “red” time periods above are:

- Water Supply - Implementation of proposed transfer of water from Planning Zone 56 - Colchester to Planning Zone 63 - Tiptree
- Wastewater - Implement proposed discharge consent increases and process improvements at Colchester STW and Copford STW. Upgrade/extension of existing sewers or implementation of new sewer
- Water Quality - Implementation of BAT technologies, and therefore significant investment, to keep pollution levels within consent.

Table 54: Tending Summary of Timeline of Water Supply, Environment and Flooding

Department Area		2008-2011	2011-2014	2014-2017	2017-2021
Clacton on Sea	Water Supply Resources	Green	Yellow	Yellow	Yellow
	Wastewater Treatment	Green	Green	Yellow	Yellow
	Flooding	Yellow	Yellow	Yellow	Yellow
	Environment – Water Quality	Green	Green	Green	Green
	Wastewater Infrastructure	Yellow	Yellow	Yellow	Yellow
	Waste Supply Infrastructure				
Jaywick	Water Supply Resources	Green	Yellow	Yellow	Yellow
	Wastewater	Red	Red	Red	Red



Department Area		2008-2011	2011-2014	2014-2017	2017-2021
	Treatment	Red	Red	Red	Red
	Flooding	Yellow	Yellow	Yellow	Yellow
	Environment – Water Quality	Yellow	Yellow	Yellow	Yellow
	Wastewater Infrastructure	Red	Red	Red	Red
	Waste Supply Infrastructure	Grey	Grey	Grey	Grey
Harwich and Dovercourt	Water Supply Resources	Green	Yellow	Yellow	Yellow
	Wastewater Treatment	Green	Green	Yellow	Yellow
	Flooding	Yellow	Yellow	Yellow	Yellow
	Environment – Water Quality	Green	Green	Green	Yellow
	Wastewater Infrastructure	Yellow	Yellow	Yellow	Yellow
	Waste Supply Infrastructure	Grey	Grey	Grey	Grey
Frinton-on-Sea Walton-on-the-Naze	Water Supply Resources	Green	Yellow	Yellow	Yellow
	Wastewater Treatment	Green	Green	Green	Green
	Flooding	Yellow	Yellow	Yellow	Yellow
	Environment – Water Quality	Green	Green	Green	Green
	Wastewater	Red	Red	Red	Red



Department Area		2008-2011	2011-2014	2014-2017	2017-2021
	Infrastructure				
	Waste Supply Infrastructure				
Brightlingsea	Water Supply Resources				
	Wastewater Treatment				
	Flooding				
	Environment – Water Quality				
	Wastewater Infrastructure				
	Waste Supply Infrastructure				
Lawford, Manningtree and Mistley	Water Supply Resources				
	Wastewater Treatment				
	Flooding				
	Environment – Water Quality				
	Wastewater Infrastructure				
	Waste Supply Infrastructure				
Wix	Water Supply Resources				



Department Area		2008-2011	2011-2014	2014-2017	2017-2021
	Wastewater Treatment				
	Flooding				
	Environment – Water Quality				
	Wastewater Infrastructure				
	Waste Supply Infrastructure				
Thorpe-le-Soken	Water Supply Resources				
	Wastewater Treatment	(Clacton)	(Clacton)	(Clacton)	(Clacton)
	Flooding				
	Environment – Water Quality				
	Wastewater Infrastructure				
	Waste Supply Infrastructure				
St Osyth	Water Supply Resources				
	Wastewater Treatment				
	Flooding				
	Environment – Water Quality				



Department Area		2008-2011	2011-2014	2014-2017	2017-2021
	Wastewater Infrastructure				
	Waste Supply Infrastructure				
Thorrington	Water Supply Resources				
	Wastewater Treatment				
	Flooding				
	Environment – Water Quality				
	Wastewater Infrastructure				
	Waste Supply Infrastructure				

Source: Haven Gateway Water Cycle Study Stage 2 Report (Nov 2009)

The key activities required to resolve the “red” time periods above are:

- Wastewater - Detailed review of development and discharges to establish the required increase in the consented DWF for Jaywick STW, and apply if necessary.
- Extension and upgrade/capacity increase of current sewer network.

The current BDC Core Strategy housing targets are within the original regional targets. As such, the WCS steering group has confidence that the potable water supply can accommodate the growth in the District, through the appropriate management of both supply and demand. Funding for any significant regional upgrades required is likely to come from AWS/ ESW as part of subsequent Price Review processes.

Individual sites may require upgrades to the local potable water supply network. However, the water companies are confident that the proximity of the proposed sites to existing network assets will allow any capacity constraints to be overcome, using the developer funding provisions set out by the Water Industry Act 1991.

The Stage 2 Detailed WCS has identified the possible reductions in water demand that may be achieved in new dwellings, and the wider benefits this may provide, to allow BDC to make informed policy decisions regarding water efficiency.



The sensitivity of the receiving watercourses in the District has been discussed, and current water quality concerns highlighted. Despite these factors, it has been shown that the WwTW within the District can treat the increased wastewater flows, using economically feasible, conventional methods to the standards required to prevent any deterioration to the water environment. There is however a risk that future tightening of environmental standards may constrain growth, but this is a regional if not national concern.

Where additional WwTW and sewerage network capacity will be required to accommodate the proposed growth, the timing and possible funding of these upgrades has been discussed. The proposed growth may cause some WwTW operational issues prior to 2015; however AWS remain confident that capacity can be provided to accommodate the total growth. Regarding sewerage network capacity, some phasing conflicts remain in the short to medium term for a number of proposed sites in the main towns; it is imperative that these sewerage network constraints are addressed by BDC, AWS and developers by building on the recommendations given in this WCS at the earliest opportunity.

It has been concluded that the impact of the increased WwTW discharges on the flood risk of the receiving watercourses is negligible, although policies must still be in place to ensure the mitigation of flood risk for new and existing properties, as climate change is predicted to increase the frequency and intensity of rainfall events.



11. Climate and Energy

Climate change predictions for the East of England for the 2080s, based on medium (current) emissions scenarios, are for an increase in winter mean temperature of approximately 3.0°C and an increase in summer mean temperature of approximately 3.6°C. The central estimate of change in winter mean precipitation is an increase of 20% whilst the central estimate of change in summer mean precipitation is a reduction of 20%.

Braintree District has a Climate Change Strategy and Action Plan (2009). The Action Plan is reviewed annually to determine progress against its indicators and actions. The Action Plan objectives cover four areas:

- **Reduce the Carbon Footprint** from all council services and operations, and reduce CO₂ emissions across the District.
- **Community Leadership** through sharing best practice with businesses and residents and leading by example.
- **Sustainable Services** to ensure that the Council's assets and operations are able to cope with the impacts of climate change.
- **Using its Regulatory Powers** to influence and ensure future development in the District is sustainable and prepared for climate change.

Tendring Council is committed to tackling climate change by reducing Carbon Dioxide emission both from Council operations and throughout the District. In 2010 the Council produced a Climate Change Strategy which outlined the predicted climate change risks to the District and the actions that can be taken to reduce these risks. The Strategy concentrates on the reduction of Carbon Dioxide emissions as this is the gas released in the largest quantities, has a long term effect in the atmosphere and is the greenhouse gas we have the most control over. The key aim of this Strategy is to engage with partners and the public to cut Carbon Dioxide emissions by reducing energy use, to make more efficient use of energy and to promote non fossil fuel technologies and alternatives to fossil fuels both in Council operations and within local communities. The Council will expect developers to demonstrate measures to be incorporated to maximise sustainability and energy efficiency in all new development.

Increase in development and use of renewable energy has seen the installation of both off and on-shore wind farms in Tendring. The Dong Energy Gunfleet Sands 48 turbine Off-shore Wind Farm has the capacity to provide approximately 100,000 homes with 'clean electricity' in the years to come making a considerable reduction in Carbon Dioxide emissions. The wind farm is maintained and operated from a base in Brightlingsea by locally recruited staff. The 5 turbine on-shore Wind Farm at Earls Hall has the capacity to generate 'clean electricity' for approximately 6,300 homes and will reduce Carbon Dioxide emissions by 15,000 tonnes per year. Approval has also been given for Solar Farms in Wix and Bradfield which together will have the capacity to generate 'clean electricity' for approximately 3,409 homes and reduce Carbon Dioxide emissions by 6,525 tonnes per year. Whilst the Council supports and encourages proposals for renewable energy installations it realises that turbines and solar arrays can be large structures which can potentially cause visual and/or noise impacts and will ensure that such installations are carefully located to mitigate the impact renewable energy infrastructure has on residents.

Large scale renewable energy schemes are an environmental and social issue. Many communities resist large scale renewable energy schemes due to concerns about landscape impact, noise and visual



impact.

11.1 Energy Consumption and Emissions

Braintree District consumes more renewable energy than the other districts and the East of England average. The remaining authorities all consume more energy from non-renewable sources as a percentage of their consumption compared to the East of England as a whole. More than three quarters of Tendring and Braintree District's 1,944.5GWh and 2,303.1GWh respective energy consumption is from petroleum products and natural gas. For Colchester, the percentage is just below 75% for the same energy sources. Colchester and Braintree are closer to the East of England average than Tendring. Registering 39.65% of their consumption deriving from petroleum, Tendring is lower than the percentage for Braintree, Colchester and the East of England. In contrast only 44.1GWh of energy consumed is from renewable bioenergy and waste sources, equating to just 1.72% of energy consumption in Tendring. This is comparatively low when measured against the 1.90% in Braintree and 1.74% achieved across the East of England region, but higher than the 1.41% achieved in Colchester.

**Table 55: Energy consumption**

Resource	Tendring (GWh)	% of Total Energy Consumption	Braintree (GWh)	% of Total Energy Consumption	Colchester (GWh)	% of Total Energy Consumption	East of England (GWh)	% of Total Energy Consumption
Coal	65.4	2.55%	106.7	3.47%	95.9	2.89%	3,045.5	2.35%
Manufactured Fuels	0.6	0.02%	4.7	0.15%	1.5	0.05%	126.2	0.10%
Natural Gas	928.7	36.25%	806.9	26.26%	1,022.6	30.87%	41,698.1	32.17%
Electricity	507.4	19.80%	600.3	19.53%	692.1	20.89%	26,986.2	20.82%
Petroleum Products	1,015.8	39.65%	1,496.2	48.69%	1,454.0	43.89%	55,496.8	42.82%
Bioenergy and Wastes	44.1	1.72%	58.3	1.90%	46.8	1.41%	2,251.8	1.74%
Total	2,562.0	100.00%	3,073.0	100.00%	3,312.9	100.00%	129,604.9	100.00%

Source: DECC 2014, (updated 2016)

**Table 56: Energy consumption from renewable sources**

Local Authority	Percentage of Total Energy Consumption from Renewable Bioenergy and Waste Sources	Local Authority	Percentage of Total Energy Consumption from Renewable Bioenergy and Waste Sources
Basildon	0.11%	Epping Forest	0.12%
Braintree	0.39%	Harlow	0.07%
Brentwood	0.10%	Maldon	0.92%
Castle Point	0.14%	Rochford	0.24%
Chelmsford	0.24%	Tendring	0.39%
Colchester	0.27%	Uttlesford	0.57%

Source: DECC, updated 2014 data

0.39% of Tendring District's total energy consumption comes from renewable sources. Tendring District consumes the 3rd highest proportion of renewables, joint with Braintree at 0.39%, against the other districts with Essex. Colchester is lower than Tendring and Braintree, with just 0.27% of energy provided from renewable bioenergy and waste sources.

Table 57: CO² emissions by source

	Industry and Commercial (kt)	Domestic (kt)	Transport (kt)	Total (kt)
Tendring	214.9 (28.8%)	301.4 (41.6%)	228.4 (30.6%)	746.4
Braintree	270.7 (29.7%)	301.8 (33.1%)	341.0 (37.4%)	912.8
Colchester	317.7 (31.6%)	349.6 (34.8%)	336.3 (33.5%)	1,004.5
Essex	2,523.4 (28.8%)	2,994.7 (34.2%)	3,231.2 (36.9%)	8,757.8
East of England	13,851.4 (34.6%)	12,331.0 (30.8%)	13,246.5 (33.1%)	39,981.5

Source: DECC, updated 2013 data

Industry, domestic and transport each produce roughly 1/3 of the total CO₂ emissions within Colchester, however there is more variation in the statistics for Tendring and Braintree. The industry and commercial sector produces the smallest amount in every District at 28.8% for Tendring, 29.7% in Braintree and 31.6% in Colchester. Transport produces the most in Braintree at 37.4%, whereas domestic emissions



are the highest in Tendring and Colchester at 41.6% and 34.8% respectively. Tendring, Colchester and Braintree all produce less CO² from the industry and commercial sector than the East of England average and they all produce more domestic emissions than the east. Tendring transport emissions are lower than the east and Braintree's are higher, whereas Colchester is in line with the regional statistics.

Table 58: Reduction of CO² emissions per capita

Area	% per capita reduction of CO ² since 2005	Area	% per capita reduction of CO ² since 2005
Basildon	20.9%	Epping Forest	16.5%
Braintree	18.7%	Harlow	25.3%
Brentwood	16.7%	Maldon	21.1%
Castle Point	14.6%	Rochford	18.2%
Chelmsford	11.4%	Tendring	11.5%
Colchester	18.6%	Uttlesford	21.4%
		Essex	17.3%

Source: DECC, 2013 data

Tendring has one of the lowest reductions in CO₂ emissions relative to the 2005 data of all the Districts in Essex at just 11.5%. This is 6.1% below the average reduction per capita for Essex. Braintree and Colchester are higher than the Essex average at 18.7% and 18.6% respectively. Despite this, they are some way off the Harlow District, which registered the highest reduction in emissions of 25.3% between 2005 and 2013.

Table 59: Number of Codes for Sustainable Homes Certificates issued by Local Authority within Essex

Area	Design Stage	Post Construction Stage	Total
Basildon	944	474	1,418
Braintree	813	525	1,338
Brentwood	196	194	390
Castle Point	17	17	34
Chelmsford	1,674	740	2,414



Area	Design Stage	Post Construction Stage	Total
Colchester	1,359	939	2,298
Epping Forest	357	252	609
Harlow	445	157	602
Maldon	224	80	304
Rochford	408	182	590
Tendring	86	253	339
Uttlesford	1,286	776	2,062
Overall Essex Total	7,809	4,589	12,398
Overall Essex Average	651	382	1,033

Source: DCLG (updated Feb 2015)

Up to December 2014 Tendring District had issued 339 certificates, 86 at the design stage and 253 post construction, Braintree had issued 1,338, 813 at the design stage and 525 post construction and Colchester had issued the most at 2,298, 1,359 at the design stage and 939 post construction. Tendring is far below the Essex average of 1,033 certificates issued, but Braintree is above and Colchester is significantly higher than the Essex average.

11.2 Climate Change

Climate Change Scenarios

According to UK Climate Projections under a medium emission scenario the temperature in the East of England has a 67% likelihood of increasing between 1 and 2°C by 2020. By 2050, the temperature is predicted to increase to between 2 and 3°C across the region. Mean summer precipitation has a 67% likelihood of decreasing by up to 10% across the whole region by 2020 and by 2050 the south of the East of England will see decreases by up to 20%. In contrast the mean winter precipitation is predicted to increase by up to 10% across the region by 2020. By 2050 much of the region is expected to see a mean winter precipitation increase of between 10 and 20% apart from a band in the centre of the region which is expected to witness increases of between 20 and 30%.

Source: Met Office UKCP (2014)

Colchester is committed to reducing climate change both within the Borough and through its in-house operations through various schemes. In 2010 the Council prepared a Climate Risk Assessment, which



outlined climate change predictions for Colchester and considered the risks to the Borough from a changing climate. The climate change predictions were derived from Colchester specific data from UKCP09. UKCP09 is the working name for the UK climate projections. It is funded by Defra and uses data from the Met Office Hadley Centre and the UK Climate Impacts Programme (UKCIP) to predict the future climate of the UK under three different emissions scenarios (high, medium and low).

The short term climate change risks for Colchester are:

- Milder, wetter winters (central estimate shows an increase in mean winter temperature of 1.3oC and 6% increase in winter precipitation);
- Hotter, drier summers (central estimate shows an increase in mean summer temperature of 1.3oC and 7% decrease in summer precipitation);
- More frequent extreme high temperatures (central estimate shows an increase in the mean temperature of the warmest day of 0.9oC);
- More frequent downpours of rain (central estimate shows an increase of 5% precipitation on the wettest day);
- Significant decrease in soil moisture content in summer
- Sea level rise and increases in storm surge height (central estimate for sea level rise in the East of England shows a 9.7cm increase under the medium emissions scenario and a 11.5cm increase under the high emissions scenario); and
- Possible higher wind speeds.



12. Air

12.1 Air Quality

Air Quality in Essex is generally good. There are no Air Quality Management Areas (AQMAs) located in Braintree District. The main air quality issues in the District relate to nitrogen dioxide (NO₂) and particulate emissions from vehicles travelling on the A12 and A120.

There are five potentially significant junctions with daily flows of more than 10,000 vehicles in 2004. They are Newland Street, Witham; Crossing road, Witham; Head Street, Halstead; Railway Street, Braintree; and Rayne Road, Braintree.

Of the 12 passive diffusion NO₂ monitoring tubes located in the District, five exceeded the annual mean NO₂ objective concentration of 40 g/m³ but relevant exposure levels did not. Three of these were sited along the A12 at Hatfield Peverel, Rivenhall Hotel, and Foxden in Rivenhall while the other two were sited at Bradwell on the A120 and at Chipping Hill in Witham.

However, there are no AMQAs within Braintree or Tendring District.

Whilst the Borough of Colchester is extensively rural, the majority of the population live in the towns and villages. As a result, it is the built up areas which figure most prominently in many people's lives and the appearance and quality of their urban surroundings is an important factor in their quality of life. There are four Air Quality Management Areas in Colchester, located in the following areas:

- **Area 1** - Central Corridors (including High Street Colchester; Head Street; North Hill; Queen Street; St. Botolph's Street; St. Botolph's Circus; Osborne Street; Magdalen Street; Military Road; Mersea Road; Brook Street; and East Street).
- **Area 2** - East Street and the adjoining lower end of Ipswich Road.
- **Area 3** - Harwich Road/St Andrew's Avenue junction.
- **Area 4** - Lucy Lane North, Stanway; Mersea Road; and Brook Street.

**Table 60: Air Quality Management Areas within Colchester**

Name	Description	Pollutant
Area 1 – Central Corridors	High St Colchester, Head St, North Hill, Queen St, St Botolphs St, St Botolphs Circus, Osbourne St, Magdelen St, Military Rd, Mersey Rd, Brook St, East St and St Johns Street.	NO2
Area 2 – East Street and the adjoining lower end of Ipswich Road	East Street and Ipswich Road	NO2
Area 3 – Harwich Road / St Andrews avenue junction	St Andrews Avenue and Harwich Rd	NO2
Area 4 – Lucy Lane North, Stanway	Lucy Lane North, Stanway	NO2

Notes: NO₂ - Nitrogen Dioxide

Source: Defra, 2015

The main air quality issues Colchester following the first round of air quality assessments were found to be emissions of NO₂ and PM₁₀ from vehicles in the area of Brook Street between (and including) the junctions with Walpole Road and East Hill and the northern end of the B1025 Mersea Road in Colchester. From this, air quality management areas (AQMA) were declared in Colchester to monitor conditions in those areas. These AQMA have since been revoked as of 2012 and replaced with the AQMA described in the above table.

The four AQMA within the District are shown spatially in the Figures below. They are all located within Colchester at busy junctions likely to experience at least some degree of congestion.

Figure 5: Map of AQMAs in Colchester

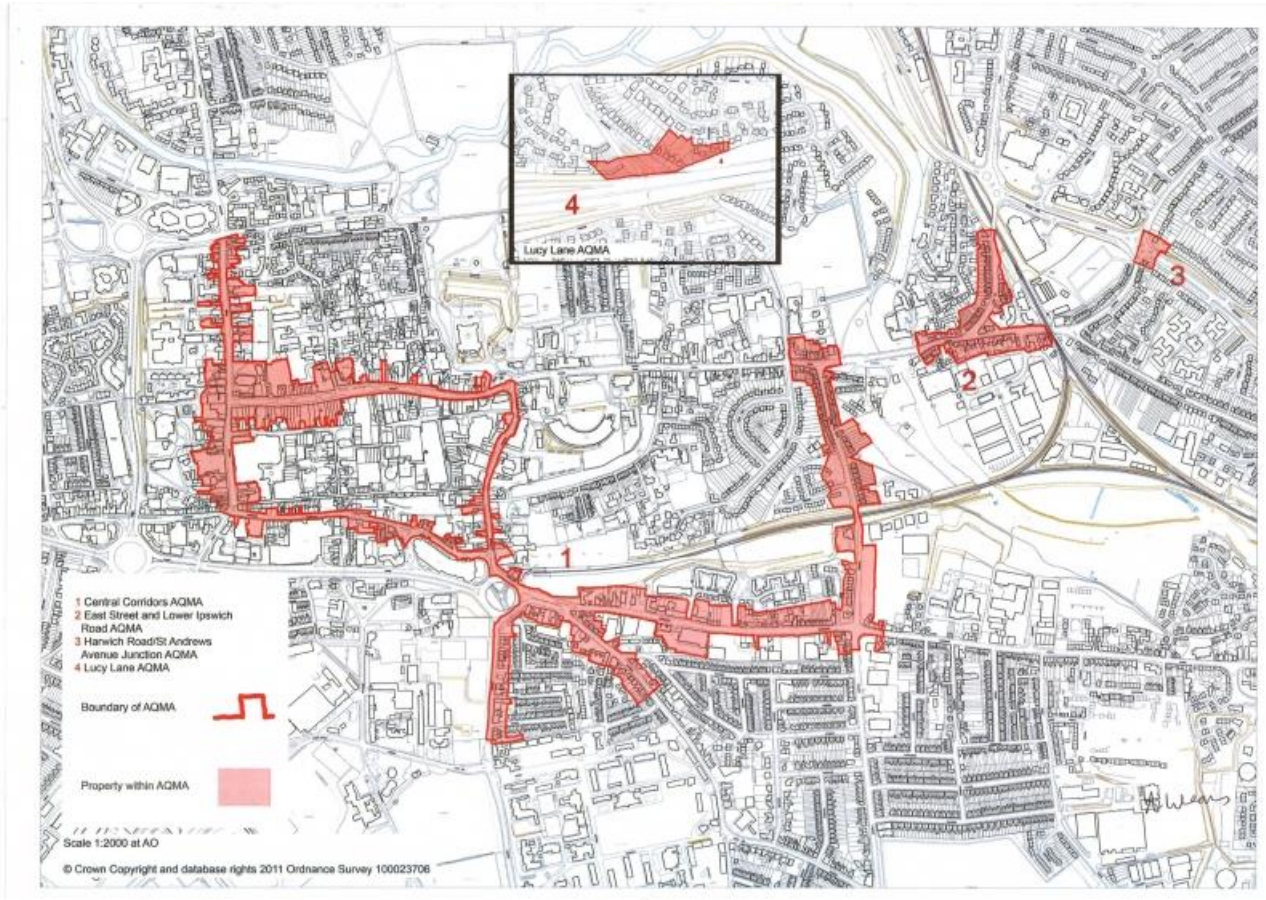


Table 61: Annual Mean Measurements of Nitrogen Dioxide ($\mu\text{g}/\text{m}^3$) across Colchester

Colchester		Annual Mean Concentrations ($\mu\text{g}/\text{m}^3$) adjusted for bias			
Site ID	Site Location	2009	2010	2011	2012
2	Fairfax Road	33.5	33.7	31.4	31.2
3	Mersea Road	67.7	57.2	53.7	60.9
8	Shrub End Road	26.1	26.3	26.0	26.5
17	Hills Crescent	21.3	21.1	19.6	19.3
20	Papillon Road	21.9	23.4	21.0	20.1
21	Head Street	57.9	53.4	51.4	47.5
22	Trinity Street	28.2	26.1	28.2	21.9



Colchester		Annual Mean Concentrations (ug/m ³) adjusted for bias			
Site ID	Site Location	2009	2010	2011	2012
43	Magdalen Street	40.4	40.9	38.3	37.7
45	Brook Street	57.0	54.8	52.3	48.2
46	Guildford Road	20.7	21.3	20.2	18.2
48	Queen Street	52.6	49.3	42.0	40.9
49	High Street	50.5	43.8	47.3	46.7
54	Mersea Road	49.9	49.2	44.3	43.6
58	Lucy Lane South				
59	Monitor	31.2	33.7	28.6	31.3
62	Lucy Lane North	48.2	34.8	37.9	35.7
63	Mersea Road, 9	47.7	44.8	41.9	45.1
65	Mersea Road, 12	56.9	49.6	47.1	49.4
66	Maldon Road, 99	34.3	34.3	30.9	28.3
68	Brook Street, 130	46.0	44.9	46.5	26.8
69	Brook Street, 60	28.5	28.6	28.2	25.0
71	Brook Street, 23	54.7	52.2	47.5	50.6
72	6 Osbourne Street	48.1	46.1	43.0	38.3
76	Ipswich Road	37.9	34.4	38.5	32.7
78	Harwich Road	39.1	38.9	38.4	32.2
82	London Road				
85	Marks Tey	42.5	32.9	37.0	29.0



Colchester		Annual Mean Concentrations (ug/m ³) adjusted for bias			
Site ID	Site Location	2009	2010	2011	2012
86	Dale Close	31.2	28.8	28.6	27.2
88	St Johns Green	24.3	23.9	23.9	22.8
89	Greenstead	21.0	20.3	21.6	17.9
90	Brook Street, 48 (auto monitor)	35.5	34.1	31.0	33.2
91	London Road, 220				
92	Marks Tey	-	33.7	31.9	30.3
93	London Road,170				
94	Marks Tey	-	-	31.2	28.2
95	Blackberry Road, 2	-	-	25.7	25.2
96	Shrub End Road, 38	-	-	20.0	20.0
97	Butt Road, 129	-	-	22.3	21.6
98	Elmstead Road, 6	-	-	28.1	26.7
99	Greenstead House	-	-	32.0	30.0
100	Mill Road, 239	-	-	21.6	21.8
101	Mill Road, 87	-	-	26.7	28.1
102	Cowdray Avenue, 154	-	-	25.6	23.9
103	Ipswich Road, 130	-	-	25.3	24.1
104	Harwich Road, 95	-	-	27.7	29.9
105	Ipswich Road, 50	-	-	38.7	37.0
106	East Street, 72	-	-	45.2	43.2



Colchester		Annual Mean Concentrations (ug/m ³) adjusted for bias			
Site ID	Site Location	2009	2010	2011	2012
107	Brook Street, 74	-	-	29.9	30.2
108	Military Road, 37	-	-	34.2	33.0
109	East Hill, 4A	-	-	39.2	37.1
110	Mersea Road, 30	-	-	36.1	37.9
111	North Hill, 49	-	-	40.7	37.0
112	North Station Road, 49	-	-	30.1	27.9
113	North Hill, Strada	-	-	43.5	39.1
114	Queen Street Showboat	-	-	44.4	37.8
115	St John's Street, Lemon Tree	-	-	42.3	43.2
116	High St George Hotel	-	-	36.0	35.0
117	Harwich Road Orchard Gardens	-	-	33.1	31.0

Table 62: Annual Mean Measurements of Nitrogen Dioxide (µgm-3) across Tendring

Tendring		Annual Mean Concentrations (ug/m ³) Adjusted for Bias		
Site ID	Site Location	2008	2009	2010
9	Harwich Hospital	29.9	22.2	23.8
10	Harwich Train Station	43.6	29.8	24.8
11/12/13	Clacton Town Hall A/B/C	32.9	21.2	21.2
14/15/16	St Osyth, Bypass A133 1/2/3	32.1	21.9	21.5
18	Bathside Bay	20.5	10.2	13.2
19	Wix	29.8	16.8	20.6



Tendring		Annual Mean Concentrations ($\mu\text{g}/\text{m}^3$) Adjusted for Bias		
Site ID	Site Location	2008	2009	2010
20	Hempstalls Farm	-	13.2	15.1

Table 63: Annual Mean Measurements of Nitrogen Dioxide ($\mu\text{g}/\text{m}^3$) across Braintree

Braintree	Annual Mean Concentrations ($\mu\text{g}/\text{m}^3$) Adjusted for Bias			
Site ID	2011	2012	2013	2014
Braintree 1N	34.3	30.1	36.6	34.7
Braintree 5N	25.6	25.5	25.3	23.5
Braintree 4N	21.2	21.0	22.8	19.8
Halstead 1	31.5	30.7	30.0	27.7
Hatfield Peverel A12	49.5	44.7	50.5	47.7
Kelvedon	29.1	32.5	32.8	27.9
Bradwell	41.8	38.6	38.1	37.3
Railway Street	28.8	29.2	29.5	29.2
Stilemans Wood	37.1	33.2	28.1	33.5
Witham	47.1	47.1	45.8	38.8
Rivenhall 1	56.0	53.6	51.3	43.6
Rivenhall 2	53.2	49.8	51.8	52.1

Source: Braintree District Council 2015 Updating and Screening Assessment (June 2015)

There were three recorded exceedances of the annual mean $40 \mu\text{g}/\text{m}^3$ objective in 2014. The highest recorded concentration was $52.1 \mu\text{g}/\text{m}^3$ at monitoring location Rivenhall 2. This monitoring location is at a roadside location, and therefore indicates air quality at the vicinity of busy roads, where concentrations of NO_2 and vehicle derived pollutants are at their highest.

There is no clear trend in data during the period 2011 – 2014. Concentrations at some monitoring locations such as Rivenhall 1 and Braintree 5N decrease across the period, while concentrations at



Rivenhall 2 have increased since 2012.

Analysis of UK continuous NO² monitoring data has shown that it is unlikely that the hourly mean NO² objective, of 18 hourly means over 200 µgm³, would be exceeded where the annual mean objective is below 60 µgm³ (Defra 2009). As there were no recorded exceedances of 60 µgm³ in 2014 at any monitoring location, the NO² 1-hour mean air quality objective is unlikely to be exceeded.

Several of the diffusion tube locations are not representative of the locations of the nearest relevant exposure. As a result, monitored concentrations have been used to estimate the concentrations at the relevant receptor locations (shown in table 2.4 in the Braintree District Council 2015 Updating and Screening Assessment). This has been done using Defra's 'NO² with distance from the roads calculator' and in line with the TG (09) guidance. Full details of the distance correction process are detailed in Appendix B of the Braintree District Council 2015 Updating and Screening Assessment.

When monitoring data is used to predict concentrations at the locations of the nearest residential properties, there are no exceedances of the annual NO² objective level of 40 µgm³. It can therefore be concluded that at relevant receptor locations, there are no exceedances of the NO² annual mean air quality objective.



13. Waste

The waste hierarchy, in accordance with the Revised Waste Framework Directive, specifies the promotion of waste prevention, and material and energy recovery (e.g. direct re-use, recycling and treatment to make new objects) prior to disposal.

The Council has promoted recycling by sending leaflets to households, providing recycling boxes for paper, card, plastic bottles and cans, and food waste caddies. The Council also supports the Tendring Reuse and Employment Enterprise and the Tendring CVS Scheme where surplus household items (furniture, electrical goods) can be donated and reused through the local community sector or supplied to those in need.

13.1 Local Authority Collected Waste

There is a significant amount of waste collected by the Waste Collection Authorities, of which Tendring District Council is one, via direct kerbside collections (household waste), litter and street cleaning. Waste is also directly collected by the Waste Disposal Authority (ECC) through Recycling Centres for Household Waste. In addition, for a fee, local authorities collect some waste from small commercial enterprises. Collectively this is known as Local Authority Collected Waste (LACW).

Table 64: Local Authority Collected Waste

Authority	Total local authority collected waste	Household - total waste	Household - waste sent for recycling / composting / reuse	Non-household - total waste	Non household - waste sent for recycling / composting / reuse
Tendring District Council	46,585	46,585	12,213	0	0
Braintree District Council	61,509	57,244	29,982	4,265	730
Colchester Borough Council	64,780	62,278	29,661	2,502	25
Essex County Council	731,305	681,586	348,623	49,719	11,123

Source: Department for Environment, Food and Rural Affairs (Defra) 2015/16

In Tendring, all of the local authority collected waste was sourced from households within the District. No



waste was collected from non-household origins. This is in contrast with Braintree and Colchester where 93.1% and 96.1% of collected waste originated from households. Braintree and Colchester are more in line with the Essex statistics, where 93.2% of collected waste was from households, than Tendring, however there is still some deviation from county average.

Table 65: Selected Waste indicators 2013/14

Authority	Residual household waste per household (kg/household)	Percentage of household waste sent for reuse, recycling or composting	Percentage of municipal waste sent to landfill	Collected household waste per person (kg)
Tendring District Council	489.5	26.30%	-	324.1
Braintree District Council	415.6	54.30%	-	383.2
Colchester Borough Council	413.3	42.5%	-	314.3
Essex County Council	523.4	51.10%	46.40%	472.1

Source: Waste Data Flow, Department for Environment, Food and Rural Affairs (Defra) 2014

Households within Tendring District Council and Colchester Borough Council produce much less household waste per person than the county average, with Braintree also producing lower than the county but higher than Tendring and Colchester. However, a much smaller percentage of this household waste is recycled, re-used or composted in Tendring than the Essex average. Almost half as much is reused, recycled or composted in Tendring compared with Essex as a whole. Colchester is also lower than the Essex value for this, but by a smaller percentage than Tendring. Braintree is marginally above the Essex average for household waste reused, recycled or composted.

13.2 Transfer Facilities

Six transfer facilities have been granted planning permission within Essex and Southend, to support a materials recovery facility, in Basildon. These will, once constructed, accept waste from the Waste Collection Authority vehicles directly from kerbside collection. Here waste will be bulked up, ready for transportation to Basildon.

Table 66: Local Authority Collected Waste Transfer Facility Status

Transfer Facility	Planning Permission reference/date	Throughput (Tonnes Per Annum)	Expected / Actual construction Start Date	Expected Operation Start Date
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Transfer Facility	Planning Permission reference/date	Throughput (Tonnes Per Annum)	Expected / Actual construction Start Date	Expected Operation Start Date
Harlow To serve Harlow and Epping Forest	ESS/38/11/HLW 23/09/2011	55,000	April 2013 (construction underway)	Operational as of early August 2014
Gt Dunmow To serve Uttlesford	ESS/18/12/UTT 22/06/2012	29,400	Build start date yet to be agreed following Judicial Review proceedings	9-month construction period from date of commencement on site.
Chelmsford To serve Chelmsford and Maldon	ESS/31/13/CHL 13/08/2013 (amended permission ESS/65/12/CHL)	90,000	Under Judicial Review with Court of Appeal. Build start date yet to be agreed	Unknown. If appeal refused 12 month construction period from date of commencement on site.
Braintree To serve Braintree	ESS/23/13/BTE 26/07/2013	71,250	March 2014 (construction underway)	January 2015
A120 (west) To serve Colchester and Tendring	ESS/16/13/TEN 28/06/2013	115,000	October 2013 (construction underway)	September 2014
Southend To serve Southend	Existing Site	67,900	An existing waste management site within Southend BC since 1968, but requires alterations for this use	
Total LACW Transfer Throughput		428,550 tpa		

Source: Essex County Council 2014

13.3 The Replacement Waste Local Plan for Essex and Southend-on-Sea (submitted June 2016)

The Replacement Waste Local Plan (Revised Preferred Options) Document 2015, as published by



Essex County Council and Southend-on-Sea as the combined Waste Planning Authority, allocates 4 sites within Tendring, 1 in Braintree and 2 within Colchester for the treatment of biological waste, inert waste, inert landfill and other waste management. These are:

Tendring

- Morses Lane, Brightlingsea
- Sloughs Farm, Ardleigh
- Sunnymead, Elmstead & Heath Farms
- Wivenhoe Quarry Plant area

Braintree

- Rivenhall

Colchester

- Bellhouse Landfill Site
- Fingringhoe Quarry

There is a requirement that Tendring District Council, Braintree District Council and Colchester Borough Council as Local Planning Authorities, include the above allocations within their Local Plan. Their presence should be factors, alongside any Waste Consultation Zones and safeguarding restrictions set at the Waste Planning Authority level, in the formulation of the Local Plan and in the allocation of any sites contained within.

13.4 Waste Miles

There are two distinct types of imports and exports concerning waste, firstly the localised cross boundary movement of waste and the long distance waste travel. The localised cross boundary movements of waste usually occur between adjacent waste planning authorities because the closest waste facility for the arisings is just over the authority boundary.

13.5 Commercial and Industrial Waste (CD&I)

This is waste arising from wholesalers, catering establishments, shops and offices (in both the public and private sector), factories and industrial plants. It can include a number of materials such as food, paper, card, wood, glass, plastics and metals. Increases in growth in these sectors as a result of the Local Plan may require an increase in facilities to manage such waste. These can include biological treatment facilities, such as composting (in the first instance), or non-hazardous landfill facilities.

13.6 Construction, Demolition and Evacuation Waste (CD&E)

This is waste that is biologically stable and does not undergo any significant physical, chemical or biological transformations. This can be in the form of certain types of:

- Construction wastes (e.g. surplus supplies of bricks specifically required for a single project);



- Demolition wastes (e.g. used material resulting from demolition activities); or
- Excavation wastes (e.g. usually consisting of soils and stones which cannot be used beneficially, such as from tunnelling projects or 'overburden' from removing soils from an area in preparation for mineral excavation).

Essex County Council, as the WPA for Essex, identifies a shortfall in available capacity for this waste stream by 2031/32. There is a requirement for an additional 1.27 million tonnes per annum of Construction, Demolition and Excavation waste recovery capacity by 2031/32, which would remove the need to allocate inert landfill capacity completely. It is estimated that without development of increased CD&E Waste recovery capacity (as specified above), there would be a need for inert landfill totalling approximately 16 million tonnes (or 10.64 million cubic metres) if no CD&E recycling facilities were bought forward. The implications for this are that waste management facilities for this waste stream may be needed within the Districts of Tendring, Braintree and the borough of Colchester. It should also be noted that this waste is a direct result of growth, and the relationship between the Waste Local Plan and the Tendring, Braintree and Colchester Part 1 Plan are intrinsically linked in this regard.



14. Minerals

14.1 Links to the Adopted Minerals Local Plan 2014

The MLP summarises a number of key points regarding the geology and mineral infrastructure of the Plan Area:

- Essex has extensive deposits of sand and gravel.
- There are more localised deposits of silica sand, chalk, brickearth and brick clay.
- Marine dredging takes place in the extraction regions of the Thames Estuary and the East Coast, whilst aggregate is landed at marine wharves located in east London, north Kent, Thurrock, and Suffolk. Essex has no landing wharves of its own.
- There are no hard rock deposits in the County so this material must be imported into Essex. This currently occurs via rail to the existing rail depots at Harlow and Chelmsford.
- Essex is the largest producer and consumer of sand & gravel in the East of England. There are 20 permitted sand & gravel sites, one silica sand site, two brick clay and one chalk site.
- There are two marine wharves and four rail depots capable of handling aggregate. Construction, demolition and excavation waste is also recycled at 29 dedicated and active aggregate recycling sites (2011).
- Aggregate is both imported into Essex (hard rock, and sand and gravel) and exported (sand and gravel, primarily to London). Map 3 shows the movement of aggregate in and out of Essex.

Source: Essex County Council Adopted Minerals Plan (2014)

Sites have been identified as preferred or reserved sites for primary mineral extraction of sand and gravel in the Essex Minerals Plan (Policy P1, Table 5), which was adopted in July 2014. These include sites at Bradwell Quarry, Rivenhall Airfield (comprising sites A3-A7), one site at Broadfield Farm, Rayne (site A9), one site on land at Colemans Farm (site A46), two in Colchester at Colchester Quarry, Fiveways (site A13) and Maldon Road, Birch (site A31) and one at Sunnymead, Alresford (site A20). The volume of sand and gravel extracted from these sites will need to meet the minerals demand for the whole of Essex created by major development and new infrastructure projects within the County.

The provision of other forms of development in the District may be constrained by the need to safeguard mineral resources for extraction.

14.2 Sand Gravel

Essex has extensive Kesgrave formation sand and gravel which was laid down during the Ice Age and in river terraces. The river terrace deposits are found not only along current river valleys, but also in historic river channels that are now dry.

The sand and gravel resources in Essex are:

- Significant in national, sub-national and local terms - Essex is one of the largest producers in the



UK,

- Most geographically extensive and significantly mixed within the centre and north of Essex – namely the districts of Uttlesford, Braintree, Chelmsford, Colchester and Tendring,
- Least extensive in south east Essex where deposits appear smallest and least workable, such as in the districts of Maldon and Rochford,
- Present along the River Lea valley terraces adjoining Harlow and Epping Forest districts,
- Mixed deposits capable of being processed to supply a range of construction products including building sand, sharp sands and gravel,
- Used as a raw material to produce concrete, mortar, asphalt and construction fill which is used in the construction industry and for roads.

The majority of the sand and gravel produced in Essex (about 78%) is used within the County itself. This position looks unlikely to change over the long-term. Consequently the main factor influencing production of sand and gravel in the future will be the need to meet the minerals demand for the whole of Essex created by major development and new infrastructure projects within Essex itself.

Source: Essex County Council Adopted Minerals Plan (2014)

14.3 Chalk

Silica sand is another significant mineral resource found in Essex. It is classified as an 'industrial sand' and its distinction from construction sand is based on its applications/uses and market specification. Silica sand contains a high proportion of silica in the form of quartz and has a narrow grain size distribution compared to other sand in Essex.

The silica sand resources in Essex are:

- Processed for industrial purposes at Ardleigh from a mixed resource, north-east of Colchester. Industrial uses include glassmaking, foundry casting, ceramics, chemicals and water filtration
- Capable of reaching selling prices some 20 times above that of regular construction aggregates, allowing them to serve a wider geographical market as the relatively high price off-sets transport costs.

Source: Essex County Council Adopted Minerals Plan (2014)



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