Essex County Council

GREATER ESSEX SUB AREA REPORT: ESSEX WIDE REPORT

ROGER TYM & PARTNERS
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TRIBAL

M&N

Draft Final Report

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1 INTRODUCTION

The study brief

1.1 Roger Tym & Partners and Tribal Urban Studio, supported by M & N Communications, have been appointed to undertake the Greater Essex Sub Area Study on behalf of Essex County Council and associated stakeholders.

1.2 The study provides an early input into the forthcoming review of the East of England Regional Plan review, scheduled for early March 2009. Core to the study is understanding the current and future context for growth and its possible distribution across Greater Essex, with a focus on the post RSS period 2021-2031; but with the acceptance that higher levels of growth and alternative distributions may emerge from 2011 onwards in a revised RSS.

1.3 The stimulus for the study is not only the call for early RSS review; but also the need to understand the implications of the NHPAU housing supply ranges for the East of England region; published in June 2008.[1] These proposed an uplift in the range of growth in dwellings between 14% and 46% for the East of England, when compared against the current baseline provided by the approved East of England Plan (2006-2021). This scale of growth has potentially significant consequences for the East of England as a whole, and for the Greater Essex Study Area within it. This study will examine what those consequences are in Greater Essex, identifying constraints influencing the scale and locations for growth and how, if appropriate, they might be overcome.

1.4 The study covers the Greater Essex Study Area (see Figure 1.1). This area covers the combined administrative areas of Essex, Southend- on-Sea and Thurrock. As a part of our study we acknowledge that Essex is not an island and consider the role of neighbouring regions on Essex's future- including London, Hertfordshire, Suffolk and Cambridgeshire.

1.5 This report represents provides a high level summary of the results of visioning, growth levels, spatial options and testing work for four sub areas and for Greater Essex as a whole.

[1] June 2008, the National Housing and Planning Advisory Unit (NHPAU) published, *'Meeting the housing requirements of an aspiring and growing nation: taking the medium and long-term view- Advice to the Minister about the housing supply range to be tested by Regional Planning Authorities'*. ….

Figure 1.1: Greater Essex Study Area

Report Structure

1.6 This remainder of this report is comprised of six sections:

- Section 2: Approach
- Section 3: The Growth and Spatial Patterns- M11 Corridor
- Section 4: The Growth and Spatial Patterns- Heart of Essex
- Section 5: The Growth and Spatial Patterns- Essex Haven Gateway
- Section 6: The Growth and Spatial Patterns- Essex Thames Gateway
- Section 7: Overall Study Conclusions

2 APPROACH

The Task

2.1 As part of the preparation of the RSS Alteration, EERA/EEDA commissioned Oxford Economics (OE) to prepare an economic, demography and housing model with the aim of ensuring that population and household projections are more aligned with economic projections than was the case in the course of the preparation of the recently published East of England Plan.

2.2 The OE model provides four projections of growth, broken down to a district level for population, households, dwellings and jobs. In this study we focus primarily on the dwellings forecast, as this will be the main concern of spatial planning, although we are also interested in the jobs data, on which we comment in relation to the alignment between new dwellings and jobs.

2.3 OE have prepared four forecasts. Three are dwelling-based, providing data for a roll forward of current RSS dwelling growth rates, forecast based upon the NHPAU lower and upper ranges of housing requirements and a fourth forecast, based on the Regional Economic Strategy (RES) 2.3% per capita annual growth in real workplace based GVA over 2007-2031.

2.4 The housing targets to test for Greater Essex for the period 2007- 2031 are[2]:

- RSS Roll Forward 160,000 net additional dwellings
- NHPAU Low 183,000 net additional dwellings
- NHPAU High 242,600 net additional dwellings
- NHPAU GVA Growth 214,500 net additional dwellings

2.5 The request to run the test from 2007 to 2031, a 24 year period, was only received from EERA part way through the study process. Much of the original spatial sub area growth, options and testing work was undertaken using 2011-2031 figures. This report provides a commentary which effectively 'updates' this original work; although it is primarily based on the findings of the work for original 20 year period.

A four stage process

2.6 The study has four stages:

- Visioning and review of the evidence base
- Identification of growth scenarios and spatial options
- Testing the growth scenarios and spatial options- using sustainability, transport and infrastructure criteria
- Reporting

[2]Figures are rounded to the nearest 100

2.7 This work was carried out between September and December 2008 in order to meet EERA deadlines for the Call for Evidence set in the early New Year.

2.8 This report provides a summary of all stages of the work- using the results from each stage to identify appropriate levels and strategic locations that each sub area and Greater Essex as a whole can accommodate.

A sub area approach

2.9 The study brief specified working both at the sub area and Greater Essex geography. Originally there were five sub areas, but for the final reporting Market Towns and London Arc East sub areas are amalgamated to become the Heart of Essex sub area. This geography better reflects the understanding of the sub regional geography Chelmsford, Maldon, Braintree and Brentwood districts as identified by the client group and councilors.

2.10 The four study sub areas are:

- M11 Corridor- comprising Harlow, Epping Forest and Uttlesford districts.
- The Heart of Essex- comprising Chelmsford, Maldon, Braintree and Brentwood districts.
- Essex Thames Gateway- comprising Basildon, Thurrock, Southend, Castlepoint and Rochford districts.
- Haven Gateway- comprising Tendring and Colchester districts.

2.11 This report provides a summary of study findings at sub area level before providing overarching, Essex wide conclusions in the final section. Figure 1.1 shows the sub area geographies.

Identifying growth and spatial options

2.12 In order to assess the four growth scenarios provided by the OE model- RSS residual, NHPAU Low, NHPAU High and GVA- at sub area level the data is reformatted into sub area tables and used as a basis for testing. This data is reproduced in this report at the beginning of the sub area and Greater Essex sections.

2.13 Growth and spatial options are identified from a wide range of sources. This includes but is not exclusive to:

- Local Development Frameworks and other adopted planning policy documents
- Other documents which inform the evidence base; including regeneration and economic development policy.
- Historic and current development proposals and allocations.
- The material from EEDA's recent Call for Sites for RSS Revision
- Views received over the study period from the client group, stakeholders and local politicians

- Views of the consultants

2.14 When identifying growth levels and spatial options to test as a part of this study the aim is to ensure there is enough variety to allow for meaningful testing of their appropriateness, while at the same time not being too location specific. In order not to hijack ongoing local planning processes this study presents its spatial data at district level; referring to particular possible future locations for development only insofar as they relate to those locations already earmarked for growth and change in adopted RSS and LDFs and supporting documents and/or in the public domain via current/ historic planning applications.

Testing

2.15 Three main aspects of the growth levels and spatial options are tested as a part of this study. These include:

- Sustainability- Environmental, Social and Economic
- Transport
- Infrastructure

2.16 The testing process followed a methodology agreed with the client group. The study brief required that the testing considered feasibility and deliverability as criteria when assessing the viability of growth proposals and particular spatial options associated with them. An output of this element of the work was the identification of 'showstoppers' in infrastructure, transport and environmental terms.

2.17 This approach to testing enables us to provide a strategic view on the relative 'appropriateness' of particular levels of growth and strategic spatial options at sub area and the Greater Essex level; and, as a part of that, the ability to identify preferred growth levels/ strategic spatial options.

2.18 This assessment is not of sufficient detail to substitute as a more detailed sustainability appraisal or assessment of feasibility- and additional work would be further required to ratify some of the study conclusions at local level. It is anticipated that this will be done as part of future LDF processes.

3 THE GROWTH SCENARIOS AND THE SPATIALPATTERNS: M11 CORRIDOR

Introduction

3.1 In this section we set out the results of the visioning, optioneering and testing elements for the M11 Corridor sub area. This includes Harlow, Uttlesford and Epping Forest districts (Figure 3.1).

3.2 In this section we:

- Describe the sub area
- Set out the levels of growth proposed for the sub area from 2007-2031
- Provide a district and sub area level description of the range of spatial options tested
- Identify the most achievable level of growth and likely distribution(s) based on:
  - Future Vision
  - Summary of planning policy
  - Housing market assessment and need
  - Economic Prospects and Future Employment Growth
  - Social Needs Including Tackling Deprivation and Regeneration
  - Environmental and Policy Constraints Relating to Protecting and Enhancing the Environment
  - Transport conditions, movement demands and transport policy measures
  - Infrastructure Delivery
  - Conclusions

3.3 Throughout our conclusions are drawn from a broad evidence base, including stakeholder consultations, the call for sites data received from EERA, and strategic and local planning, regeneration and economic policy documents.

The sub area

3.4 The M11 Corridor sub area comprises the three most western Essex districts- Epping Forest, Harlow and Uttlesford.

3.5 For many years, the M11 Corridor sub area, together with areas to its immediate north (Cambridge and Peterborough) has been recognised as a potential corridor for growth; something which has been reinforced by the presence of a major economic driver in Stansted airport and a major location for future regeneration, Harlow. Several sub area studies have reinforced the notion of a valid north south sub-region. Today the sub area continues to be largely defined by its strong north-south transport links (the M11 and the train line (West Anglia)); which effectively link all three districts.

3.6 Individually the three districts do have very different and distinct geographies. **Epping Forest** is the most southern and western authority in Essex; bounding the Greater

London conurbation to the south. Epping itself is connected to the London Underground network at the end of the Central Line; and a high proportion of the working population commute daily to jobs in the City. The relationship with London is a strong one and something that is unlikely to change. Residents are often attracted by the prospect of high quality suburban living; at lower densities and with cheaper house prices than is found in more central urban locations.

3.7 Epping prides itself on its high quality environment- encapsulated in Epping Forest itself. This sense of openness is further enhanced by the green belt, which covers the majority of the district. This means that Epping Forest is highly constrained, and major proposals for growth in the future are likely to require an element of Green Belt release.

3.8 Uttlesford is a district which also offers a high quality of life in its network of small market towns and villages. The district is predominantly rural with the market towns of Great Dunmow and Saffron Walden forming its main centres of population. In recent years, it has become a popular location for city workers and their families to live; and house prices reflect this.

3.9 Undoubtedly the two major development proposals of recent years in Uttlesford are those at Stansted airport and also the eco-town at Elsenham.

- Stansted airport is the third largest airport in the country, and is a major business and leisure airport and a major (local) employer. There are ongoing proposals to increase capacity at the airport; originating from the Aviation White Paper. Currently these include expanding airport activity to maximise current capacity (including segregated runway operation); with the more radical proposal to effectively double the capacity of the airport via the provision of a second runway. Planning applications for both proposals have been submitted, and Inquiries are ongoing for the single runway optimisation and the second runway. In theory, whichever development solution is agreed will come forward before 2021.
- There are two proposals for growth at Elsenham- a settlement of three and five thousand dwellings. The latter option is the subject of an ongoing eco-town bid. The evidence base for growth at Elsenham is currently being incorporated into the emerging LDF.

3.10 The Stansted and Elsenham proposals individually and together pose very significant levels of development in what is a predominantly rural location which prides itself on a high quality of life. There is perhaps unsurprisingly considerable resistance to (very high) growth.

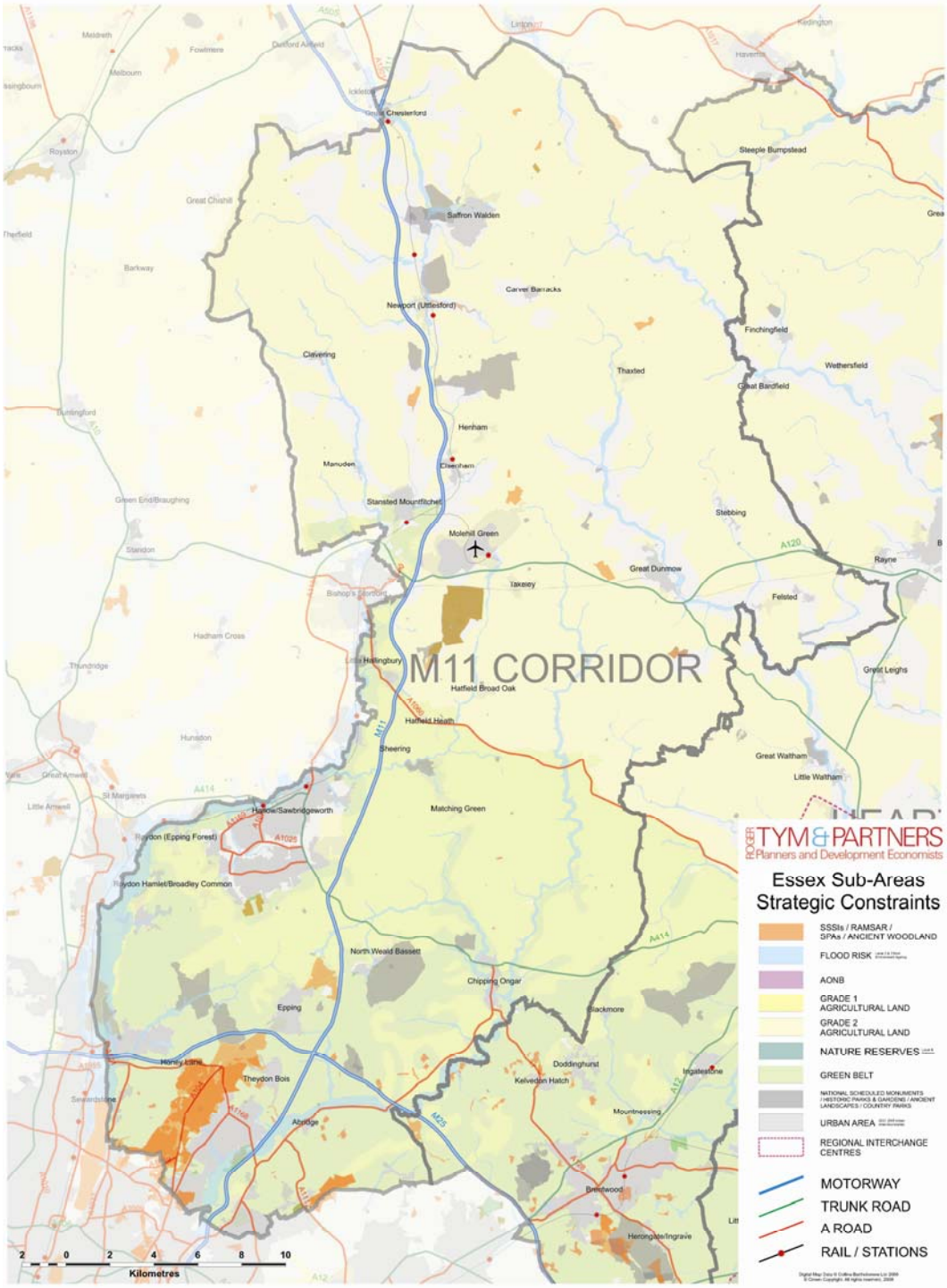
3.11 Within both Uttlesford and Epping, there are perennial transport problems common to Greater Essex as whole. Generally, east-west routes are lacking, while north south provision via the M11 and the railway links is strong. The two main east west arteries in the sub-region are the A414 and the A120. While both of these can be very congested, one of the main ‘blockages’ occurs at Harlow- which is the main settlement in the sub area. Currently traffic from the West of Harlow must travel through its centre to meet the M11at Junction 7. It is a congested and confusing transport ‘solution’.

3.12 Harlow is the main urban centre of the sub area, currently comprising a population of 78,000. Originating as a new town in the early 1950s, it is linked with a mainline train station and has an increasingly buoyant economy, providing a location for several major high tech employers; and with its own major retail centre. Unlike other parts of the sub area Harlow has recognised regeneration needs, and suffers from significant levels of deprivation- particularly in the south. Housing stock is relatively homogenous and of poorer quality. Coupled with that, some residents have low educational and economic aspirations.

3.13 Local regeneration agencies are actively seeking to break this cycle: to 'upskill' the population, increase Harlow wage levels, and create a more diverse range of housing stock to attract a similarly diversified population. Change is at the core of Harlow's vision; and growth appears to be a part of that. However, there are issues about how much growth Harlow can take- given tight political boundaries, close borders with Hertfordshire and Epping Forest and a history of recent rapid growth.

3.14 The M11 Corridor perhaps more than any other sub area is strongly influenced by both Greater London and also Hertfordshire. Our work on the options and scenarios in particular will take into account associated work on spatial options underway in Hertfordshire.

Figure 3.1- M11 Corridor context and constraints



Proposed Levels of Growth

3.15 The sub area and district level distributions of the dwellings and job numbers generated by the four growth scenarios is directly related to the proportions of growth for Greater Essex and each district within it as set out in Policy H1 of the current RSS.

As Table 3.1 shows, these identify a net growth figure (2007-2031) of between 40,000 and 54,000 dwellings, and of between 33,000 and 51,000 jobs in the same time period.

Table 3.1: Growth Levels for M11 Corridor

	RSS Scenario		NHPAU Low		NHPAU High		GVA	
	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31
Uttlesford	10,499	6,575	11,478	7,351	9,144	9,383	17,154	26,232
Harlow Area	25,110	23,825	26,514	24,865	30,519	27,826	9,095	14,596
Epping Forest	3,777	2,294	5,295	3,588	14,044	6,899	12,515	10,111
London Arc West	**39,386**	**32,694**	**43,287**	**35,804**	**53,707**	**44,108**	**38,764**	**50,939**
Greater Essex	**160,073**	**149,467**	**182,991**	**167,405**	**242,556**	**214,527**	**213,494**	**228,512**

Source: OE/EEDA forecasting data, 2008

3.16 There is little doubt that these levels of growth are significant, consistently representing about a quarter of the growth forecast for Greater Essex as a whole. After Essex Thames Gateway, M11 Corridor receives the second highest levels of forecast job and dwelling growth in Greater Essex.

3.17 Table 3.1 clearly shows that the Harlow Area receives the majority of the growth. There are two points of note here. Firstly, this reflects the fact that in the current RSS the Harlow Area has received a large injection of growth- it is forecast to receive 16,000 dwellings by 2021. As a result, even the RSS baseline numbers up to 2031 forecast a very significant increase in dwellings. Key here is whether Harlow is realistically capable of absorbing these additional levels of growth- including those at NHPAU Low and NHPAU High levels- given the amounts it is already set to provide up to 2021.

3.18 Secondly, it must be clear that the Harlow numbers reflect those in H1 and therefore, strictly speaking, concern what is labelled as 'the Harlow area' in Policy H1. The Harlow area is larger than Harlow district, expanding into Epping Forest and East Hertfordshire across the boundary- however its precise boundaries are not defined. The reason for this is that Harlow has already recognized to have grown to or near to its boundaries and has a finite capacity; which will be comfortably exceeded before 2021. The only way that currently planned growth up to 2021 can be accommodated is by Harlow town expanding beyond its political boundaries.

3.19 This geographical idiosyncrasy results in a constant tension in this process about how to accommodate the growth numbers identified within Harlow as set out in Table 3.1, and which 'authority' the numbers belong to. This is not only an issue at district level (Harlow, East Hertfordshire or Epping Forest) but also concerns Hertfordshire and Essex County Councils as the East Herts/Harlow boundary is also a county council boundary. This study, via the 'testing' process, is sensitive to political sensitivities when identifying growth levels and strategic spatial options; and has factored in spatial options which provide both for some and no growth in North Harlow (i.e beyond Harlow district boundary).

Spatial Patterns Tested

3.20 The brief requires us to identify broad spatial options to test the appropriateness of broad locations for growth.

3.21 This element of the work focussed on the RSS, NHPAU Low and NHPAU High levels of growth, and not explicitly on the GVA totals. However, by virtue of testing these three scenarios the broadest range of growth levels suggested in the sub area was covered.

3.22 For the M11 Corridor a range of spatial options were tested. These all had the following common characteristics:

- All known existing urban capacity was 'filled'.
- Significant amounts of growth were allocated to Harlow- following patterns set out in the existing RSS. There was one exception to this, where one scenario did not allow for growth North of Harlow (i.e. fully contained growth within the political boundaries of the M11 Corridor- Epping Forest, Uttlesford and Harlow districts).
- A consistent allowance was provided for an eco-town at Elsenham.
- Additional spatial options included those where growth was dispersed across the existing settlements in the sub area, and also several options where small new towns of up to 8,000 dwellings were tested. The locations of the small new towns varied in order to test different locations in the sub area according to the testing criteria set out in the previous section.

3.23 Table 3.2 below sets out, by district, an approximate distribution of growth numbers by distribution within the sub area.

Table 3.2: M11 Corridor: Spatial Options Tested by District

	M11 Corridor			Total Growth Tested (2011-31) (A)	Total Growth Required (2007-31) (B)	Differential (B-A)
Spatial Option	The Harlow Area (1)	Uttlesford	Epping Forest			
RSS Option 1	21,000	9,500	2,000	32,500	39,400	6,900
RSS Option 2	21,000	11,500	0	32,500	39,400	6,900
RSSOption 3	11,000	12,000	9,500	32,500	39,400	6,900
NHPAU Low Option1	22,000	14,000	2,000	38,000	43,300	5,300
NHPAU Low Option 2	21,000	11,500	5,500	38,000	43,300	5,300
NHPAU Low Option 3	21,000	17,000	0	38,000	43,300	5,300
NHPAU Low Option 4	21,000	17,000	0	38,000	43,300	5,300
NHPAU Low Option 5	21,000	17,000	0	38,000	43,300	5,300
NHPAU High Option1	23,000	17,000	6,500	46,500	53,800	7,300
NHPAU High Option 2	21,000	20,500	5,000	46,500	53,800	7,300
NHPAU High Option 3	21,000	17,500	8,000	46,500	53,800	7,300
NHPAU High Option 4	21,000	23,000	2,500	46,500	53,800	7,300
NHPAU High Option 5	21,000	12,000	13,500	46,500	53,800	7,300
NHPAU High Option 6	21,000	17,500	8,000	46,500	53,800	7,300
NHPAU High Option 7	11,000	23,500	12,000	46,500	53,800	7,300

All numbers are rounded to the nearest 100

(1) This is as in Policy H1- where growth of Harlow Town is not explicitly divided between districts.

Source: Evidence basereview, Stakeholder consultations, Call for Sites information from EEDA (2008), OE/EEDA forecasts of 2008

3.24 Note that the distributions element of this work was based on 2011-31 figures extracted from the RSS, NHPAU Low and NHPAU High scenarios; and not the 2007-31 residual figures subsequently identified by EERA to be the focus of the testing. Table 3.2 identifies, for each spatial distribution, the 2007-11 residual amount that was not distributed as part of the testing process (in the Differential column).

3.25 Rather than revisit all of our spatial distributions work, our commentary in the remainder of this section reflects the fact that our original conclusions applied to less overall growth. **By definition, this means that the impact of growth on each sub area is greater than identified in the original testing.**

Preferred Growth Level and Spatial Options

3.26 In this section, we review the evidence and the results of our testing to identify achievable growth levels and indicative strategic distributions of that growth.

Future Vision

3.27 The M11 Corridor sub area comprises three authorities familiar with working together and also facing up to the growth agenda in different ways. Harlow's vision embraces change with the caveat that growth must be reinforcing and building on sustainable community at Harlow and not merely an 'add on' at the periphery. Harlow wants more diversity in terms of housing stock, a higher quality retail and employment offer and improvements in the urban fabric so that it becomes a place that people are happier to live and work in. There is the firm belief that growth is necessary to help enable this

step change; although it must be delivered such that it helps regenerate existing Harlow as well.

3.28 Epping Forest and Uttlesford districts see a future less based on growth but more on consolidation. Both pride themselves on offering a high quality of life; Uttlesford is characterised by picturesque villages set in a countryside setting; Epping Forest is more urban but still retains a 'green' character with vast swathes of agricultural land and Epping Forest itself. Both see their future as preserving and protecting those characteristics; albeit seeking to provide a more varied and diverse employment offer for their residents and accepting the continued strong influence of London as an employment and leisure destination.

3.29 The 'vision' for the M11 corridor therefore suggests that significant growth is expected and welcomed at Harlow; assuming regeneration needs are met. It suggests that growth is less acceptable elsewhere given the intention to preserve the existing settlement geography and rural character.

Future Planned Housing Provision

The Adopted RSS

3.30 Policy H1 of the adopted RSS (dates) sets out housing provision at a district level for the M11 Corridor. It provides for 16,000 dwellings up to 2021 in the Harlow area (see previous comments in paragraph 3.17), 3,500 dwellings in Epping Forest and 8,000 dwellings in Uttlesford.

The Local Planning Policy Context

3.31 None of the three authorities have well progressed Local Development Frameworks. The adopted local planning policy position for housing is found in the following Development Plans. These find the following:

- Uttlesford's Local Plan was adopted in 2005. The majority of the polices contained in it, including those relating to housing provision, have been saved pending the adoption of the Core Strategy, which is currently at the pre-submission stage. The housing requirement in the Local Plan is based on the Structure Plan and cover the period 1996 to 2011. Some 5,600 dwellings are to be provided over this period. Eight strategic sites are allocated in the Local Plan, contributing some 3,797 dwellings at locations including Oakwood Park (Little Dunmow), Woodlands Park (Great Dunmow) and Takeley.
- The current Harlow Local Plan was adopted in 2006 and makes provision for some 5,450 dwellings over the period 1996 to 2011. Some 12 sites were allocated providing some 1,692 dwellings, of which the largest two allocations, Newhall and Harlow Sports Centre, provide 750 and 530 dwelling respectively. Harlow is yet to publish for consultation the draft Core Strategy of its LDF.
- The Local Plan for Epping Forest is made up of two parts – the original Local Plan adopted in 1998 and the Alteration adopted in 2006. The majority of the policies in the 1998 adopted Local Plan have been saved. The Structure Plan set a target of 2,400 dwellings for the period 1996-2011. However, this target had been

substantially exceeded prior to the adoption of the Alterations and therefore no formal housing allocations were necessary. Epping Forest is yet to publish for consultation the draft Core Strategy

3.32 Therefore, current planned housing provision at local level is only up to 2011, some twenty years before the 2031 end date of this study period.

3.33 The LDF and supporting documents currently provide very limited information on levels of growth beyond 2011 and the future location of housing sites up to and beyond then. All three authorities are progressing their SHLAAs (Strategic Housing Land Availability Assessments).

3.34 What is clear is that within the M11 Corridor, current planned levels of housing provision are significantly exceeded by the levels suggested by the four growth scenarios. This in turn implies that any assessment of the capacity of the future area to accommodate growth would inevitably involve a consideration of spatial options for that growth which are as yet unspecified.

Housing Market Demand and Housing Need

3.35 The ability of a sub area or region as a whole to accommodate the four growth scenarios is in part informed by whether they can deliver it. One way in which this can be tested is by comparing the implied housing delivery rates linked with each growth scenario with those most recently achieved; drawing from the latest Annual Monitoring Reports.

Table 3.3: M11 Corridor- Housing- build rates implied by growth compared to recent actual rates.

		RSS Scenario	NHPAU Low	NHPAU High	GVA
	Average Net Completions (01-07)- AMR data from EEDA AMR (07)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)
Uttlesford	332	437	478	585	715
Harlow Area	161	1,046	1,105	1,272	379
Epping Forest	247	157	221	381	521
London Arc West	740	1,640	1,804	2,238	1,615
Greater Essex	5,689	6,670	7,625	10,106	8,896

Source: EERA AMR (2007), OE/EEDA forecast numbers 2008

3.36 Review of data on housing trajectories from respective Annual Monitoring Reports indicate that Epping is delivering above its annual target as set by the RSS- in sharp contrast to Harlow which is failing to meet the targets. This reiterates the need in the shorter term for the allocation of developable development sites in Harlow. Uttlesford is also failing to meet the current annual targets set by RSS.

3.37 When comparing net completions against annual rates implied by NHPAU Low, the same story is broadly repeated. Epping Forest is currently exceeding annual build rates above NHPAU Low levels; whereas Uttlesford and particularly Harlow fall further behind.

3.38 The annual rates implied by NHPAU High are universally ambitious and difficult to achieve.

3.39 In contrast the annual rates implied by the GVA scenario are very different in terms of both distribution and scale relative to the three dwellings led scenarios. The GVA scenario produces numbers which more readily equate to a high productivity scenario and are jobs led- with dwellings as a by product. The lower numbers for Harlow reflect the lack of inherent economic buoyancy there; which in turn leads to a lower annual job requirement. Conversely, higher numbers at Epping Forest and Uttlesford imply greater job creation generating a requirement for a higher number of dwellings. It should be noted that even these lower annual rates comfortably exceed recent AMR averages.

3.40 While a comparison of recent annual completion rates compared to implied build rates is useful, care must be taken in the analysis. Completion rates reflect past conditions- both in terms of the availability of land for additional housing development and also wider macro economic conditions. The availability of future housing land and also willingness of housebuilders and other developers to build the houses- particularly in current economic conditions- will imply reducing rates, particularly in the shorter term. When recent completion rates are identified therefore as optimistic given current conditions, the annual rates implied by the four scenarios are even more heroic.

Economic Prospects and Future Employment Growth

3.41 The East of England Plan sets out a requirement for the 'Rest of Essex' to generate 56,000 jobs up to 2021. The 'Rest of Essex', which includes the sub area, but also covers Braintree, Brentwood, Chelmsford and Maldon district- or the Heart of Essex sub area-, up to 2021.

3.42 Unlike with housing figures, the RSS does not break down this requirement to individual districts, so it is difficult to determine what proportion falls within the sub area and what should be met outside this sub area. Nevertheless, the studies that have been undertaken to investigate the options for growth in Harlow indicate that the northern expansion of Harlow alone could accommodate some 25,000 jobs. The future expansion of Stansted will also factor highly in the provision of job growth for the sub area, but as yet it is difficult to determine the scale of the impact that it will have.

3.43 There is no doubt that the four growth scenarios imply significant job growth for the M11 sub area. What this growth 'means' relative to recent and current performance is hinted at when comparing implied annual rates of job creation against historic annual rates obtained from the Annual Business Inquiry (ABI).

Table 3.4: M11 Corridor – Jobs - Job Creation rates implied by growth compared to recent actual rates.

		RSS Scenario	NHPAU Low	NHPAU High	GVA
	Average Job Creation (01-07)-ABI	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)
Uttlesford	638	274	306	391	1,093
Harlow Area	-438	993	1,036	1,159	608
Epping Forest	1,119	96	149	287	421
London Arc West	1,319	1,363	1,491	1,837	2,122
Greater Essex	7,858	6,228	6975	8939	9521

Source: Annual Business Inquiry (01-07), OE/EEDA forecast numbers (2008)

3.44 Table 3.4 indicates that there is considerable variation in the proportional distributions of jobs within the sub area when comparing actual job creation with implied job creation. The dwellings led scenarios- RSS, NHPAU Low and NHPAU High- all focus job creation on the Harlow area, with less in Uttlesford, and significantly less in Epping Forest. Recent job creation statistics show, in contrast, that the Harlow area has actually been losing jobs, and that the majority of jobs have been created in Epping Forest.

3.45 While the district level figures implied by the dwellings led scenarios must only ever be considered an indication of where jobs might be, this stark variation between the geography of actual job creation and where the dwellings led forecasts say it should go is important if only to note that Harlow town is currently under-performing as an employment centre. If new growth is only permitted on the basis that it is economically led, and therefore accords with all sustainable communities policy - then an obvious observation is that the latest job figures do not suggest that Harlow has the economic strength commensurate with the levels of housing growth proposed. There is little to indicate currently that these levels of growth at Harlow could be achieved with genuine economic- led growth.

3.46 This becomes very obvious when considering the RSS Scenario, NHPAU Low and NHPAU High annual job creation rates implied for Harlow. Not only are these positive rather than negative (and Harlow recently experienced an annual loss of jobs c.500 per annum); but they are of the order of at least 1,000 jobs per annum. Underpinning these high targets must be identified growth sectors in the Harlow Economy above and beyond those jobs generated by the natural population increase provided by the housing. While there are several employment generating initiatives within Harlow the statistics show that these are some way from creating the levels of growth implied by the implied average rates linked with the growth forecasts. The current economic recession will only make it more difficult to achieve required rates of job generation in the shorter term.

3.47 Unlike in Harlow, the job creation rates in Uttlesford and particularly Epping Forest are significantly more positive- the latter largely as a result of its proximity to London. For both districts, especially Epping Forest, the dwellings led forecasts and the GVA forecast imply a reduction in job creation commensurate with lower levels of dwelling

growth forecast for the district. The actual statistics imply that these two districts have a higher job creation capacity than implied- and so should meet the job creation targets associated with the growth. Perhaps perversely, the statistics indicate that these locations may be more appropriate locations for genuine employment led growth rather than Harlow.

3.48 It is briefly worth mentioning the Uttlesford job numbers under the GVA scenario. It is in this scenario that a second runway at Stansted is envisaged, accounting for the vast majority of the c.24, 000 jobs forecast for the district. The proposals at Stansted amount to the most economically and physically significant planned proposals of the sub area and indeed of Greater Essex as a whole up to 2031; and would undoubtedly qualify as a major economic driver for large housing growth in the M11 Corridor. Links between the airport and the sub area growth locations should be optimised to encourage residents as far as possible to work at the airport. The potential for Stansted to act as an economic driver should be tempered however by our understanding of current employment practices at the airport- the low cost airline model and improving technological efficiencies mean that the airport does not employ as many workers as might be envisaged; similarly the low skilled nature of many of the jobs coupled with the historic incentivisation of workers from North London and the Upper Lea Valley limits how far M11 Corridor resident workers are attracted to employment at the airport.

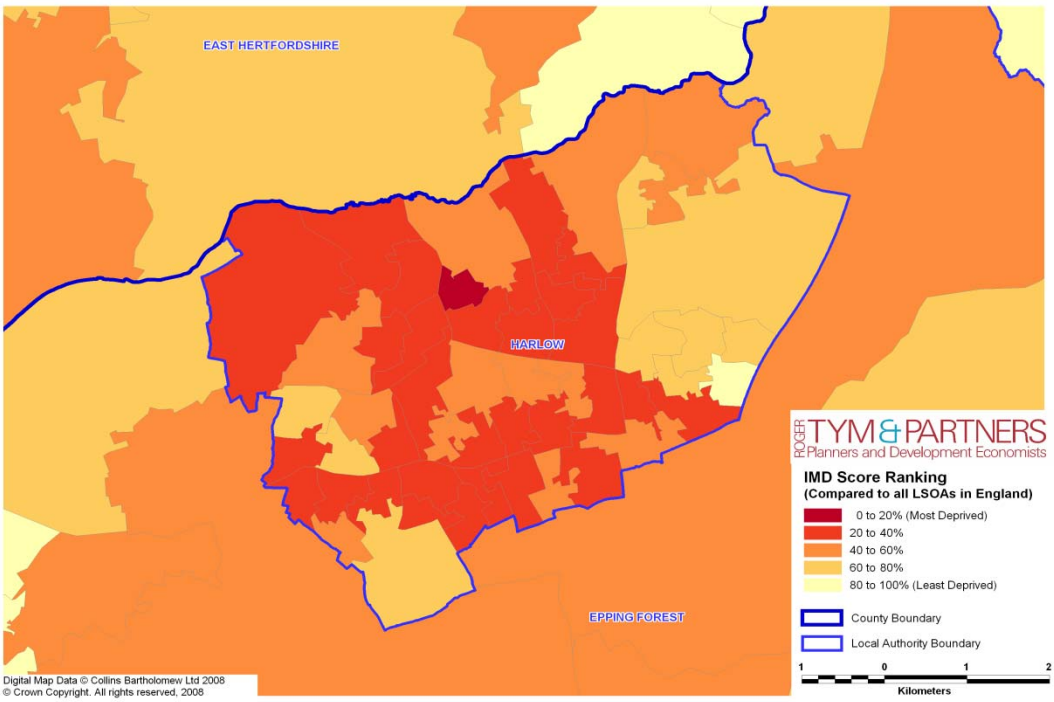
3.49 Linked with this is the reality that the M11 Corridor, facilitated by its transport arteries- the M11, the Central Line to Epping and East Anglia rail line- is prime commuter hinterland for Central and East London; and is likely to continue in this function. There is a significant daily flow of commuters into and out of the City- resulting in unsustainable travel flows insofar as they are significant, lengthy and, in some cases, by car. It is difficult to see how a future more buoyant economy in the M11 corridor- even one buoyed up by a larger Stansted as suggested by the GVA scenario- could rival Central London as a destination for the highest paid jobs. It is realistic to assume that a proportion of people living in any new houses will travel long distances, perhaps to London, to work. This has implications for the overall sustainability of the growth implied by all of the forecasts. .

Social Needs Including Tackling Deprivation and Regeneration

3.50 Regeneration potential is most pronounced in the southern half of the sub area, with highest IMD scores around Harlow urban area and in the south-eastern and south-western edges of the sub area. Housing affordability is a more urgent issue in M11 Corridor than it is for any of the other sub areas.

3.51 This implies that a growth scenario that focuses growth in and around areas of regeneration need may be preferred- but only on the basis that the ways in which the growth assists the regeneration of the existing communities is clearly set out and specified. This increases the importance of appropriate timetabling of proposals for growth- for example, bringing forward some of the employment sites in Harlow prior to providing much additional housing development in order to best encourage the new residents to work locally. At its most crude, the building of new areas must not occur without investment in the regeneration of the existing urban community.

Figure 3.2 Map showing IMD status of Harlow District



Source: GIS + IMD data, neighbourhood statistics website

3.52 Nearly the entirety of the sub area has housing affordability ratios of over 6.5, which signifies major affordability issues. This creates considerable pressure to accommodate growth wherever possible.

Environmental and Policy Constraints Relating to Protecting and Enhancing the Environment

3.53 Figure 3.1 sets out the environmental and policy constraints impacting on the M11 Corridor.

3.54 When compared to the rest of Greater Essex, the M11 Corridor is relatively less constrained by environmental and policy constraints than other sub areas.

3.55 The south of the sub area, Epping Forest, as well as the area surrounding Harlow is covered in Green Belt. This means that any proposals for significant growth in and around Harlow and anywhere in Epping Forest will require significant Green Belt release.

3.56 Generally, flood-risk in the sub area is limited to river sides only, and has limited coverage relative to the general land area.

3.57 Much of the area, including that surrounding Stansted airport, is covered by high quality agricultural land (1 and 2). Any major growth proposals are likely to result in the loss of some of this.

Transport conditions, movement demands and transport policy measures

3.58 Each of the spatial options in the M11 Corridor sub area contain a number of potential showstopping issues in terms of the transport criteria. These mainly arose from

development in rural settlements with little public transport provision, or little potential to improve these services due to insufficient critical mass of population.

3.59 Housing growth in Harlow scores well across all of the options due to the town's frequent train links to Stansted Airport, London Liverpool Street and Cambridge, good internal bus services as well as employment opportunities and a sub-regional retail centre. However, the train services may need capacity investment to cope with overcrowding at peak times. Increased growth could help in the creation of more effective walking and cycling routes that would benefit their mode share for existing as well as new residents.

3.60 The car-based nature of the employment and retail services in Harlow and Stansted Airport, with plenty of car parking facilities, may encourage private motor vehicle journeys within the sub area. Proximity to the M11 also would encourage car use, as would growth in any locations near to M11 junctions.

3.61 The sub area has access to the employment opportunities and other services in Cambridge. Cambridge is linked to the other major employment areas in the sub area by frequent train links and operates car restraint measures, which should reduce motor vehicle journeys to and from the town. However, much of the future employment growth to is likely to be located outside the parts of Cambridge that have car restraint and intensive public transport.

3.62 All four growth scenarios, especially the higher levels of growth, run up against traffic congestion issues. This could be mitigated by traffic management and/or road widening measures to increase traffic capacity, particularly in relation to Harlow, at Junction 7 with the M11.

3.63 Recommendations would include concentrating most of the housing growth within the larger urban settlements with existing transport linkages and critical mass (or potential critical mass) in terms of population (e.g. Harlow, Stansted and Elsenham) and improving public transport services along corridors where the cumulative critical mass of rural settlements could be enhanced with growth, for example in and around the A120 corridor.

3.64 As with all sub areas, the delivery of potential in terms of self-containment, non-car mode share, and low levels of vehicle miles driven depends critically on the detailed location, planning, design and management of the growth areas in relation to existing areas. The testing undertaken here cannot inform those issues.

Infrastructure Delivery

3.65 Infrastructure testing does not throw up strong differences between the options, all of which are deliverable. In all scenarios Harlow will require major infrastructure programmes across the board. Planning for these has already started.

3.66 From the point of view of delivery of infrastructure and provision of a full range of facilities, there are benefits to spatial options which concentrate development in larger settlements. Those which are extensions to existing settlements are preferable in

terms of creating a critical mass sufficient to justify a secondary school and a range of other facilities. Settlements smaller than 7,000 dwellings are marginal in this respect.

3.67 There is a counter argument that small-scale distributed growth will make use of under-utilised facilities in small settlements with aging, 'gentrified' populations. An example is where it can be shown that small-scale development would preserve a village school – and avoid the need for new provision. We consider that there is merit to the argument, but that at the small scale of development involved it could be applied to any of the scenarios.

3.68 A high proportion of the development proposed for the area is already 'fixed' in the RSS scenarios by the proposals for Harlow. On infrastructure grounds we cannot derive a preference for a geographical pattern of development, as opposed to the preference for a concentrated, rather than dispersed pattern of development described above.

Area Wide Conclusions

Preferred Growth Range

3.69 The range of growth suggested for the M11 Corridor ranges from 39,400 dwellings (RSS Baseline) to 53,800 dwellings (NHPAU High) between 2007-2031.

3.70 Following the original testing process, it was generally agreed that, while the lower levels of growth (RSS and NHPAU Low) were still high it was theoretically possible to accommodate them and retain a recognizable settlement structure; with significant caveats. Irrespective of the particular location of growth within the sub area, significant infrastructure investment, impacts on environmental constraints and Green Belt release is implied. Furthermore, the RSS and NHPAU Low growth levels also imply a significantly higher build rate than previously achieved within each of the districts. This is especially the case in Harlow which has been consistently under-delivering compared to housing targets in recent years. Therefore growth at RSS and NHPAU Low levels can only occur is building occurs much faster than in previous years- it requires 'the unblocking' of the development process, whether it be the planning process or construction process itself.

3.71 Critically, the RSS and NHPAU Low levels of growth were only palatable when accepting that Harlow could not continue indefinitely to be the recipient of the majority of future growth- the other two districts in the sub area (Epping Forest and Uttlesford) would be required to accommodate a significant proportion of growth even at RSS baseline levels. In other words, while it is accepted that the current round of RSS focuses growth in Harlow, this cannot be automatically assumed appropriate for the future.

3.72 When considering the residual 07-31 figures it is clear that an additional quantum of growth- amounting to 6,900 under the RSS scenario and 5,300 under the NHPAU Low scenario (see Table 3.2) - needs to be 'found'. Our testing process did not distribute

these numbers[3], but our results imply that when using the 07-31 scenario figures the RSS level of growth would be considerably more difficult to achieve, and that NHPAU Low becomes potentially unachievable.

3.73 The NHPAU High growth levels exceed the capacity of M11 Corridor to accommodate growth. This is even more the case when considering the figures implied by the 07-31 figures.

3.74 An NHPAU High growth level implies levels of growth significantly above what has previously been achieved- implying at least a doubling of current build rates for the subarea as a whole- and would inevitably have major impacts on transport and other infrastructure, the environment and the Green Belt. The scale of growth implied at this highest level would require a shift away from the current settlement structure, necessitating growth of a significantly larger town in the sub area other than Harlow. This would mark a shift away from the current settlement geography where Harlow as the KCDC is the dominant settlement, and elsewhere the sub area is characterized by small market towns and villages.

Preferred Spatial Options/Urban Form

3.75 While the growth levels proposed at RSS and NHPAU Low and High levels are significant, the optioneering work undertaken via the evidence base and stakeholder consultation identified several alternative distributions at each of the growth levels. This in itself shows that the subarea may have more capacity to accommodate growth than others- although this observation should be treated cautiously. The testing process reinforced this, as, particularly in physical environmental terms the sub area is less constrained than others- particularly to the north of the sub area.

3.76 The initial evidence base trawl and stakeholder consultation identified a range of spatial options, as set out in Table 3.2.

3.77 The testing of the various distributions did not result in a single 'preferred' spatial distribution. Generally, least dispersed spatial solutions which were focused on or close to Harlow, were preferable. This is because they would foster more of the critical mass to enable links between jobs and housing and to justify improvements in transport (especially public transport) and also other infrastructure. In addition, locating here would help regenerate an area in regeneration need.

3.78 Outside Harlow, concentrating the bulk of growth along the A120 corridor- something which was tested in various permutations- seemed to score consistently positively.

Implementation and Delivery

3.79 The trawl of the evidence base and stakeholder consultation identified significant existing transport and infrastructure provision deficits spanning the sub area, but particularly focused on Harlow reflecting its concentration of population.

[3] This is on the basis that when the testing was undertaken 2011-31 figures were used- EERA instruction to use 07-31 data was only received part way through the process.

3.80 Significant and recurrent infrastructure needs included:

- A need for a bypass in Harlow to relieve congestion on the A414 and enable east-west throughflows across the sub area.
- A new motorway junction-Junction 7a- on the M11 to service north Harlow.
- Improvements to hospital provision in the sub area. There is current reliance on Princess Alexandria Hospital in Harlow; and this is operating at or over capacity.
- Improvements in treatment of waste water. Harlow and much of the sub area currently relies on the Rye Meads sewerage plant, which is at full capacity. Additional provision is needed before any growth is possible.
- Improvements in utilities provision- particularly electricity. Parts of Harlow are already experiencing difficulties.
- The need to provide additional open space, education and health provision as and when growth occurs. Shortages of secondary school provision was highlighted in Epping Forest in particular.

3.81 Generally, the existing dispersed settlement geography of the sub area outside Harlow poses delivery problems, as it can be difficult to gain 'critical mass' to justify major infrastructural or transport improvements. Dispersed geographies also, by definition, encourage longer journeys- as people travel further for work, retail and leisure functions; this factor generates in itself a 'need' for additional infrastructure and transport investment.

3.82 The levels of growth proposed in the sub area will therefore require very substantial improvements in transport and other infrastructure, and this work suggests that the improvements listed above are merely the starting point. At the time of writing none of these schemes are fixed and/or financed.

3.83 It follows that major additional housing and job provision, if it is to be sustainable, should not occur before the provision of the transport and infrastructure provision necessary to support it.

3.84 Even if the infrastructure and transport needs were delivered or even planned to be delivered, there will be significant difficulties achieving the build rates implied by the levels of growth at both RSS and NHPAU Low levels. Harlow district has not been able to meet current RSS housing targets- and the levels proposed by RSS and NHPAU Low are significantly higher. The successful delivery of dwellings in the sub area to meet RSS and NHPAU Low targets will require an upward step change in the ability of the sub area to build. More work is needed to understand the particular circumstances that would foster significant increases in build rates

4 THE GROWTH SCENARIOS AND THE SPATIALPATTERNS: HEART OF ESSEX

Introduction

4.1 In this section we set out the results of the visioning, optioneering and testing elements for the Heart of Essex sub area. This includes Maldon, Braintree, Brentwood and Chelmsford districts (see Figure 4.1).

4.2 In this section we:

- Describe the sub area
- Set out the levels of growth proposed for the sub area from 2007-2031
- Provide a district and sub area level description of the range of spatial options tested
- Identify the most achievable level of growth and likely distribution(s) based on:
  - Future Vision
  - Summary of planning policy
  - Housing market assessment and need
  - Economic Prospects and Future Employment Growth
  - Social Needs Including Tackling Deprivation and Regeneration
  - Environmental and Policy Constraints relating to Protecting and Enhancing the Environment
  - Transport conditions, movement demands and transport policy measures
  - Infrastructure Delivery
  - Conclusions

4.3 Throughout our conclusions are drawn from a broad evidence base, including stakeholder consultations, the call for sites, and strategic and local planning, regeneration and economic policy documents.

The sub area

4.4 The Heart of Essex Sub Area the four administrative districts of Braintree, Maldon, Brentwood and Chelmsford in Essex.

4.5 **Chelmsford Borough** includes the town of Chelmsford - the county town of Essex - plus open countryside, attractive villages, and the town of South Woodham Ferrers, a small new town in the south of the borough which has seen two periods of dramatic growth: the first was in the 1920s and 30s, and the second was as part of a planned development in the late 1970s.

4.6 The Borough Council's aspiration is for Chelmsford to become the 'economic, cultural, leisure and retail heart of Essex and a leading regional centre in the East of England'. It notes the potential for growth in the Borough, including the creation of 20,000 new

jobs and 14,000 new homes, but makes clear that major infrastructure will be required to support this future growth[4].

4.7 With the exception of Chelmsford, Braintree, Maldon and Brentwood districts are largely rural with a series of smaller market towns and villages.

4.8 **Braintree District** is located in mid and north Essex and stretches from the A12 in the south to the Suffolk border in the north. The northern part of the District is largely rural; the central area is part of the A120 corridor; whilst the southern part is in the A12 corridor. The District is well-placed in terms of transport infrastructure with Stansted Airport to the west, the major ports of Harwich and Felixstowe to the east and key transport links (the M11 and A12) to London. The District is also close to three Key Centres for Development & Change (KCDCs) as designated in the approved RSS: Chelmsford and Colchester in Essex and Cambridge to the northwest.

4.9 Braintree is the principal town in **Braintree District**, with Witham and Halstead forming further major centres of population and services.

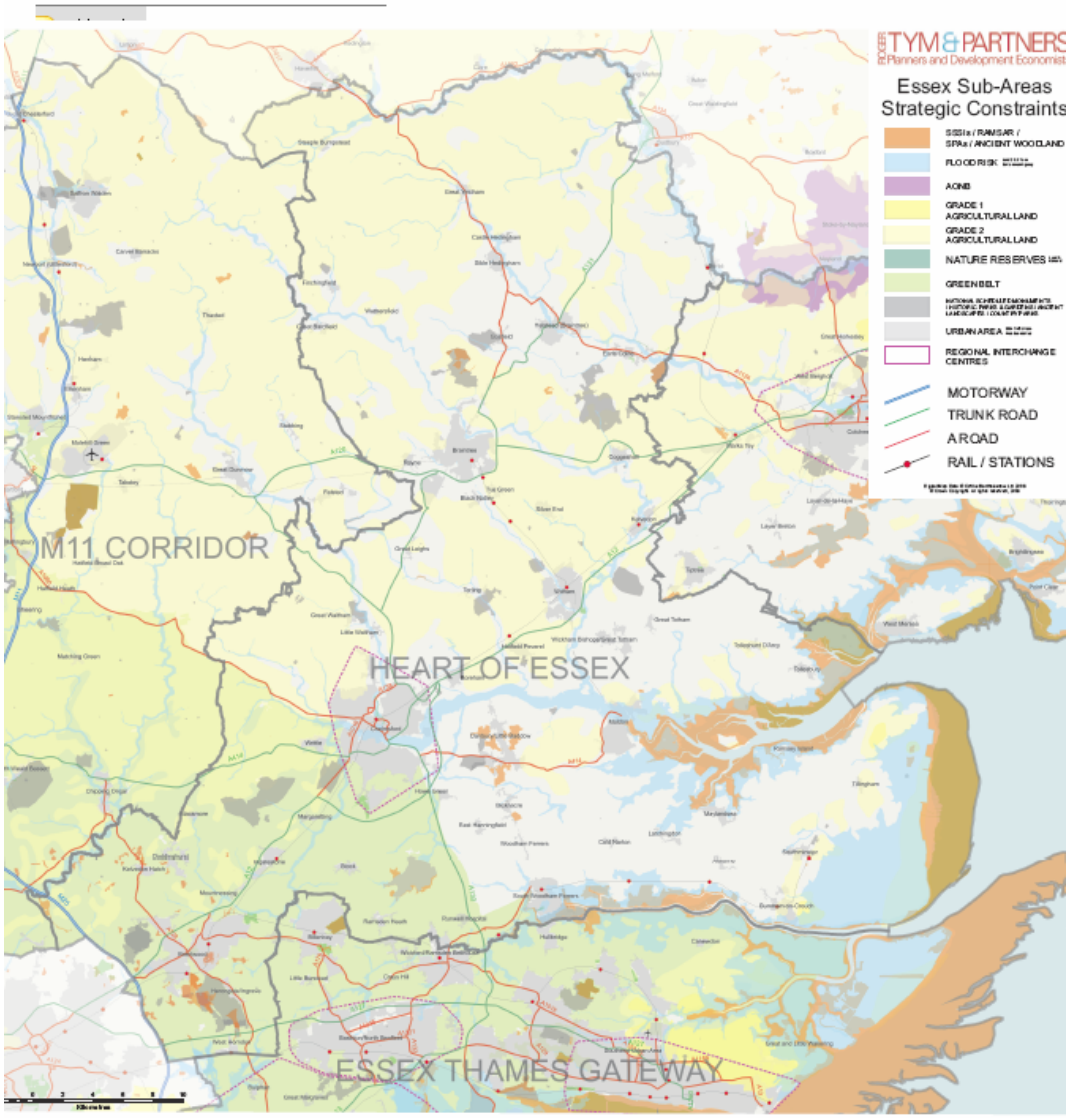
4.10 **Brentwood Borough** is situated in the south-west of Essex, 18 miles from London. The Borough is located within the Metropolitan Green Belt and has within its borders around 1,215 hectares of woodland, three country parks, a large amount of farmland and a number of villages. The borough includes a number of historic buildings, with more than 500 buildings listed for their historical and architectural importance. Brentwood is the main town within Brentwood Borough.

4.11 **Maldon District**, south of Braintree, is located in mid and east Essex and is bordered by the North Sea to the east, the River Crouch to the south, the borough of Chelmsford to the west and the districts of Braintree and Colchester to the north. It is focused around the Blackwater Estuary with the town centre of Maldon at its head and at the heart of a predominantly rural area. The District has no trunk roads although it is close to the A12 by its north-eastern boundary, within 15 minutes' drive of Maldon town centre. Maldon is the principal town centre of Maldon District, with the smaller town centre of Burnham-on-Crouch and the district centre of Heybridge.

4.12 Figure 4.1 below shows the extent of the sub area, the key centres and the main environmental constraints.

[4] The Sustainable Community Strategy indicates that the key infrastructure requirements to support growth in the borough include, but are not limited to Chelmsford North-East By-pass, new railway station north-east of Chelmsford, capacity improvements at Chelmsford Railway Station, transport links between new neighbourhoods and Chelmsford Town Centre, the encouragement of public transport use and sustainable transport measures, Neighbourhood Centres in the new neighbourhoods including community, primary health care, retail and leisure facilities, pre-school, primary, secondary and tertiary education provision to serve new and existing communities, open space, recreational provision and public realm enhancements, strategic flood defence measures to protect Chelmsford Town Centre, additional Park and Ride sites to serve Chelmsford, bus priority and rapid transit measures, community facilities across the borough, new homes, including affordable housing

Figure 4.1: The Heart of Essex sub area



Proposed Levels of Growth

4.13 The sub area and district level distributions of the dwellings and job numbers generated by the four growth scenarios is directly related to the proportions of growth for Greater Essex and each district within it as set out in Policy H1 of the current RSS. As Table 3.1 shows, these identify a net growth figure (2007-2031) of between 34,500 and 57,500 dwellings, and of between 44,500 and 71,000 jobs.

Table 4.1: Growth Levels for Heart of Essex

	RSS Scenario		NHPAU Low		NHPAU High		GVA	
	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31
Braintree	7,440	5,962	9,155	7,189	13,906	10,609	18,503	15,987
Maldon	2,668	4,224	3,186	4,526	5,438	5,876	7,534	7,505
Brentwood	4,335	9,516	5,346	10,425	7,731	12,613	10,272	17,924
Chelmsford	20,363	24,780	22,485	26,869	28,759	33,019	21,188	29,535
Heart of Essex	**34,806**	**44,482**	**40,172**	**49,009**	**55,834**	**62,117**	**57,497**	**70,951**
Greater Essex	**160,073**	**149,467**	**182,991**	**167,405**	**242,556**	**214,527**	**213,494**	**228,512**

Source: OE/EEDA forecasting data, 2008

4.14 It is apparent that, of the four districts, Chelmsford has much higher absolute housing requirements under each of the four scenarios. This partly reflects Chelmsford's status as a Key Centre for Development and Change (KCDC) in the adopted RSS and its own aspirations for growth to enable it to become the "capital of Essex", as confirmed in the adopted Core Strategy for the borough. This dominance is consistent for all four growth scenarios. Braintree, Brentwood and Maldon respectively are allocated lesser amounts of growth; indicative of their rural nature and the setting of comparatively low 'targets' in Policy H1.

Spatial Patterns Tested

4.15 The brief requires us to identify broad spatial options to test the appropriateness of broad locations for growth.

4.16 This element of the work focussed on the RSS, NHPAU Low and NHPAU High levels of growth, and not explicitly on the GVA totals. However, by virtue of testing these three scenarios the broadest range of growth levels suggested in the sub area was covered.

4.17 Table 4.2 below sets out, by district, an approximate distribution of growth numbers within the sub area. Because the 'Heart of Essex' as a sub area was only identified part way through the study process, and significantly, post the optioneering and testing phases; the spatial distributions are presented here for each of the previous sub areas (Market Towns- Braintree and Maldon, and London Arc East- Brentwood and Chelmsford). It is not practicable to 'combine' the distributions tested to generate aggregate Heart of Essex data- and it may be that a future piece of work investigates the spatial implications of growth in the Heart of Essex as a whole and in so doing would generate different spatial distributions. Nevertheless, the testing process undertaken did identify and exhaust a wide range of spatial options across all four districts and it is these that the remaining sections of this chapter address.

4.18 While the Heart of Essex was not 'tested' as a single sub area, there are several common threads that emerge from the testing:

- All known existing urban capacity was 'filled'.
- Significant amounts of growth were allocated to Chelmsford- following patterns set out in the existing RSS. This was definitely the location awarded the largest proportion of growth overall.

- Braintree, also featured strongly.
- Both the Market Towns and London Arc East testing processes included dispersed vs more concentrated spatial options.

Table 4.2: Heart of Essex: Spatial Options Tested by District

	Heart of Essex				Total Growth Tested (2011-31) (A)	Total Growth Required (2007-31) (B) (1)	Differential (B-A)
Spatial Option	Braintree	Maldon	Brentwood	Chelmsford			
RSS Option 1 (London Arc East)			2,900	17,000	19,900	24,700	4,800
RSS Option 2 (London Arc East)			0	19,900	19,900	24,700	4,800
RSS Option 3 (Market Towns)	5,600	2,000			7,600	10,000	2,400
RSS Option 4 (Market Towns)	5,300	2,300			7,600	10,000	2,400
NHPAU Low Option1 (London Arc East)			2,900	20,000	22,900	27,800	4,900
NHPAU Low Option 2 (London Arc East)			2,000	20,900	22,900	27,800	4,900
NHPAU Low Option 3 (Market Towns)	7,500	2,000			9,500	12,300	2,800
NHPAU Low Option 4 (Market Towns)	6,800	2,700			9,500	12,300	2,800
NHPAU High Option1 (London Arc East)			6,500	24,000	30,500	36,500	6,000
NHPAU High Option 2 (London Arc East)			3,600	26,900	30,500	36,500	6,000
NHPAU High Option 3 (Market Towns)	13,800	2,000			15,800	19,300	3,500
NHPAU High Option 4 (Market Towns)	11,300	4,500			15,800	19,300	3,500

Source: Evidence basereview, Stakeholder consultations, Call for Sites information from EEDA (2008), OE/EEDA forecasts of 2008

4.19 Note that the distributions element of this work was based on 2011-31 figures extracted from the RSS, NHPAU Low and NHPAU High scenarios; and not the 2007-31 residual figures subsequently identified by EERA to be the focus of the testing. Table 4.2 identifies, for each spatial distribution, the 2007-11 residual amount that was not distributed as part of the testing process (in the Differential column).

4.20 Rather than revisit all of our spatial distributions work, our commentary in the remainder of this section reflects the fact that our original conclusions applied to less overall growth. **By definition, this means that the impact of growth on each sub area is greater than identified in the original testing.**

Preferred Growth Level and Spatial Options

4.21 In this section, we review the evidence and the results of our testing to identify achievable growth levels and indicative strategic distributions of that growth.

Future Vision

4.22 The vision for the Heart of Essex centres on Chelmsford. The aim is to focus and encourage growth at Chelmsford town centre and in two new neighbourhoods to the north of Chelmsford, with the necessary infrastructure. Second, to protect and safeguard the Metropolitan Green Belt, valuable landscapes and the natural and historic environments, with any other development required to serve largely local needs focussed on existing settlements. This implies a protectionist approach to the more rural/ less populated districts of Braintree, Brentwood and Maldon.

4.23 Looking further ahead, there are aspirations and opportunities for Chelmsford (as a Key Centre for Development and Change) to continue to grow its role as the "capital of Essex" with a wider range of employment opportunities, shops and leisure/cultural facilities commensurate with an enhanced regional role. This growth however must be managed in such a way that those districts surrounding it- including Maldon, Braintree and Brentwood- do not suffer an adverse impact from the growth. There is scope for some smaller proportionate growth in Braintree district, in Braintree and Witham.

4.24 Much of the sub area enjoys a relatively good quality of life within attractive and historic built environments. The aim is to retain this, and to also preserve character and landscape quality; particularly in Maldon which is dominated by its coastline and the Blackwater Estuary.

Future Planned Housing Provision

The adopted RSS

4.25 In terms of the pattern of growth considered in the evidence, Chelmsford is specifically identified in the RSS as a 'key centre for development and change' and as such will be the main focus for development in the sub area. The RSS indicates that there is opportunity to strengthen the town's role as a sub-regional centre for central and northern Essex.

4.26 The evidence base documents refer to the adopted RSS housing targets as follows for the plan period 2001 to 2021:

- Chelmsford 16,000 homes
- Braintree 7,700 homes
- Brentwood 3,500 homes
- Maldon 2,400 homes

The Local Planning Policy Context

4.27 Chelmsford has an adopted LDF Core Strategy, which identifies a spatial strategy which seeks:

- to focus development on existing built-up areas including an urban renaissance within Chelmsford town centre;
- the development of two new neighbourhoods to the North of Chelmsford with necessary infrastructure;
- the safeguarding of the Metropolitan Green Belt and the protection and enhancement of valuable landscapes and the natural and historic environments;
- to promote the economic and cultural role of Chelmsford as the 'Capital of Essex'
- the revitalisation of an 'economic gateway' in North-East Chelmsford.

4.28 Braintree has already planned for much of its growth to 2025 in its emerging Core Strategy with 4,600 dwellings to be built between 2008 and 2025 at an average rate of 270 dwellings per year.

4.29 The emerging Core Strategy for Braintree District has identified a number of potential LDF allocation sites which focus future development within the existing urban areas of Braintree and Witham and key service villages, and also proposes new growth locations at Braintree/Bocking, Great Notley, and Witham/Rivenhall, providing up to 1,400 new dwellings (after 2015 in order to ensure a continuous five-year supply of housing land).

4.30 The Replacement Local Plan for Maldon was adopted in 2005. Maldon district is currently consulting on the Core Strategy Issues and Options document of their LDF. This includes a number of broad spatial options such as urban/village intensification; regeneration of the Causeway; large scale urban extension/limited urban expansion of Maldon, Heybridge & Burnham; limited village expansion; linear transport corridor; new village/settlement somewhere to be decided; combinations of some or all of the above.

Housing Market Demand and Housing Need

4.31 The ability of a sub area or region as a whole to accommodate the four growth scenarios is in part informed by whether they can deliver it. One way in which this can be tested is by comparing the implied housing delivery rates linked with each growth scenario with those most recently achieved; drawing from the latest Annual Monitoring Reports.

Table 4.3: Heart of Essex- Housing- build rates implied by growth compared to recent actual rates

		RSS Scenario	NHPAU Low	NHPAU High	GVA
	Average Net Completions (01-07)- AMR data from EEDA AMR (07)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)
Braintree	670	310	381	579	771
Maldon	149	111	133	227	314
Brentwood	189	181	223	322	428
Chelmsford	682	848	937	1,198	883
Heart of Essex	1,690	1,450	1,674	2,326	2,396
Greater Essex	5,689	6,670	7,625	10,106	8,896

Source: EERA AMR (2007), OE/EEDA forecast numbers 2008

4.32 Table 4.3 gives the average annual rate of dwelling completions for the period 2001 to 2007 to show how the level of growth set out in the four scenarios compares with recent performance in the sub area. It reinforces the fact that Braintree has performed well in its dwelling completions with a high average net completion rate of 670 dwellings per annum.

4.33 Table 4.3 also shows that for Braintree, a lower rate of completions than has been achieved in the past seven years would be required in order to deliver any of the four alternative growth scenarios, even NHPAU High. Maldon achieves annual rates that enable RSS scenario and NHPAV low growth levels although it is struggling to deliver

its affordable housing provision and that this needs to be taken into account in terms of a wider strategy for the sub area. It is evident that Brentwood has actually been delivering housing above the rate required under the RSS scenario but below that required by NHPAU Low and well below NHPAU High and GVA scenarios. Chelmsford's recent delivery rate is below that of all four growth scenarios, with a near doubling required to achieve NHPAU High levels. Even to meet the RSS scenario a 21% increase in completions in Chelmsford is required and this rises to 35% if the NHPAU Low figure is to be accommodated.

4.34 In terms of the housing evidence base for Braintree and Maldon, urban capacity study information[5] both districts have a constrained supply in the near future, and therefore are unable to continue building homes at the 'high' rate implied by the 2001-07 average without identifying additional sites beyond the urban areas. The Braintree Urban Capacity Study identified a total theoretical potential of 9,711 units for the period 2001-2026 (of which 4,813 are physically identifiable), with a further 200 have been identified for Regeneration Sites at Silver End and Sible Hedingham and a further 1,400 dwellings at Urban Extension Growth Locations at Braintree and Witham after 2015.In contrast, Maldon's Urban Capacity Study identified a capacity of only 631 constrained additional dwellings within the six settlements of Maldon, Burnham-on-Crouch, Heybridge, Maylands, Southminster and Great Totham, with a total unconstrained capacity of 1,052 additional dwellings for the period 2001-2011. This reflects the greater level of development constraints faced by Maldon District.

4.35 Chelmsford, as part of the evidence base to their Core Strategy and subsequent updates, have examined whether the RSS allocation is indeed achievable. Their Housing Trajectory (2007) document indicates that they have a shortfall of approximately 300 dwellings in meeting the RSS target and therefore it is likely that further investigations of housing supply will be necessary. Brentwood is yet to complete a SHLAA which would examine the theoretical housing capacity of the authority.

4.36 Over the sub area as a whole, it can be seen that key to the delivery of growth at the levels implied by the forecasts is the ability of Chelmsford; as the main location for growth and KCDC to deliver it. As further investigations of housing supply to meet the RSS levels are required, it is unlikely that the sub area as a whole can accommodate growth at levels significantly above this. The highest growth levels- NHPAU High- imply a very significant step change in build rates that has never been achieved.

Economic Prospects and Future Employment Growth

4.37 The East of England Plan sets out a requirement for the Heart of Essex, as part of a larger 'Rest of Essex' to generate up to 56,000 jobs up to 2021. This area includes Uttlesford, Epping Forest and Harlow in addition to the four Heart of Essex districts.

[5] Both districts are currently preparing their SHLAAs and therefore this information is not yet available for to inform this study

4.38 Unlike with housing figures, the RSS does not break down this requirement to individual districts, so it is difficult to determine what proportion falls within the sub area and what should be met outside the sub area. The future expansion of Stansted will also factor highly in the provision of job growth for the sub area, but as yet it is difficult to determine the scale of the impact that it will have.

Table 4.4: Heart of Essex- Jobs- Job Creation rtes implied by growth compared to recent actual rates

		RSS Scenario	NHPAU Low	NHPAU High	GVA
	Average Job Creation (01-07)- ABI	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)
Braintree	845	176	300	442	666
Maldon	294	424	189	245	313
Brentwood	421	397	434	526	747
Chelmsford	1,409	1,033	1,120	1,376	1,231
Heart of Essex	2,969	2,030	2,043	2,589	2,957
Greater Essex	7,858	6,228	6975	8939	9521

Source: Annual Business Inquiry (01-07), OE/EEDA forecast numbers (2008)

4.39 Table 4.4 shows that all of the four Heart of Essex districts have recently created jobs at levels commensurate or exceeding those implied by the RSS and NHPAU Low levels, and for everywhere except Braintree have annual job creation records which exceed implied rates for both NHPAU High and GVA scenarios. This implies that the sub area is economically buoyant; with potential to meet job creation requirements implied for the highest levels of growth.

4.40 This 'buoyancy' is confirmed when reviewing the local evidence base:

- Initial findings from the Maldon Employment Land Review suggest that Maldon needs to accommodate 800 to 1,000 jobs by 2021 so an increase to 3,900 by 2031 is likely to require a major step-change in its economic strategy if it is to achieve those numbers.
- Braintree's District Futures report and Employment Land Review suggest that in the period 2005 to 2025, 11,000 to 14,000 additional jobs could be generated depending on the preferred economic scenario. The bottom end of this range equates to that for the NHPAU High; with only the GVA forecast exceeding the estimation.
- The local evidence base indicates that there is scope to provide some 20,000 new jobs in Chelmsford. This is supported by the LDF core strategy which provides for the revitalisation of an 'economic gateway' in North-East Chelmsford.

4.41 Proximity and connection to major employment areas in London and Chelmsford benefits part of the sub area in economic terms, although improvements to the public transport network and its capacity will be necessary to fully enable future growth to benefit from the local economy and vice versa. Other parts of the sub area- noticeably Maldon- are less well connected to either Chelmsford or Greater London, and therefore

have less economic potential than the other districts in the sub area. This does however appear to be factored into the sub area forecasts- where Maldon is expected to accommodate far fewer jobs than other districts, particularly Chelmsford.

Social Needs Including Tackling Deprivation and Regeneration

4.42 Regeneration potential is generally slightly less in the Heart of Essex than in other sub areas, as the sub area has lower overall IMD scores than others.

4.43 The largest regeneration potential is around the urban areas of Braintree and Maldon with some potential also at Witham. There are also some small pockets of deprivation in Maldon, with some wards seriously deprived such as Maldon East, Mayland and Burnham-on-Crouch. A lack of skills is an issue across the rural parts of the area, particularly Maldon and parts of Braintree. The area is characterised by daily export of highly skilled people and also a shortfall in the number of jobs required.

4.44 In addition, the urban areas of Brentwood and Chelmsford have more complex IMD scores which are worth mentioning. These include pockets of high level deprivation. Therefore, the regeneration potential of the proposed growth in this sub area is increased.

4.45 Affordability is an issue in the sub area, especially in parts of Maldon and Brentwood. The Middle Super Output Areas (MSOAs) Housing Affordability ratio of these areas is over 6.5, which signifies major affordability issues. One of the difficulties for Maldon district at present is that windfall development site proposals are often below the unit threshold for affordable housing provision.

Environmental and Policy Constraints Relating to Protecting and Enhancing the Environment

4.46 Figure 4.1 sets out the environmental and policy constraints impacting on the Heart o Essex.

4.47 When compared to the rest of Greater Essex, the Heart of Essex as a sub area is not as constrained as some other sub areas- most notably the Essex Thames Gateway and the Haven Gateway.

4.48 However, the south and east of the sub area, focusing on Maldon, is particularly environmentally sensitive. Maldon District contains many significant natural assets including ten sites of international importance and 12 of national importance. With its 70 miles of coastline and Blackwater and Crouch rivers, one third of the land area is at risk of flooding. This is both a constraint to development but a significant opportunity for wetland habitat. Flooding poses a risk to all of the wards and is a major issue for the Crouch Valley Railway Line and the District's major employment area at The Causeway. It is therefore not surprising that flooding was a show-stopping issue around Maldon town and its coastline extending along some riversides in Braintree district.

4.49 The main flood risk and environmental designations were limited to the coast and estuaries, where wetlands are important breeding grounds and are protected by

SSSI's, Ramsar sites, Special Protection Areas etc. This again implies that spatial options at coastal towns in Maldon do not score well.

4.50 In Chelmsford and Brentwood there was less flood risk and fewer environmental protection areas and protected habitats; although there is high risk of flooding in the immediate north east of Chelmsford.

4.51 Greenbelt designations and the risk of coalescence are the major issues for Chelmsford and Brentwood.

4.52 Generally, large amounts of agricultural land in the area provide potential for growing biofuels. There may also be an opportunity for increasing the use of wind power, as there are fewer environmental designations than in other sub areas.

Transport conditions, movement demands and transport policy measures

4.53 The more concentrated spatial solutions, as part of or extensions to existing major towns- including Chelmsford, Braintree and Witham- score more positively. A more sustainable approach to growth in transport terms is achievable in these locations which have the critical mass of population and effective public transport as well as proximity to major road networks.

4.54 Such concentration of growth could reduce the investment required to ensure that sufficient employment opportunities and other facilities are accessible by non-car means. It is also easier to implement measures that encourage the choice of non-car means. The concentration option brings with it the likely need for investment in rail and other public transport infrastructure, but again there is greater potential for such investment than with the more dispersed option e.g. doubling the track on the Braintree-Witham branch line, increasing capacity on the Chelmsford: London track. .

4.55 The concentrated growth option in theory also makes it easier to ensure that new developments are well linked to their respective towns and stations on foot, cycle and public transport.

4.56 Future residents in Chelmsford will be able to benefit from the employment opportunities and services within the town itself, as well as frequent train services to the employment areas of Colchester and London. Also, the housing growth in Chelmsford will be able to utilise the Chelmsford Town Centre Area Action Plan proposals to improve cycling and walking links. Furthermore, the growth options to the north of Chelmsford will complement a number of planned transport infrastructure investments, including a North East Chelmsford rail station, a new North East bypass and the possibility of new park and ride sites in the area. This shows that proposals for growth in Chelmsford score positively in transport terms,

4.57 The train service from Chelmsford to London Liverpool Street would require capacity investment in order to tackle overcrowding at peak hours, even for the RSS growth scenario. The proposed extra housing growth and rail traffic generated may help the viability of step-change increases in capacity, but this would need further study.

4.58 The other three districts in the sub area have a more rural character, characterised by smaller settlements and fewer road and rail links. By definition, spatial options that are more dispersed and also in these more rural locations score less well.

4.59 The inherent rural geography of Braintree and Maldon, coupled with current paucity of public transport provision, means that it is difficult to enhance current provision in these areas. This means that the more dispersed spatial options score the worst. In terms of public transport, Braintree District is served by the National Express East Anglia railway with Braintree on a branch line via Chelmsford but there are passenger capacity problems at peak times on the mainline rail services. For Maldon, the Crouch Valley railway line (also run by National Express East Anglia) connects Burnham-on-Crouch and Southminster to Chelmsford and London. However, these locations are geographically isolated in terms of proximity to major roads or main employment areas and therefore do not score well as growth locations.

Infrastructure Delivery

4.60 The scale of growth in Maldon, Braintree and Brentwood is sufficiently small that it does not pose any non-transport major infrastructure constraints to deliverability. At higher levels of growth several primary and some secondary school provision should be required- this is not insurmountable, but would require planning to ensure it is delivered alongside dwellings and other elements of growth.

4.61 The scale and dispersal of development is unlikely to put run into major capacity problems on energy supply networks. There may be some local problems but these should not prove to be major constraints. Similarly we have not identified any specific problems with water supply, which is a potential constraint across the entire study area until the Abberton Reservoir scheme is approved.

4.62 Because of limited river capacity to accept increased discharges of treated water, Anglia Water plans to close Braintree STW and divert flows to Bocking. This is a potential constraint on development at Braintree until it is implemented. There is also a potential constraint at Witham because the STW cannot be enlarged, implying a need for a new works at higher levels of growth.

4.63 The proposed levels of growth are such that there are no potential constraints from growth in waste arising.

4.64 The proposals for growth in Chelmsford are consistently higher than for elsewhere in the sub area. All options require a large infrastructure programme at Chelmsford. At the highest levels of growth waste water treatment capacity in particular becomes an issue. Irrespective of the location of growth relative to the current town centre, growth proposals are sufficiently close to Chelmsford to share facilities such as secondary schools.

Area Wide Conclusions

Preferred Growth Range

4.65 It is apparent that in this sub area Chelmsford already has challenging growth targets in the adopted RSS and that Chelmsford, Brentwood, Maldon and Braintree have significant Green Belt constraints, problems of road and rail capacity and major environmental and flood risk constraints- particularly in Maldon.

4.66 As a consequence, any view taken on the preferred quantum of growth acceptable for the sub area as a whole must focus on Chelmsford and its capacity to accommodate significant growth; with minimal impact on the surrounding areas.

4.67 Our assessment suggests that the sub area as a whole has successfully delivered considerable housing and jobs growth in recent years; with the focus on Chelmsford. Embedded in Chelmsford's vision is its desire to grow further in its role as the Capital of Essex.

4.68 The preferred growth range for the sub area is the NHPAU Low, although we note that this implies a step change upwards in build rates in Chelmsford particularly. This reflects both the potential of Chelmsford and other settlements- notably Braintree and Witham- while also taking into account the significant and multiple transport and environmental constraints in the more rural parts of the sub area. It also assumes that significant green belt release is required in and around Chelmsford.

Preferred spatial options/Urban Form

4.69 Overall, spatial options which focussed development in the established larger settlements- with emphasis on Chelmsford and to a lesser degree Braintree- score most positively. These have the critical mass necessary to enable job creation, and provide the basis for sustainable transport and other infrastructure investment, with minimal impact on the precious and multiply protected environmental resource.

4.70 Other spatial options involving growth dispersed amongst a wide range of settlements or including a new settlement have greater adverse impact on the environment, have fewer positive economic impacts and face major problems in terms of the delivery of appropriate transport and infrastructure solutions. They are not preferred therefore.

Implementation and Delivery

4.71 The delivery of a level of growth at NHPAU Low level for the Heart of Essex implies that the majority of development is focused at Chelmsford town. This implies a complex and funded programme of construction, transport and infrastructure investment in the town. This includes provision of employment sites, improvements in local transport infrastructure and project managing a dwelling construction programme effectively so that high build rates can be achieved. For the growth to be truly sustainable it must be fully planned and well resourced- with a range of uses proposed alongside each other, and phasing to occur to foster truly sustainable growth (i.e transport and employment led rather than dwellings led). In addition more strategic

transport improvements- including improvements to the London-Chelmsford rail line capacity- are needed. .

4.72 In the more rural parts of the sub area it will be difficult to achieve more than modest levels of growth. In many parts of it, the councils will need to address the affordability of dwellings; and will also need to address public transport needs. Incentives to use non-car based forms of transport will be important to accommodate any growth in the more rural parts of this sub area though difficult to implement given the dominance of cars/road infrastructure and lack of effective public transport provision for smaller settlements.

4.73 Despite the constraints faced by Maldon District, some growth will ultimately be necessary in order to help the district address issues such as its pockets of deprivation and, in the west and northwest, its lack of affordable housing. Some growth at least should therefore be located close to Maldon town centre, but only if enough critical mass can be provided to justify effective public transport enhancements to either Braintree or Chelmsford, and if flood risk areas along the estuary can be avoided.

4.74 The other key constraint to implementation and delivery is the need for substantial infrastructure improvements to support growth, particularly in the form of road/rail capacity and, in places, flood defence measures. Such improvements would be best provided in advance of, or at least simultaneously with, housing/employment growth, although history suggests this is often not achieved. There is, of course, also considerable uncertainty at present over future mechanisms for the funding of infrastructure and it remains unclear to what extent the Community Infrastructure Levy (CIL) will contribute to this.

5 THE GROWTH SCENARIOS AND THE SPATIALPATTERNS: HAVEN GATEWAY

Introduction

5.1 In this section we set out the results of the visioning, optioneering and testing elements for the Essex Haven Gateway sub area. This includes Colchester and Tendring districts (see Figure 5.1).

5.2 In this section we:

- Describe the sub area
- Set out the levels of growth proposed for the sub area from 2007-2031
- Provide a district and sub area level description of the range of spatial options tested
- Identify the most achievable level of growth and likely distribution(s) based on:
  - Future Vision
  - Summary of planning policy
  - Housing market assessment and need
  - Economic Prospects and Future Employment Growth
  - Social Needs Including Tackling Deprivation and Regeneration
  - Environmental and Policy Constraints Relating to Protecting and Enhancing the Environment
  - Transport conditions, movement demands and transport policy measures
  - Infrastructure Delivery
  - Conclusions

5.3 Throughout our conclusions are drawn from a broad evidence base, including stakeholder consultations, the call for sites, and strategic and local planning, regeneration and economic policy documents.

The Sub Area

5.4 The Essex Haven Gateway sub area consists of the administrative areas of Tendring district and Colchester borough. It is part of the Haven Gateway sub-region which also includes all of Ipswich borough and parts of Babergh, Suffolk Coastal and Mid Suffolk districts in Suffolk. The sub-region formally became a planning sub-region when the East of England Regional Spatial Strategy (RSS) was adopted in May 2008. However, its aspirations for growth were established much earlier than this and have been driven largely by the Haven Gateway Partnership.

5.5 One of the major drivers of the Haven Gateway sub-region is its ports. Within the Essex Haven Gateway sub area, there are the ports of Mistley and Harwich. Adjacent to the existing Harwich port, plans have been approved for a major new deep sea container port at Bathside Bay. This is expected to come on stream around 2017.

5.6 The major urban area in the sub area is Colchester. This is where the majority of the growth in housing, identified in the RSS, is planned for. Largely this will be achieved through major regeneration schemes at East Colchester and the Hythe, and the Garrison. In addition, major growth is planned for North Colchester, including a new community stadium which has been completed. On the eastern side of Colchester, there is the campus of the University of Essex. The University has plans for a major new science park on the site.

5.7 A large proportion of the office-based employment growth in Essex Haven Gateway is planned for Colchester. Much of the growth to date since 2001 has been in the service sector, particularly retail.

5.8 Tendring district has a very different make-up to Colchester. It is on a peninsula, so suffers from traditional issues of being a 'cul-de-sac'. It does experience out-commuting to Colchester and has a large proportion of small and medium sized (SME) businesses driving its economy. Also, its role as a port is seen as a key driver of current and future economic growth.

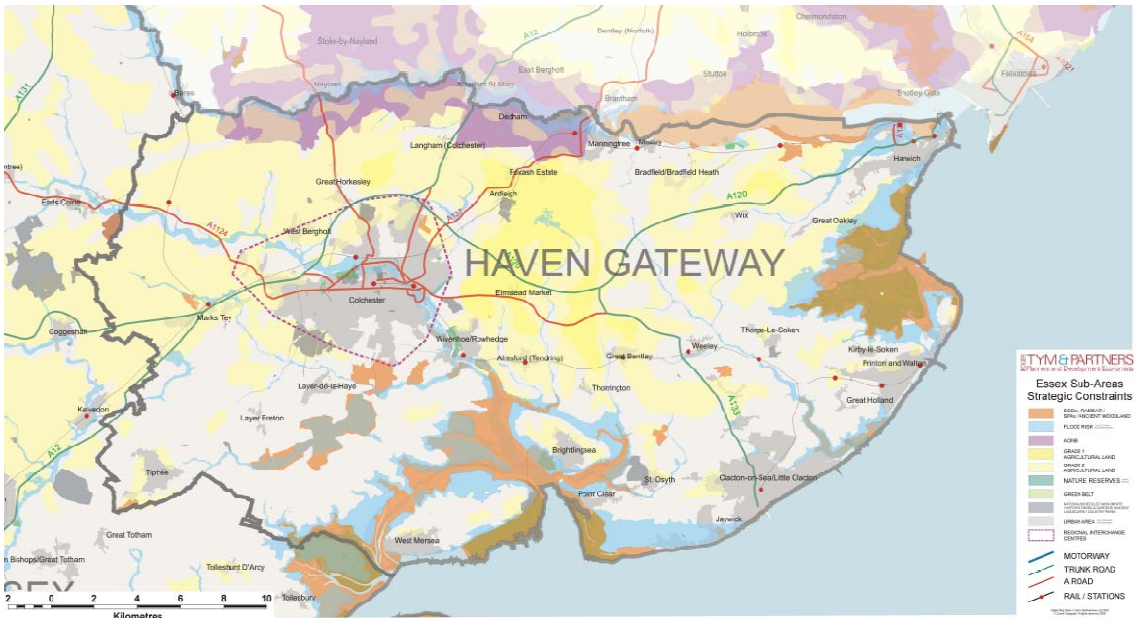
5.9 The district does have a fundamental issue that it is seeking to address, namely skills. Many of its residents, particularly in the coastal towns of Clacton and Harwich, suffer from considerable levels of deprivation and lack access to opportunities. Accompanying this are substantial issues of affordability in respect of housing.

5.10 To date, Colchester has been delivering housing at a rate above the annual average requirement in the RSS. Between 2001 and 2007, it delivered an annual average of 981 dwellings, against a requirement of 855 dwellings. A similar situation occurred in Tendring, with delivery at 443 dwellings per annum above an annual average requirement of 425 dwellings per annum (source: East of England Annual Monitoring Report, 2007).

5.11 The sub area has good rail access (although no dedicated freight access) and reasonable strategic road links, specifically the A12 and A120. However, as with most places in the Greater South East, pressure on these routes is growing and need has been identified for expansion of both road and rail capacity.

5.12 Whilst relatively peripheral from London (compared to the other sub areas in Greater Essex), it does have reasonable linkages and, in essence, its economy has grown and prospered as a result of being located near to a major world city. Its future will continue to be affected by this relationship but certainly the relationship with the Suffolk side of the Haven Gateway border, particularly Ipswich and the port at Felixstowe, is vitally important to its future growth.

Figure 5.1 The Haven Gateway Sub Area Constraints Map



Proposed Levels of Growth

5.13 The sub area and district level distributions of the dwellings and job numbers generated by the four growth scenarios is directly related to the proportions of growth for Greater Essex and each district within it as set out in Policy H1 of the current RSS. As Table 5.1 shows these identify a net growth figure (2007-31) of between 30,000 and 45,000 dwellings and between 23,100 and 36,900 jobs in the same time period.

Table 5.1: Growth Levels in the Essex Haven Gateway Sub Area

	RSS Scenario		NHPAU Low		NHPAU High		GVA	
	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31
Tendring	10,179	4,885	12,012	5,903	17,102	8,749	22,746	12,222
Colchester	19,711	18,230	22,277	20,686	28,233	26,497	21,981	24,654
Essex Haven Gateway	**29,890**	**23,115**	**34,289**	**26,589**	**45,335**	**35,246**	**44,727**	**36,876**
Greater Essex	**160,073**	**149,467**	**182,991**	**167,405**	**242,556**	**214,527**	**213,494**	**228,512**

Source: OE/EEDA forecasting data, 2008

5.14 What this shows is that that additional housing in the NHPAU Low scenario, as compared to RSS Scenario, represents a comparatively small increase. Over a period of 24 years, an additional 4,399 dwellings (or 183 dwellings per annum) is not a substantial additional burden.

5.15 By contrast, the increased requirement under NHPAU High is significant. This would require over 45,000 dwellings over the period 2007 to 2031, an extra 15,400 on top of the RSS Scenario requirement and an extra 11,000 on top of NHPAU Low. This would equate to an additional annual requirement of 640 dwellings and 460 dwellings respectively.

5.16 When looking at the individual districts, it appears that the proportionate increase in dwellings is greater for Tendring than for Colchester. The difference under the NHPAU

High scenario is substantial. The change from RSS Scenario is 43% for Colchester yet is 68% for Tendring.

5.17 It is worth noting that the requirement for the Suffolk Haven Gateway is substantially above that of the Essex Haven Gateway. Moreover, under the NHPAU High scenario, this would involve a 50% increase on the requirement under RSS Scenario.

Spatial Patterns Tested

5.18 The brief requires us to identify broad spatial options to test the appropriateness of broad locations for growth.

5.19 This element of the work focused on the RSS, NHPAU Low and NHPAU High levels of growth, and not explicitly on the GVA totals. However, by virtue of testing these three scenarios the broadest range of growth levels suggested in the sub area was covered.

5.20 For the Essex Haven Gateway a range of spatial options were tested. These all had the following common characteristics:

- All known existing urban capacity was 'filled'.
- Significant amounts of growth were allocated to and around Colchester- recognising its status as the main KCDC in the sub area
- Suggesting possible patterns of growth that reinforce emerging Colchester Core Strategy and the adopted Tendring Local Plan. Specifically this means growth of the regeneration areas in Colchester (North and East Colchester and the Garrison) and related to Bathside Bay in Tendring.

5.21 Table 5.2 below sets out, by district, an approximate distribution of growth numbers by distribution within the sub area.

Table 5.2: Essex Haven Gateway: Spatial Options Tested by District

Essex Haven Gateway			Total Growth Tested (2011-31) (A)	Total Growth Required (2007-31) (B)	Differential (B-A)
Spatial Option	**Tendring**	**Colchester**			
RSS Option 1	7,000	18,500	25,500	29,900	4,400
RSS Option 2	5,000	22,000	27,000	29,900	2,900
RSSOption 3	6,000	18,500	24,500	29,900	5,400
NHPAU Low Option1	8,000	21,500	29,500	34,300	4,800
NHPAU Low Option 2	6,000	26,000	32,000	34,300	2,300
NHPAU Low Option 3	7,000	22,500	29,500	34,300	4,800
NHPAU High Option1	8,000	30,500	38,500	45,300	6,800
NHPAU High Option 2	6,000	35,000	41,000	45,300	4,300
NHPAU High Option 3	6,000	35,000	41,000	45,300	4,300
NHPAU High Option 4	10,000	33,000	43,000	45,300	2,300
NHPAU High Option 5	6,000	35,000	41,000	45,300	4,300
NHPAU High Option 6	11,000	29,500	40,500	45,300	4,800
NHPAU High Option 7	7,000	31,500	38,500	45,300	6,800

All numbers are rounded to the nearest 100

Source: Evidence basereview, Stakeholder consultations, Call for Sites information from EEDA (2008), OE/EEDA forecasts of 2008

5.22 Note that the distributions element of this work was based on 2011-31 figures extracted from the RSS, NHPAU Low and NHPAU High scenarios; and not the 2007-31 residual figures subsequently identified by EERA to be the focus of the testing. Table 3.2 identifies, for each spatial distribution, the 2007-11 residual amount that was not distributed as part of the testing process (in the Differential column).

5.23 Rather than revisit all of our spatial distributions work, our commentary in the remainder of this section reflects the fact that our original conclusions applied to less overall growth. **By definition, this means that the impact of growth on each sub area is greater than identified in the original testing.**

Preferred Growth Level and Spatial Options

5.24 In this section, we review the evidence and the results of our testing to identify achievable growth levels and indicative strategic distributions of that growth.

Future Vision

5.25 The future vision for the sub area has been developed by the local partners of the Haven Gateway Partnership:

> *"To deliver a high quality environment for its residents, workers and visitors by capitalising on its location as a key gateway, realising its potential for significant sustainable growth, addressing its needs for economic regeneration, creating an additional focus for growth of high-tech, knowledge-based employment and protecting and enhancing its high quality, attractive and natural assets."*

5.26 The planning policies of the approved East of England Plan are compatible with this vision for the sub-region.

5.27 Stakeholders reinforced this. The differing roles of the two districts – Colchester as a growth location for housing and high value employment and Tendring a regeneration area needing to address issues of deprivation, with Bathside Bay at the heart of its future – were not disputed. Indeed, there was no suggestion that this vision should change for the period 2021-2031, for which the evidence base was limited.

Future Planned Housing Provision

The Adopted RSS

5.28 The dwelling figures in the adopted RSS underpinned all of the documents that considered housing issues. Policy H1 provided for:

- 8,500 dwellings in Tendring
- 17,100 dwellings in Colchester

The Local Planning Policy Context

5.29 In Colchester, the LDF Core Strategy was found to be 'sound' by a Government Inspector and was adopted by the Borough Council in December 2008. Consequently the borough has planned for its growth up to 2023, with 13,100 dwellings to be built between 2007 and 2023 at an average rate of 819 dwellings per year. The focus for housing growth is on the three regeneration areas in Colchester Town - East Colchester and the Hythe, the Garrison and North Colchester.

5.30 In Tendring, there is a robust and reasonably up-to-date evidence base, but this was to inform the Local Plan (which runs to 2011), so does not consider future growth as far into the future as Colchester's does. Tendring currently lacks a completed SHLAA or ELR (both of which are in production), but does have a SHMA and flood risk assessment. In terms of infrastructure (and the same applies to Colchester), the Haven Gateway Strategic Housing and Infrastructure Study provides a reasonable assessment of infrastructure needs to 2021 by district. To a degree, the assessment of housing availability in Tendring is covered by the same study. This identified a theoretical dwelling capacity in Tendring of 9,100 dwellings (against a minimum requirement of 8,100 dwellings). The majority of this growth would be in Clacton and, to a lesser extent, Harwich.

5.31 So both districts have capacity to support current growth up to 2021, and could possibly deliver a small amount of additional growth. However, the evidence base as it stands, casts doubt on the ability to deliver growth much beyond this.

Housing Market Demand and Housing Need

5.32 The ability of a sub area or region as a whole to accommodate the four growth scenarios is in part informed by whether they can deliver it. One way in which this can be tested is by comparing the implied housing delivery rates linked with each growth scenario with those most recently achieved; drawing from the latest Annual Monitoring Reports.

Table 5.3: Haven Gateway- build rates implied by growth (2007-31) compared to recent actual rates.

		RSS Scenario	NHPAU Low	NHPAU High	GVA
	Average Net Completions (01-07)- AMR data from EEDA AMR (07)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)
Tendring	443	424	500	713	948
Colchester	981	821	928	1,176	916
Essex Haven Gateway	1,424	1,245	1,428	1,889	1,864
Greater Essex	5,689	6,670	7,625	10,106	8,896

Source: EERA AMR (2007), OE/EEDA forecast numbers 2008

5.33 In order to place this in context, it is useful to compare it to recent delivery rates. Table 4.2 compares average net completions between 2001 and 2007 with the annual average requirement that would apply under the three scenarios.

5.34 This shows that over the period 2001 to 2007, Colchester borough experienced strong delivery at 981 dwellings per annum (dpa). This compares to a current RSS requirement over the period 2001-21 of 855 dpa. Much of this has occurred in the last two years, with completion rates of 1,250 dwellings in 2006/07 and 1,243 in 2007/08. A further 1,281 dwellings were delivered in 2004/05.

5.35 Compared to the RSS Scenario requirement of 820 dpa, this does not appear to be particularly challenging in overall terms. The same principle would apply to the NHPAU Low requirement of about 930 dpa. However, the NHPAU High requirement of 1,180 dwellings per annum would be extremely challenging. Whilst recent delivery rates have been above this level, it is extremely doubtful as to whether this level of development could be sustained over a 20-year period. Indeed, much of this recent development has been flatted schemes and it is questionable as to whether high levels of demand would continue for this type of development.

5.36 In Tendring district, delivery rates have again been strong, at 443 dpa, against an RSS requirement between 2001 and 2021 of 400 dpa. Like Colchester, this is higher than the RSS Scenario requirement of 430 dpa. However, unlike Colchester, the NHPAU Low requirement is higher than recent delivery, at 500 dpa. Moreover, the NHPAU High requirement of 710 dpa would require a 60% increase in delivery rates compared to the recent past.

5.37 Overall therefore across the Essex Haven Gateway as a whole, the RSS Scenario and NHPAU Low scenario appear achievable. The NHPAU High is far more challenging.

5.38 In the Suffolk Haven Gateway, the position is slightly different. Here, the RSS Scenario is achievable but NHPAU Low would require an uplift in delivery rates. Again though, NHPAU High would require a quantum shift in delivery.

Economic Prospects and Future Employment Growth

5.39 The East of England Plan requires the Essex Haven Gateway to deliver 20,000 jobs up 2021.

5.40 The RSS only provides employment figures for the Essex Haven Gateway, rather than a breakdown by district. However, it is understood that the Colchester requirement is approximately 14,200 jobs and Tendring, 8,500 jobs[6].

5.41 The four growth scenarios imply significant job growth for the Essex Haven Gateway. What this growth 'means' relative to recent and current performance is hinted at when compared implied annual rates of job creation against historic annual rates obtained by the Annual Business Inquiry (ABI).

Table 5.4: Job Creation vs Rates Implied by Dwelling-Led Scenarios (2007-2031)

		RSS Scenario	NHPAU Low	NHPAU High	GVA
	Average Job Creation (01-07)-ABI	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)
Tendring	725	204	246	365	509
Colchester	512	760	862	1,104	1,027
Essex Haven Gateway	1,237	964	1,108	1,469	1,536
Greater Essex	7,858	6,228	6975	8939	9521

Source: Annual Business Inquiry (01-07), OE/EEDA forecast numbers (2008)

5.42 Under the RSS Scenario, the requirement for Essex Haven Gateway is for about 24,000 jobs over the 24-year period (2007-31). This is broadly the same as the requirement for the current RSS period. As with the housing numbers, required job totals do not increase significantly under the NHPAU Low scenario – it rises by about 3,500 jobs, or 145 jobs per annum.

5.43 The shift from NHPAU Low to NHPAU High and/or GVA marks a step change- with a maximum increase of 10,300 jobs, requiring job creation rates of 430 per annum[7]. These overall levels of job creation exceed those achieved in the Haven Gateway; and they may well not be realistic.

5.44 This is even more the case when considering the close relationship between delivery of dwellings and job numbers, and the desire to generate economically sustainable growth. In the Haven Gateway, as with all the other sub areas in Greater Essex, the imperative to generate 'employment led' growth so that residents in additional dwellings can work locally drives policy. The jobs should exist before the dwellings are built to ensure as many new residents are locally employed as possible.

5.45 The Haven Gateway is more remote and peripheral than other sub areas within Greater Essex. It is at the far east of Greater Essex, bounded by the sea to the east and generally poorly served by public transport. The most sustainable employment opportunities are provided within the existing urban areas and their immediate

[6] Sourced from Haven Gateway Regeneration and Employment Land Studies, endorsed in the Colchester Employment Land Study.

[7] This data is derived from the GVA forecasts as these provide the highest employment forecast totals and implied annual rates.

surroundings- Colchester, Clacton and Harwich. All of these areas are located in a major employment area or have easy rail access to one or more of them.

Social Needs Including Tackling Deprivation and Regeneration

5.46 In terms of the social component of sustainable development, the area benefits from large regeneration potential, shown by high IMD scores throughout the sub area, and especially around Colchester urban area and in the entire eastern half of the sub area. This particularly relates to the urban areas of Clacton/Jaywick and Harwich.

5.47 Affordability is an urgent issue in about one-third of the sub area, especially in the south-western parts of the sub area, Clacton, and north and east of Colchester. These areas have housing affordability ratios of over 6.5, which signify major affordability issues.

5.48 This finding is reinforced in the Strategic Housing Market Assessments (SHMAs) for both Colchester and Tendring; where affordability was identified as 'acute' in Tendring, with Clacton being the area with the most serious issue. This is despite the RSS overall dwelling numbers being met (and in fact surpassed) to date. The study recommended an ideal target for affordable housing of 45%; and 37% in Colchester.

Environmental and Policy Constraints Relating to Protecting and Enhancing the Environment

5.49 Figure 5.1 sets out the environmental and policy constraints impacting on the Haven Gateway.

5.50 Flood risk is a significant issue, especially along the coast and estuaries; with significant implications when identifying land that is 'developable' both now and in the future.

5.51 The large amount of land lying in level 2 or 3 flood risk areas are also on or adjacent to environmental protection areas, including SSSI's and Ramsar sites. Especially for birds, the wetlands created by frequent flooding are vital for nesting.

5.52 Despite these widespread environmental designations, the Haven Gateway sub area scored well in terms of the potential for low carbon energy creation. According to research performed as part of the Essex Renewable Energy Strategy, the only large stretch of coast in Essex suitable for offshore wind energy is the coast between Frinton/Walton and Jaywick. As a result, Clacton is already the location of an offshore wind plant and there is potential for more. The area also has good availability of agricultural land which may be used to grow bio-fuel.

5.53 Due to being a greater distance from London, the sub area does not contain any greenbelt land. Yet, building on greenfield land still has to be undertaken with caution, especially to the north and east of Colchester, as here, large areas of grade 1 agricultural land must be protected. Finally, environmental or heritage designations in the area- including Areas of Landscape Importance which largely cover most areas outside Colchester Town- should be protected and their settings preserved.

Transport conditions, movement demands and transport policy measures

5.54 All options for the sub area have a high proportion of proposed growth in the Colchester urban area and as urban extensions, or in Marks Tey and or Clacton. The balance of proposed development is distributed either among larger rural settlements or dispersed in villages, with a focus either in Colchester or Tendring district.

5.55 Generally, spatial options which proposed the more dispersed distribution of growth scored poorly in transport terms. This is because they were poorly linked to existing public transport infrastructure and also were not of a critical mass in themselves to provide the case for additional provision. Those options to the south and west of the sub area also scored poorly, on the basis that it was very likely new residents would drive to reach employment and services- some of which would be out of the sub area in Braintree, Chelmsford or Ipswich.

5.56 Proposed housing growth in Colchester urban area and the urban extensions scored well, due to their proximity to employment and retail facilities. It would need to be ensured that the residents in these areas could access these services via public transport or walking and cycling facilities.

5.57 Housing growth in Clacton and Harwich scored relatively well due to their train connections to Colchester, Chelmsford and London Liverpool Street. Also, there are employment opportunities within the towns themselves, giving the possibility of a higher level of self containment for their residents. However, as in every growth options, maximising these assets depends on the detailed growth plans.

Infrastructure Delivery

5.58 The implications of the various spatial options for the Haven Gateway for infrastructure provision are as follows:

5.59 In all scenarios, a high level of infrastructure investment across the board will be required in Colchester. This is particularly marked in the higher growth scenarios. At these levels of growth there may be advantages, in terms of the deliverability of infrastructure, in a more dispersed approach, in which growth at smaller settlements partially substitutes for growth at Colchester.

5.60 The higher growth scenarios for Marks Tey have the advantage of being at levels which trigger provision of facilities such as a secondary school, and therefore have the potential to create a community with a comprehensive range of facilities.

5.61 The higher growth scenarios at Colchester may require tighter discharge constraints on the Sewerage Treatment Works. A more dispersed pattern of growth would reduce the extent of the problem.

5.62 With the exception of Clacton, growth proposals for other locations are relatively small. In terms of delivering infrastructure to help create balanced, well-provided communities, options which focus on larger communities rather than dispersal are preferable. There are also potential advantages to deliverability when infrastructure can be delivered in fewer larger projects rather than ‘pepper-potting’ provision. For example, in education it is advantageous to have growth at levels which enable the

provision of fewer large new schools rather than smaller schools plus extensions and temporary classrooms.

Area Wide Conclusions

Preferred growth range

5.63 The range of growth suggested for the Essex Haven Gateway ranges from 29,900 (RSS Scenario) to 45,300 (NHPAU High) between 2007 and 2031.

5.64 The original testing process identified that both the RSS Scenario and NHPAU Low scenarios are achievable, although at the higher levels of growth there are more uncertainties about the ability to provide sufficient infrastructure and alleviate environmental issues, particularly flooding.

5.65 Overall, the potential to achieve the NHPAU Low growth appears to be greater than the RSS Scenario. Many of the problems associated with delivering the lowest levels of growth – relating to the critical mass of development – are resolved at this scale in the same locations.

5.66 When considering the residual 07-31 figures it is clear that an additional quantum of growth- amounting to 2,900 under RSS scenario and 2,300 under the NHPAU Low scenario (see Table 5.2) needs to be 'found'. Our testing process did not distribute these numbers, but our results imply that when using the 07-31 scenario figures the RSS scenario may provide the critical mass needed, whereas it may be more difficult to provide growth at the NHPAU Low levels.

5.67 NHPAU High is, on balance, considered unlikely to be achieved. This is particularly the case when considering the higher 07-31 numbers- an additional 6,900 dwellings and 3,500 jobs above and beyond the 2011-31 numbers.

5.68 NHPAU High is difficult to achieve because major growth would be required in two locations. This would have substantial environmental implications- it is unlikely that all environmental constraints can be overcome. Growth at this level will also require significant infrastructure provision, much of which would be 'up front'- it is unlikely investment for all of it could be found and construction undertaken to fit in with the 2031 horizons of this study. Finally, the levels of job creation implied by the higher scenarios- both NHPAU High and GVA- are at best heroic. It is unclear which sectors would or could grow at the rates implied by the job targets. Without the jobs, these high levels of housing growth will result in large increases in out-commuting, putting unacceptable strain on strategic transport routes and creating a sub area that is even more unsustainable than currently.

Preferred spatial options and views about urban form

5.69 Most of the growth would be focused around Colchester, being the only KCDC in the sub area. Much of this is already planned in its adopted Core Strategy, with urban intensification and development of regeneration areas at the Garrison and the Hythe combined with new growth at North Colchester.

5.70 The new growth would principally be east of Colchester as an urban extension.

5.71 Significant growth would also be directed to Marks Tey. This growth would not change its role as a dormitory town, with high levels of out-commuting because of its access to the strategic road and rail network. However, the growth proposed under NHPAU Low would be sufficient for it to increase its self-sufficiency and provide local jobs and improved services.

5.72 Beyond this, growth would be directed largely to the other main centres in the sub area, principally Clacton and Harwich. Clacton would have most of this growth in order to assist it to grow as a higher order centre for retail and other services, as well as providing higher levels of local employment. Much, but not all, of the growth at Harwich would be to support the planned Bathside Bay development.

5.73 There would be limited growth in other smaller settlements across the sub area.

Implementation & delivery

5.74 Even the NHPAU Low scenario requires sustained high levels of housing delivery across the sub area. This is likely to raise even further once the current recession has finished and developers start to build out large schemes as they were in the recent economic boom. With the current RSS targets fixed, then delivery rates will be at their highest in the period leading up to 2021.

5.75 Transport infrastructure is particularly important to enable this growth to occur. This is not only in the form of high quality public transport corridors to support local movements. Indeed, there is still a need to improve the strategic road and rail network. Whilst the aim is for growth in local employment, it must be recognised that fixed rates of commuting mean that more people in real terms will be using these networks. Also, if the economy of the sub-region is to remain competitive and attract investment, then there must be good access for local companies to wider markets.

5.76 The main environmental constraint that will need to be mitigated for is flooding. In places such as Harwich, this is likely to provide a significant obstacle to growth. Equally however, it is an issue in East Colchester and with so much growth recommended to be directed there, it is as vital that these issues are resolved.

6 THE GROWTH SCENARIOS AND THE SPATIALPATTERNS: ESSEX THAMES GATEWAY

Introduction

6.1 In this section we set out the results of the visioning, optioneering and testing elements for the Essex Thames Gateway sub area. This includes Thurrock, Rochford, Castlepoint, Southend and Basildon districts (see Figure 6.1).

6.2 In this section we:

- Describe the sub area
- Set out the levels of growth proposed for the sub area from 2007-2031
- Provide a district and sub area level description of the range of spatial options tested
- Identify the most achievable level of growth and likely distribution(s) based on:
  - Future Vision
  - Summary of planning policy
  - Housing market assessment and need
  - Economic Prospects and Future Employment Growth
  - Social Needs Including Tackling Deprivation and Regeneration
  - Environmental and Policy Constraints Relating to Protecting and Enhancing the Environment
  - Transport conditions, movement demands and transport policy measures
  - Infrastructure Delivery
  - Conclusions

6.3 Throughout our conclusions are drawn from a broad evidence base, including stakeholder consultations, the call for sites, and strategic and local planning, regeneration and economic policy documents.

The Sub Area

6.4 The Essex Thames Gateway sub area comprises the full administrative three districts of Basildon, Castle Point and Rochford and the two unitary authorities of Southend-on-Sea and Thurrock. It is an identified sub-region within the approved East of England Regional Spatial Strategy (RSS) with its own specific sub-regional guidance, as well as in the draft Regional Economic Strategy (RES), Regional Housing Strategy and Essex Local Transport Plan. However, it is important to note that the sub area defined for the purposes of this study is larger than the RSS's sub-region in that it includes the whole of Basildon and Rochford districts, instead of just Basildon south of the A127 and the area around Southend Airport in Rochford.

6.5 The Essex Thames Gateway sub area sits within the Thames Gateway Growth Area – which extends into London and north Kent - which was identified as a regional and

national priority for urban regeneration under the Sustainable Communities Plan launched in 2003. As a focus for regional growth, the Essex Thames Gateway is expected to substantially increase the numbers of jobs and homes in line with Policies E1 and H1 in the RSS. The sub area, whilst the largest urbanised area in the East of England region, has rural areas to the west and east and is bordered to the east and south by water – the North Sea and River Thames respectively. Its urban, rural, estuarine and coastal setting provides a number of environmental challenges for accommodating additional growth, particularly the risk of flooding.

6.6 The three Key Centres of Development and Change (KCDCs) within the sub area are identified in the approved RSS as: Thurrock, Basildon and Southend. Castle Point and Rochford do not contain any settlements of comparable size but South Benfleet and Canvey Island in Castle Point are centres with regeneration challenges and potential.

6.7 The Thurrock Urban Area extends from Purfleet in the west to Tilbury in the east and is the fastest growing district in the sub area. It is a major employment area with a significant amount of port infrastructure by the Thames with the existing Port of London facilities and the proposed London Gateway, a major deep-sea container port and Europe's largest logistics park at Shellhaven in east Thurrock. Thurrock also contains Lakeside Shopping Centre, a regional (and European) retail attraction. The Thurrock Thames Gateway Development Corporation (TTGDC) is charged with delivering regeneration through jobs-led growth, focused around five 'hubs': the proposed London Gateway development at Shellhaven, the Port of Tilbury, Grays town centre, the Lakeside Basin/West Thurrock Riverside and Purfleet.

6.8 Basildon is also a key employment centre in the sub area with leading international companies in manufacturing, engineering and financial and business services such as Selex, Ford and First Data Europe. Basildon also includes the A127 'Enterprise Corridor', one of the largest employment opportunity areas in the region. Regeneration of this Corridor is one of the key priorities for the district, alongside regeneration of the town centres – Basildon (one of the oldest new towns), Wickford and Pitsea, enhancement at Laindon and the expansion of Basildon College and Basildon and Thurrock Hospital.

6.9 Southend town centre is known as a major tourist destination but is also a major business centre with key employers such as Keymed (medical equipment) and HSBC. Growth in Southend is expected to strengthen its position as a tourist attraction, to create new jobs in other sectors, and to improve the quality of life for all residents. Shoeburyness, at the easternmost tip of the borough, is also identified as a key regeneration opportunity, as is the expansion of Southend Hospital.

6.10 Castle Point and Rochford are the two smallest districts in the sub area and are both predominantly rural and residential in nature with extensive areas of greenbelt, woodland and countryside. The economies of both districts are characterised by out-commuting, although Rochford is also home to London Southend Airport where there are proposals for expansion.

6.11 The Essex Thames Gateway experiences heavy and complex transport movements with high levels of daily out-commuting to London, as well as to the rest of Essex, namely Brentwood and Chelmsford. The two key radial routes linking the eastern end of the sub area to Greater London are the A13 and A127 and there are good rail links with the National Express East Anglia railway linking Southend and northern settlements to London Liverpool Street, and c2c linking Shoeburyness and southern settlements to London Fenchurch Street. Increasing pressure on the rail and road infrastructure, as with the rest of the county, is a key concern with regard to further growth in the sub area.

6.12 The Essex Thames Gateway, given its proximity, is clearly strongly influenced by London's economy and will remain so in the future. Whilst the linkages to London are the strongest, there are also linkages to the Heart of Essex (Brentwood and Chelmsford) and some, though to a lesser extent, to the Kent Thames Gateway. Linkages to the latter may increase in the future if the Lower Thames Crossing is implemented.

Figure 6.1: Essex Thames Gateway Sub Area

Proposed Levels of Growth

6.13 The sub area and district level distributions of the dwellings and job numbers generated by the four scenarios is directly related to the proportions of growth for Greater Essex and each district within it as set out in Policy H1 of the current RSS.

6.14 As Table 6.1 shows, these identify a net growth figure (2007-31) of between 56,000 and 87,700 dwellings and 49,200 and 73,000 jobs.

Table 6.1: Growth Levels for Essex Thames Gateway

	RSS Scenario		NHPAU Low		NHPAU High		GVA	
	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31
Basildon	15,496	13,274	17,637	15,009	23,632	19,855	16,852	18,506
Castlepoint	4,751	4,922	6,034	5,706	8,408	7,239	6,559	6,344
Rochford	5,916	2,337	7,129	2,871	9,751	4,105	6,473	3,143
Southend	6,776	6,812	8,889	8,431	14,664	12,882	20,789	18,813
Thurrock	23,050	21,831	25,554	23,986	31,226	28,974	21,832	22,940
Essex Thames Gateway	**55,989**	**49,176**	**65,243**	**56,003**	**87,681**	**73,055**	**72,505**	**69,746**
Greater Essex	**160,073**	**149,467**	**182,991**	**167,405**	**242,556**	**214,527**	**213,494**	**228,512**

Source: OE/EEDA forecasting data, 2008

6.15 These levels of growth are the highest of all of the sub areas in Greater Essex. This reflects both the historic status of Essex Thames Gateway as a focus for growth in the national Thames Gateway Regeneration Strategy and the resulting high growth levels built into policies in the existing East of England Plan to 2021.

6.16 Core to this study is how far this sub area can continue to accommodate growth above and beyond those levels already planned for 2021.

Spatial Patterns Tested

6.17 The brief requires us to identify broad spatial options to test the appropriateness of broad locations for growth.

6.18 This element of the work focussed on the RSS, NHPAU Low and NHPAU High levels of growth, and not explicitly on the GVA totals. However, by virtue of testing these three scenarios the broadest range of growth levels suggested in the sub area was covered.

6.19 For the Essex Thames Gateway a range of spatial options were tested. These all had the following common characteristics:

- All known existing urban capacity was 'filled'.
- Significant amounts of growth were allocated to and around the KCDCs
- The recognition of the proximity of London to the sub area and its daily role as a centre of employment for many residents. This has knock on consequences for the public and private transport networks.

6.20 Table 6.2 below sets out, by district, an approximate distribution of growth numbers by distribution within the sub area.

Table 6.2: Essex Haven Gateway: Spatial Options Tested by District

	Essex Thames Gateway					Total Growth Tested (2011-31) (A)	Total Growth Required (2007-31) (B)	Differential (B-A)
Spatial Option	Basildon	Castle Point	Rochford	Southend on Sea	Thurrock			
RSS Option 1	8,000	3,500	7,500	2,000	23,000	44,000	56,000	12,000
NHPAU Low Option1	10,000	5,500	7,500	2,000	28,000	53,000	65,200	12,200
NHPAU Low Option 2	10,000	3,500	7,500	2,000	30,000	53,000	65,200	12,200
NHPAU Low Option 3	10,000	3,500	12,500	2,000	25,000	53,000	65,200	12,200
NHPAU High Option1	15,000	5,500	18,500	2,000	32,000	73,000	87,700	14,700
NHPAU High Option 2	15,000	3,500	7,500	2,000	45,000	73,000	87,700	14,700
NHPAU High Option 3	13,000	3,500	17,500	3,000	36,000	73,000	87,700	14,700

All numbers are rounded to the nearest 100

Source: Evidence basereview, Stakeholder consultations, Call for Sites information from EEDA (2008), OE/EEDA forecasts of 2008

6.21 Note that the distributions element of this work was based on 2011-31 figures extracted from the RSS, NHPAU Low and NHPAU High scenarios; and not the 2007-31 residual figures subsequently identified by EERA to be the focus of the testing. Table 6.2 identifies, for each spatial distribution, the 2007-11 residual amount that was not distributed as part of the testing process (in the Differential column).

6.22 Rather than revisit all of our spatial distributions work, our commentary in the remainder of this section reflects the fact that our original conclusions applied to less overall growth. **By definition, this means that the impact of growth on each sub area is greater than identified in the original testing.**

Preferred Growth Level and Spatial Options

6.23 In this section we review the evidence and results of our testing to identify achievable growth levels and indicative strategic distributions of that growth.

Future Vision

6.24 The future vision for the Essex Thames Gateway is clearly articulated in a number of existing studies and the regeneration potential of the sub area is fully recognised by all partners. The growth strategy – focusing on KCDCs – is already well established although concerns about the limited supply of brownfield around these centres and the challenges of flood risk are also well established. It is also recognised that the sub area's relationship with London in terms of its close economic linkages will also continue in the future and that this needs to be considered and managed, particularly in terms of transport connections, but also to ensure that the Essex Thames Gateway is considered as a viable - and attractive - alternative place for people to both live and work in.

Future Planned Housing Provision

The RSS

6.25 The housing and employment figures in the adopted RSS underpin the documents which cover the planning period to 2001-2021. These minimum figures are as follows:

- Basildon 10,700 homes 11,000 jobs
- Castle Point 4,000 homes 2,000 jobs
- Rochford 4,600 homes 3,000 jobs
- Southend Urban Area 6,500 homes 13,000 jobs
- Thurrock Urban Area 18,500 homes 26,000 jobs

The Local Planning Policy Context

6.26 No up-to-date housing information is currently available for Basildon; its 2008 update to the 2004 Urban Capacity Study identified 1,406 dwelling units outstanding, mainly within the existing urban areas and particularly the town centre.

6.27 For Castle Point, a SHLAA is due to be finalised shortly. The draft SHLAA covers the period 2007 to 2026 and indicates a capacity to accommodate approximately 3,000 dwelling units on previously developed land and allocated greenfield sites. It identifies a need to meet the remaining housing requirement of approximately 800 units to 2026 in the Metropolitan Green Belt. The SHLAA assumes that the current annualised housing requirement of 200 dwellings units per annum would be rolled forward.

6.28 For Rochford, its 2007 Urban Capacity Study identified a capacity of 1,301 units based on extant planning permissions, existing allocated sites not yet developed, projected residential development above ground floor retail units, projected sub-division and re-development of deliverable and appropriate brownfield sites. As stated in the recent Core Strategy Preferred Options report (October 2008), this leaves 2,489 units to be allocated in the period 2006 to 2021 with an additional 1,000 to 2025.

6.29 For the two unitary authorities, Southend's adopted Core Strategy uses the approved RSS targets for housing and employment whilst Thurrock, whose SHLAA is pending, has a theoretical capacity for 18,102 units within the existing urban areas ('Urban Capacity Study', 2005).

6.30 The TGSE SHMA also identified three other key issues. Firstly, that the supply constraints on housing growth in London are likely to mean that parts of the East and South East England are likely to continue helping to support the London and East London economies by providing residential areas for their workers. Secondly, it identified particularly strong levels of housing need in Southend and Castle Point relative to existing housing targets - however, the shortage of affordable housing is not unique to these areas. Thirdly, it concludes that the housing market in the sub-region is predominantly for houses rather than flats, given its socio-economic and demographic profile.

6.31 In addition to the above, the TGSE Sub-Regional Housing Strategy 2008-2011 identified 8,627 empty dwellings at 2006 within the sub area.

Locations and shape of growth

6.32 In terms of the locations and shape of growth up to 2021, Southend's Core Strategy focuses its growth on Southend town centre and seafront, key priority areas such as Westcliff and Leigh district centres and within existing industrial employment areas, and Shoeburyness.

6.33 Rochford's draft Core Strategy Preferred Options (October 2008) concludes that the government's target of providing 60% of new housing development on previously developed land is unrealistic and that instead, 30% of new housing development will be provided on previously developed land and that 70% be on greenfield sites as sustainable extensions to existing settlements within the plan period 2001 to 2021.

6.34 Thurrock's Preferred Option focused on development within: the Urban Area; outlying settlements south of the A13 (East Tilbury, Corringham/Stanford-le-Hope plus limited release of greenbelt land; outlying settlements north of the A13 (Ockendon/Aveley with no release of greenbelt); and key areas of regeneration and growth at Purfleet, Lakeside Basin/West Thurrock, Grays, Tilbury and the London Gateway.

6.35 Castle Point has recently consulted on its Further Preferred Options document which proposes that 40% of its housing growth and 60% of employment growth should be allocated at Canvey, with the remainder distributed between Benfleet, Hadleigh and Thundersley.

Distributions of Growth

6.36 The evidence base review in the previous stage of this study suggests that future growth – although it only extends as far as 2021 – will remain concentrated at the Key Centres for Development and Change: Thurrock Urban Area, Southend Urban Area and Basildon. The remainder of the growth – as set out in emerging Core Strategies - would be dispersed amongst greenfield sites in Rochford and the top tier settlements of Castle Point, largely due to environmental constraints and increasing pressure on the road and rail infrastructure.

Housing Market Demand and Housing Need

6.37 The ability of a sub area or region as a whole to accommodate the four growth scenarios is in part informed by whether they can deliver it. One way in which this can be tested is by comparing the implied housing delivery rates linked with each growth scenario with those most recently achieved, drawing from the latest Annual Monitoring Report.

6.38 Table 6.3 sets out the authorities' progress in delivering their adopted RSS targets set out in Policy H1.

Table 6.3: Essex Thames Gateway- build rates implied by growth compared to recent actual rates.

		RSS Scenario	NHPAU Low	NHPAU High	GVA
	Average Net Completions (01-07)- AMR data from EEDA AMR (07)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)
Basildon	234	646	735	985	702
Castlepoint	186	198	251	350	273
Rochford	210	247	297	406	270
Southend	429	282	370	611	866
Thurrock	777	960	1,065	1,301	910
Essex Thames Gateway	1,836	2,333	2,718	3,653	3,021
Greater Essex	5,689	6,670	7,625	10,106	8,896

Source: EERA AMR (2007), OE/EEDA forecast numbers 2008

6.39 Review of data on housing trajectories from respective Annual Monitoring Reports show that all of the districts in the Essex Thames Gateway sub area except Southend have not achieved completions at the RSS Scenario rate. Further analysis of current performance against RSS target figures to 2021, taken from SHLAAs and Urban Capacity Studies (UCS) shows the following for each district:

- ***Basildon*** – in the absence of a SHLAA, its 2008 update to the Urban Capacity Study (UCS) states that 1,406 dwellings are outstanding, mainly within the existing urban areas and particularly the town centre. To date, Basildon has only delivered 13% of its housing target as set out in the adopted RSS.
- ***Castle Point*** – emerging findings from its SHLAA suggest the potential for 3,120 units distributed amongst Benfleet, Canvey Island, Hadleigh and Thundersley. By 2007, the borough had delivered 28% of its 2021 RSS target for housing.
- ***Rochford*** – the district delivered 27% of its adopted RSS housing target by 2007. Its UCS identified 1,301 units which could be provided within the existing urban areas. Even if all of the identified sites came forward for development, there would still need to be significant greenfield development (approximately 70% of all development according to the draft Core Strategy) to accommodate the RSS Scenario level of growth.
- ***Southend-on-Sea*** –Southend has already delivered 40% of its housing requirement to 2021 and the rest is planned for within its adopted Core Strategy.
- ***Thurrock*** – the 2005 UCS states that 15,401 physically identifiable dwellings could be provided within the existing urban area (the SHLAA is currently underway). Further to this, Thurrock's Core Strategy Preferred Options paper proposes that at least 90% of its development will be on Previously Developed Land (PDL) with: 9,792 within the existing urban area; 1,753 at outlying settlements north of the A13 (e.g. Aveley, South Ockendon) and 1,133 at outlying settlements south of the A13 (e.g.East Tilbury/Linford and Stanford-le-Hope/Corringham).

6.40 As Table 6.3 shows, it is clear that the RSS Scenario already clearly represents a challenge for some of the authorities, particularly Basildon and Thurrock. By 2007, Basildon had only delivered 13% of its adopted RSS target of 10,700 new homes by

2021; Thurrock had only delivered a quarter of its 18,500 dwellings. Southend on the other hand, has achieved 40% of its target of 6,500 homes.

6.41 Relative to the RSS level of growth (implied by the RSS Scenario) to 2031, the lower end of the NHPAU range only exacerbates the issue for Basildon and Thurrock. In order to reach the NHPAU Low target for new dwellings, Basildon would need to increase its current dwelling completion rate by approximately three times; Thurrock would need to increase its rate by almost one and a half times. Southend however, would require a slower rate of dwelling completions than is currently being achieved to reach the NHPAU Low figures.

6.42 For the NHPAU High scenario, Basildon would need to achieve dwelling completion rates four times their current rate, whilst Castle Point, Rochford and Thurrock would require a rate almost double their current rate. In this scenario, even Southend would need a slight increase on its current dwelling completion rate.

6.43 Taking recent performance into account, the data suggests that the RSS Scenario growth target figures are very challenging for Essex Thames Gateway. These rates do not suggest it is realistic to achieve growth rates to achieve for either NHPAU Low, NHPAU High or GVA levels of growth.

Economic Prospects and Future Employment Growth

6.44 The East of England Plan sets out a requirement for the 55,000 jobs to be generated in the Essex Thames Gateway although this excludes Thurrock and Basildon.

6.45 There is no doubt that the four growth scenarios imply very significant job growth for the Essex Thames Gateway sub area. What this growth 'means' relative to recent and current performance is hinted at when comparing annual rates of job creation against historic annual rates obtained from the Annual Business Inquiry (ABI).

6.46 Table 6.4 shows that recent job creation varies considerably across the sub area; from negative figures for Rochford, to highly positive figures in Basildon. Overall the sub area has recently generated enough jobs to match the levels expected by RSS Scenario and NHPAU Low, but does not nearly 'hit' the annual targets implied by NHPAU High and GVA; falling short by some 6-700 jobs per annum.

Table 6.4: Essex Thames Gateway sub area: Actual vs Implied Job Creation Rates

		RSS Scenario	NHPAU Low	NHPAU High	GVA
	Average Job Creation (01-07)-ABI	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)	Average annual rate (07-31)
Basildon	1,553	553	625	827	771
Castlepoint	131	205	238	302	264
Rochford	-77	97	120	171	131
Southend	347	284	351	537	784
Thurrock	381	910	999	1,207	956
Essex Thames Gateway	2,335	2,049	2,333	3,044	2,906
Greater Essex	7,858	6,228	6,975	8,939	9,521

Source: Annual Business Inquiry (01-07), OE/EEDA forecast numbers (2008)

6.47 The individual districts perform very differently, which shows the economic diversity experienced across the sub area. The trawl of the evidence base hints at this, identifying the following:

- ***Basildon*** –In contrast, 8,800 jobs of its expected 11,000 were already created by 2005 and the remainder will be delivered through the town centre development framework and continuing intensification. Basildon is Key Centre for Development and Change (KCDC) and an established employment centre, with proposals for a significant increase in retail space and therefore retail jobs. .
- ***Castle Point*** –the borough has planned for 2,000 jobs to 2021 at the Charfleets Industrial Estate, Rayleigh Weir, at Northwick Road and Canvey and Hadleigh town centres. There are no other obvious locations or drivers to meet additional growth. A major new economic driver would therefore be required in order to generate an additional 3,200 jobs between 2021 and 2031 in the RSS Scenario alone.
- ***Rochford*** – London Southend Airport is expected to generate 2,000 jobs at the airport and Rochford Business Park, but this alone will not be sufficient to meet job growth levels commensurate with NHPAU High and/or GVA.
- ***Southend-on-Sea*** has planned for 13,000 jobs within the town centre and Central Area, Shoeburyness, the seafront, priority urban areas and through intensification of existing employment area.
- ***Thurrock*** –the proposed London Gateway development is expected to generate almost half of Thurrock's adopted RSS target of 26,000 jobs by 2021.

6.48 The TGSE Housing Group's Strategic Housing Market Assessment (SHMA) highlights the reciprocal relationships between housing and economic growth and commuting patterns. It suggests that delivery of the 55,000 net additional jobs (as set out in the RSS) is realistic and that if this is achieved, then even greater housing demand – 40% above current RSS level – could be supported, if commuting patterns remain as today (i.e. 70.7% self-containment with 21% of trips to London).. However, it also suggests that if commuting patterns remain as they are today, employment growth might only reach 57% of the current RSS target. This emphasises the importance of London as an 'employment centre' for Essex Thames Gateway; and the need to plan realistically for future job numbers for the sub area taking this into account.

6.49 Essex Thames Gateway scores well as an economically sustainable location- due to its close proximity and good connections with London, proximity to ports, airports and business parks. However, recent rates of job creation indicate that it is only Southend that has been able to exceed planned RSS job creation targets; and that all of the other districts are failing to meet targets set up to 2021.

6.50 This suggests that the Essex Thames Gateway will not create the jobs above and beyond RSS levels, and that other planning policies- including dwelling provision-

should be downgraded to effectively 'match' with this lesser aspiration if dormitory style provision is to be avoided.

Social Needs Including Tackling Deprivation and Regeneration

6.51 Regeneration potential is considerable throughout the sub area by virtue of it being part of the Essex Thames Gateway regeneration area; an area earmarked for a joint investment fund of £200 million agreed by the three RDAs (EEDA, SEEDA and the LDA) and The Department for Communities and Local Government (CLG) to deliver priorities for the Thames Gateway South Essex.

6.52 The area therefore has large regeneration potential, shown by IMD scores throughout the sub area, and especially around Thurrock and Southend. This would favour any development solutions which focused in these areas.

6.53 Affordability is a less urgent issue than in the rest of Essex, with only one area, Benfleet, having a Middle Super Output Area (MSOA) Housing Affordability ratio of over 6.5, which signifies major affordability issues.

Environmental and Policy Constraints Relating to Protecting and Enhancing the Environment

6.54 Figure 6.1 sets out the environmental and policy constraints impacting the Essex Thames Gateway.

6.55 It is a sub area that is significantly constrained.

6.56 Parts of it, especially around the Grays/Tilbury area, Canvey Island, and all along the coast and estuaries, are very prone to flooding. The large amount of land lying in level 2 or 3 flood risk areas in turn results in multiple environmental protection areas, including SSSIs, Ramsar sites and SPAs; with the wetlands created by frequent flooding vital for nesting. These widespread environmental designation areas in turn have a detrimental effect on the potential for producing low-carbon energy, such as wind turbines, which are not suitable for areas in or near sensitive landscapes or offshore on protected coast lines.

6.57 The Essex Thames Gateway sub area has the highest proportion of existing urban area relative to total area of all the sub areas. This means that what agricultural land there is, is increasingly limited. Strong resistance to Greenfield development on Grade 1 agricultural land is encouraged.

6.58 Due to its proximity to London, the Essex Thames Gateway is already more densely built up than any of the other sub areas in Essex and furthermore, nearly all of the remaining green-field land is covered by greenbelt designations. The danger of coalescence for proposed developments on greenfield land is significant for most proposed areas of search in the Essex Thames Gateway area.

6.59 An issue which was raised by officers after the testing process but was not tested for was the presence of minerals which can influence which areas should be protected from development – this was particularly the relevant for northwest Thurrock around Aveley and South Ockendon.

6.60 Recommendations on an area wide level for all growth scenarios and spatial options:

- avoiding too much further development near the coast and along the water edges of the estuaries,
- avoiding development of the large swathes of grade 1 agricultural land
- Urban expansions where possible should be inland and avoid coalescence.
- Intensification should occur around existing urban areas with good transport links.

Transport conditions, movement demands and transport policy measures

6.61 None of the three options in the Essex Thames Gateway showed a clear advantage over the others. The testing found several transport 'showstoppers'.

6.62 In terms of access to public transport, although the major employment areas (i.e. Grays, Basildon, Southend, Shellhaven) in ETG enjoy frequent train services between each other and London Liverpool Street on the C2C east to west rail service, capacity constraints at peak time may preclude major housing growth at locations along this line without major capacity investment.

6.63 The major employment areas in the Essex Thames Gateway operate little car parking restraint, with ample parking facilities and their urban form generally orientated towards vehicle usage. The main exception to this is Southend. This car-based infrastructure may counteract any attempt to encourage people living in this sub area to access employment and services by public transport or walking or cycling. Retail services such as the Lakeside Shopping Centre in Thurrock, with a large amount of car parking available, are likely to attract car use from across the sub area.

6.64 The current road infrastructure suffers severe congestion at peak times particularly on the A13 (especially at the junction with the M25) and the A127. This means that large scale housing development scores negatively when assuming the continuation of Business as Usual Transport Indicators, because facilitating additional car access would entail substantial investment in road infrastructure.

6.65 A revision of transport policies and actions to achieve "across the board" reductions in car accessibility could enable the growth scenarios to meet the Sustainable Transport Indicators but the potential for this falls outside the scope of this testing exercise.

6.66 As in other sub areas, the lack of critical mass of population in certain locations meant that more dispersed proposals did not score well- they alone could not provide a justification for significant levels of public transport that would be necessary; nor did they enable the creation of locations that would become inherently more self sustaining in terms of provision of jobs and services.

6.67 Since the growth options tested provide no clear "winner" in terms of transport criteria, it will be necessary to explore levels and locations of growth that provide potential to improve the sustainable transport score. This would involve examining threshold levels of growth for the creation and/or expansion of public transport services and links, or for improving levels of self-sufficiency. Closer attention could also be paid to location-

specific factors such as the feasibility of enabling accessibility by walking and cycling, or of increasing car restraint in the relevant destinations.

6.68 Whilst at this level of testing, it is not possible to offer clear recommendations on these aspects, the choice is expected to be between growth integrated with existing main urban settlements (Grays, Basildon, Southend), or growth that creates or strengthens strong public transport corridors (e.g. Stanford le Hope, and the Rochford "arc").

Infrastructure Delivery

6.69 The scale of all of the growth proposed would necessitate some substantial infrastructure investment.

6.70 The most 'palatable' infrastructure solution was to concentrate growth in two existing major centres, including Southend and Thurrock, who already are equipped with the critical mass and base infrastructure to support additional growth.

6.71 Larger blocks of growth generally require an uplift in infrastructure provision- energy, schools and other community facilities, waste and water provision. The scale of growth provided for the higher growth options, particularly at Grays/Thurrock and north east Southend would require very careful planning with appropriate organisational and manpower resources.

6.72 Particular infrastructure constraints include:

- Possibility that building 'at the end of the line' at Southend will generate significant additional investment needs
- The need to strengthen energy networks at Grays/Thurrock, and this may be a barrier to delivery.
- Water supply is a potential constraint throughout the sub area. At lower growth scenarios this is largely because the Abberton Reservoir scheme is not yet fully approved. The risk of reaching a constraint is increased for the higher growth scenarios.
- Waste Water Treatment. The East of England Capacity Delivery Strategy (Halcrow, 2006) identified the need to investigate the risk of increased flooding arising from increased flows from Basildon STW; and the capacity of the long outfall from Southend STW. We have identified these as potential constraints on growth in these areas.

6.73 Spatial options which focus growth at and around Thurrock and Basildon offer a very concentrated pattern of growth, requiring very significant increase in provision. This would require considerable planning and commitment, in the form of investment and manpower to deliver the infrastructure at the scale and time required to facilitate the job and housing creation envisaged at the higher levels.

6.74 The results of the testing did not show that any clear differences in the constraints on the delivery of the infrastructure. They are all deliverable, subject to the necessary organisational and manpower resources to plan and manage the delivery programmes being made available, together with the funding. The differences that were revealed

were between the different levels of growth, and at the higher levels potential constraints were starting to develop in energy networks and sewage, although none of these were show-stoppers.

6.75 We consider that the more concentrated option, focusing on Thurrock might well run into delivery problems at the higher levels of growth because of the concentration of provision in a relatively small area.

Area Wide Conclusions

Preferred Levels of Growth

6.76 The range of growth suggested for the Essex Thames Gateway ranges from 56,000 dwellings (RSS baseline) to 87,700 (NHPAU High) (net) between 2007-2031.

6.77 As a sub area as a whole, the preferred growth range which has emerged from the testing is the RSS scenario, although even at this level of growth, 'showstoppers' emerged. These major constraints largely relate to sustainable transport issues, environmental factors (flood risk and protected areas) and the encroachment of greenbelt land (in terms of settlements coalescing).

6.78 For both NHPAU growth scenarios, as additional growth is proposed at locations already identified as having showstoppers at RSS, the effect of the transport and sustainability constraints only increases.

6.79 When considering the residual 07-31 figures, it is clear that an additional quantum of growth- amounting to 12,000 dwellings under the RSS scenario , 12,200 dwellings under the NHPAU Low scenario and 14,700 dwellings under the NHPAU High scenario needs to be 'found'. Our testing process did not distribute these numbers, but our results imply that when using the 07-31 scenario figures the RSS level of growth would be considerably more difficult to achieve and may become unachievable due to environmental, transport and greenbelt policy constraints.

6.80 For infrastructure however, no serious concerns relating to constraints were raised for either RSS or NHPAU Low levels of growth, but some regarding energy networks and sewage emerged for NHPAU High. This suggests that even for the 07-31 numbers, infrastructure is not a constraint at RSS and NHPAU low levels.

Preferred spatial options

6.81 None of the three spatial options emerged as a clear winner through the testing process although some locations emerged as preferable to others. If the results of testing all three sets of objectives are considered, preferred locations include the existing urban settlements of Basildon, Billericay and Wickford. In purely transport terms, it is suggested that growth might be best integrated with existing, major urban settlements such as Grays, Basildon and Southend because of critical mass and existing public transport provision (notwithstanding the serious strategic movement constraints that exist), or growth that creates or strengthens existing public transport corridors (e.g. at Stanford le Hope or even the Rochford settlements). In sustainability

terms (social, economic and environmental), again the intensification of existing urban areas with good public transport links is recommended.

Implementation and Delivery

6.82 The key challenges that he Essex Thames Gateway sub area faces in implementing and delivering the RSS scenario level of growth relate to overcoming three key issues: finding sustainable transport options, understanding the flood risk and avoiding coalescence of settlements (particularly rural settlements currently protected by greenbelt).

6.83 In terms of transport, overcoming the existing concerns regarding congestion will be critical. A number of proposals are in place which could help alleviate congestion in places such as the Grays 8 Car Bay scheme which will extend the bay platform at Grays to eight cars to permit the operation of longer trains on the Tilbury Loop[8], and investment in the London Fenchurch Street-Shoeburyness line, moving to 12 car train operation on the mainline and on the Tilbury Loop and Ockendon Branch (though platform lengthening will be required on both routes)[9]. But this rail investment, together with improved bus services (in addition to SERT), is still unlikely to be sufficient to enable growth to be delivered sustainably in transport terms – the car is still likely to remain the dominant mode of transport given the evolution and growth of the sub area around road infrastructure to date.

6.84 Understanding the flood risk and opening up the dialogue with the Environment Agency is also critical for planning further growth in Southend, Castle Point and Thurrock, all of which have significant areas at risk of flooding which also require regeneration.

6.85 A review of the greenbelt in the Essex Thames Gateway is also considered necessary, particularly as little brownfield land remains available. The remaining greenfield land is covered by greenbelt designations and the danger of coalescence is significant for many of the locations suggested for growth in this report, thus limiting the options for this sub area.

6.86 All of these key issues must be addressed in order to help deliver the RSS level of growth to 2031 and to contribute towards fulfilling the vision of the wider Thames Gateway as an exemplar of sustainable living.

[8] Network Rail, *Greater Anglia Routes Utilisation Strategy*, December 2007

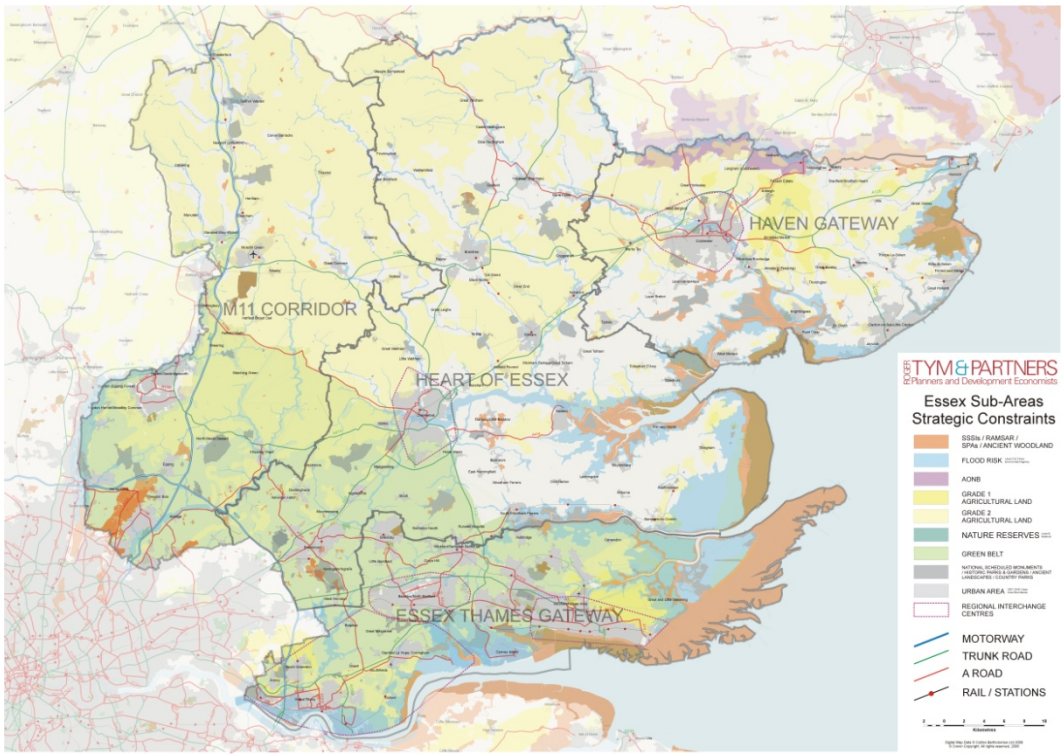
[9] *Investing in Infrastructure for Essex*, Draft Report, 2008

7 AREA WIDE CONCLUSIONS

Introduction

7.1 The study provides an early input into the forthcoming review of the East of England Regional Plan review, scheduled for early March 2009. Core to the study is understanding the current and future context for growth and its possible distribution across Greater Essex, with a focus on the post RSS period 2021-2031; but with the acceptance that higher levels of growth and alternative distributions may emerge from 2011 onwards in a revised RSS. The study covers the Greater Essex area (Figure 7.1).

Figure 7.1: Greater Essex



Source: OS Mapping, GIS

7.2 The stimulus for the study is not only the call for early RSS review; but also the need to understand the implications of the NHPAU housing supply ranges for the East of England region; published in June 2008.[10] These proposed an uplift in the range of growth in dwellings between 14% and 46% for the East of England, when compared against the current baseline provided by the approved East of England Plan (2006-2021). This scale of growth has potentially significant consequences for the East of England as a whole, and for the Greater Essex Study Area within it. Table 7.1 shows

[10] June 2008, the National Housing and Planning Advisory Unit (NHPAU) published, *'Meeting the housing requirements of an aspiring and growing nation: taking the medium and long-term view- Advice to the Minister about the housing supply range to be tested by Regional Planning Authorities'*. ….

the forecast dwelling and job numbers for four growth scenarios. These include RSS residual, NHPAU Low, NHPAU High and GVA growth.

Table 7.1: Growth Scenarios for Greater Essex, the sub-areas and each district

	RSS Scenario		NHPAU Low		NHPAU High		GVA	
	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31	Dwellings 07-31	Jobs 07-31
Braintree	7,440	5,962	9,155	7,189	13,906	10,609	18,503	15,987
Maldon	2,668	4,224	3,186	4,526	5,438	5,876	7,534	7,505
Brentwood	4,335	9,516	5,346	10,425	7,731	12,613	10,272	17,924
Chelmsford	20,363	24,780	22,485	26,869	28,759	33,019	21,188	29,535
Heart of Essex	**34,806**	**44,482**	**40,172**	**49,009**	**55,834**	**62,117**	**57,497**	**70,951**
Tendring	10,179	4,885	12,012	5,903	17,102	8,749	22,746	12,222
Colchester	19,711	18,230	22,277	20,686	28,233	26,497	21,981	24,654
Essex Haven Gateway	**29,890**	**23,115**	**34,289**	**26,589**	**45,335**	**35,246**	**44,727**	**36,876**
Uttlesford	10,499	6,575	11,478	7,351	9,144	9,383	17,154	26,232
Harlow Area	25,110	23,825	26,514	24,865	30,519	27,826	9,095	14,596
Epping Forest	3,777	2,294	5,295	3,588	14,044	6,899	12,515	10,111
London Arc West	**39,386**	**32,694**	**43,287**	**35,804**	**53,707**	**44,108**	**38,764**	**50,939**
Tendring	10,179	4,885	12,012	5,903	17,102	8,749	22,746	12,222
Colchester	19,711	18,230	22,277	20,686	28,233	26,497	21,981	24,654
Essex Haven Gateway	**29,890**	**23,115**	**34,289**	**26,589**	**45,335**	**35,246**	**44,727**	**36,876**
Greater Essex	**160,073**	**149,467**	**182,991**	**167,405**	**242,556**	**214,527**	**213,494**	**228,512**

Source: Oxford Economics/EEDA Forecasts, 2008

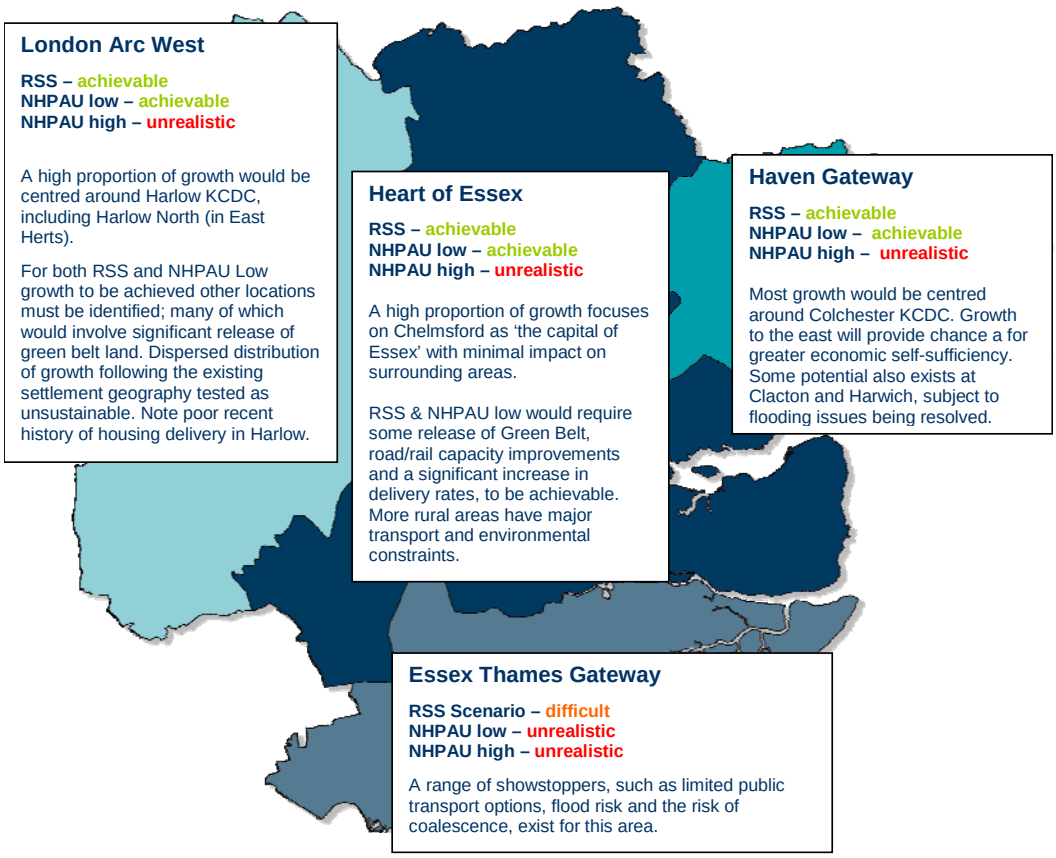
Summary findings on Growth and Distributions

7.3 This report represents a high level summary of the results of visioning, growth levels, spatial options and testing work for four sub-areas, and Greater Essex as a whole.

7.4 As the preceding chapters have shown, parts of Greater Essex have varying potential to accommodate more growth. This potential has been identified taking an overall view of a wide range of factors- this includes planning, economic and regeneration policy and statistics, potential to deliver including job creation and housing build rates, and the impact of proposed growth and spatial options on the physical environment, and transport and other infrastructure.

7.5 Figure 7.2 summarises the position of each of the sub-areas; with a brief summary for each sub-area.

Figure 7.2. – Sub Areas Summary Diagram



7.6 As previously mentioned, the majority of our spatial options work was undertaken using 2011-31 data. Subsequently, the brief from EERA changed, requiring us to provide a commentary based on the 2007-31 data for the forecasts; which, due to the additional four years, is a larger number. **By definition, this means that the impact of growth on each sub-area is greater than identified in the original testing.** The conclusions and commentary in Figure 7.1 reflects this.

The Residual Figure

7.7 Table 7.3 shows, for each sub area and Greater Essex the level of growth that is 'achievable'. It also calculates how far the totals 'fall short' of the highest growth targets for Greater Essex identified in the NHPAU High and/or GVA forecasts

Table 7.2: Greater Essex and Sub Areas: Levels of Growth Achieved compared to highest OE/NHPAU Forecasts

	Highest level of Growth achievable			Total 'achievable'	Highest Growth Forecast (from NHPAU High or *GVA,* whichever is highest)	Highest growth forecast less amount achievable
	Name	2011-31	Residual 07-31 (1)			
M11 Corridor	NHPAU Low	38,000	5,300	43,300	53,800	10,500
Heart of Essex	NHPAU Low	32,400	7,700	40,100	*57,500*	17,400
Essex Thames Gateway	RSS Scenario	44,000	12,000	56,000	87,700	31,700
Haven Gateway	NHPAU Low	29,500	4,800	34,300	45,300	11,000
Greater Essex		143,900	29,800	173,700	244,300	70,600

(1) see tables showing spatial options tested by district in earlier sections (e.g table 3.2, 4.2, 5.2 and 6.2) for sources
italicised data indicates dwelling numbers where highest number is sourced from the GVA forecast

7.8 Overall, we conclude that Greater Essex as a whole can accommodate, with significant caveats[11], growth for 07-31 between the RSS and NHPAU level. This means that, as a whole, Greater Essex can accommodate between about 173,700 dwellings. This is about 9,300 dwellings less than required to meet the NHPAU Low level of growth.

7.9 Greater Essex cannot accommodate the higher levels of housing, as set out by the NHPAU High and GVA scenarios. It needs to provide an additional 70,600 dwellings to meet the highest growth targets. Our work suggests therefore there is **an upper limit** to future growth in Greater Essex, and that this falls substantially short of the levels implied by the higher growth forecasts.

7.10 If the higher levels of growth were imposed on Greater Essex, accommodating it would require a major step change in provision above what is currently considered achievable and deliverable, subject to caveats[12].

7.11 Our review has focused on the sub areas, and is therefore a 'bottom up' approach. Our assessment of 'acceptable' levels of growth and appropriate spatial distributions of that growth is largely based on an understanding of the inherent settlement structure, physical geography and transport corridors. It has not involved more radical spatial approaches.

7.12 The testing did not include an assessment of the appropriateness of a large new settlement. This is something which is being undertaken in parallel as part of the Regional Settlement Study for the East of England[13]. A logical conclusion to this study

[11] These include but are not exclusive to, the loss of greenfield/greenbelt land, loss of land of environmental quality, the loss of high quality agricultural land, the need for transport and other infrastructure provision, the need to improve regeneration and job prospects in an area to generate genuinely sustainable growth

[12] Ibid 13

[13] This study is ongoing. Arup have been commissioned by EERA/EEDA to undertake a study looking at ability of parts of the East of England to accommodate new settlements of 20,000 dwellings or above.

is that, if Greater Essex had to accommodate the higher levels of growth that a significant proportion of the additional 70,000 dwellings could only be provided using a more radical spatial solution: new settlements of over 20,000 dwellings in size.

7.13 Our results suggest that if all the growth had to be accommodated this would amount to an additional 3.5 new towns of 20,000 dwellings or two of 35,000 dwellings or one large settlement of 70,000, a size comparable with the current size of Harlow[14]. This would be above and beyond Greater Essex accommodating all of the growth previously identified in the sub-area studies.

7.14 While this study has not identified a particular location or form for any major new settlements, it has identified the sub areas which are comparatively less constrained and are therefore more likely to be the approximate locations for additional growth. The two sub areas which are least constrained in Greater Essex are the M11 Corridor- particularly the northern parts- and also the Heart of Essex- again particularly the most northern parts. Any growth at this scale would imply major transport and infrastructure improvements to integrate any new town with the existing urban and transport geography; and would also pose major delivery challenges- possibly only resolvable via the creation of a separate delivery vehicle.

Recommendations to EERA

7.15 This study has provided a detailed visioning, optioneering and testing of growth and spatial options based on growth data for jobs, population and dwellings as set out in the OE and EEDA forecasts (2008). All the Section 4(4) authorities are required to respond to EERA.

7.16 Our analysis has provided a sub area by sub area analysis of growth and spatial options at district level and above which together provides a Greater Essex analysis. The starting point for our analysis is the baseline position in terms of vision and spatial geography, before assessing the local and strategic planning policy- in both housing and jobs- and assessing likelihood of delivery when compared with historic job creation and house building rates and regeneration potential. Growth and spatial option proposals are finally assessed according to a broad sustainability framework- including impact on the physical environmental resource, and implications for transport and other infrastructure.

7.17 Our overall conclusions are that:

Levels of Growth

- Overall, Greater Essex can accommodate approximately an additional 173,000 dwellings. This is subject to extensive caveats; including assumptions about increased build rates, future job creation, acceptance of loss of Greenfield/environmental resource, and that funding and construction of transport

[14] Harlow Population Profile, September 2008, this notes that Harlow population was estimated at 78,100 people in 2006

and other infrastructure will occur. This level of growth is above the RSS Residual levels for 2007-31, but below the NHPAU residual levels for the same period, by approximately 9,300 dwellings.

- The higher levels of growth as set out in NHPAU High and GVA growth scenarios are unachievable within the sub areas and therefore within Greater Essex as a whole. Our analysis estimates that Greater Essex 'falls short' of achieving these high growth levels by approximately 70,000 dwellings. This equates to a town the size of Harlow today.

Locations of Growth

7.18 Our assessment of spatial options has been strategic and has focused at district level and/or named locations that are already mentioned in existing adopted plans or equivalent. Nevertheless it has been sufficiently rigorous to enable us to make the following conclusions;

- It is not practicable to assume that growth levels in terms of dwellings and jobs can be automatically 'rolled on' and distributed proportionally as they were in Policy H1 of the existing East of England plan. Our analysis exposes that relatively few of our sub areas have significant urban capacity- this includes parts of the Essex Thames Gateway and also many of the urban centres,including Harlow. By definition this means that growth at even the lower rates (RSS residual,NHPAU Low) imply significant land take from greenfield sites- many of which are Green Belt and/or environmentally sensitive and/or protected.
- Some sub areas are less constrained in sustainability terms (social, environmental and economic) than others. Equally some have more infrastructure and transport problems than others.
    - Generally Essex Thames Gateway is the sub area that is most constrained overall- primarily with transport 'showstoppers', as well as others,limiting the ability of the area to accommodate growth at and definitely above the RSS level
    - Parts of other sub areas are particularly constrained. Maldon and Tendring within the Heart of Essex have major environmental constraints- both due to risk of flooding and multiple environmental notations including international RAMSAR designations. Brentwood and Epping Forest are very constrained largely due to Green Belt constraints.
    - Generally, more northerly and west parts of Greater Essex are least constrained. This includes the north of the M11 Corridor (Uttlesford and Harlow) and the northern parts of the Heart of Essex (primarily Chelmsford). These areas have fewer environmental constraints- albeit there is a considerable amount of Grade 1 and 2 agricultural land and also some green belt around Chelmsford and Harlow; and generally have better connectivity along strategic transport corridors- including the M11.

- More dispersed growth solutions proved the least sustainable and appropriate in terms of achieving the necessary transport and infrastructure solutions associated with them. They also scored poorly economically- as little truly sustainable growth was possible with jobs some distance from dwellings.
- In contrast the more concentrated growth solutions, in and around existing Key Centres for Development and Change (KCDCs) scored most positively. This includes development solutions in and around Harlow, Colchester and Chelmsford.

Implications for Delivery

- Without exception, all growth proposals at the RSS level up to 2031 had significant infrastructure and transport implications. For truly sustainable growth to occur- which focused on community growth rather than dwellings led growth- the front-end provision of infrastructure, including transport, is essential.
- Growth proposed as a part of current RSS is also dependent on the delivery of significant transport and infrastructure improvements- but its funding and programming and therefore construction is generally difficult to achieve. If it is not readily possible to achieve the infrastructure and transport investment necessary to accommodate growth up until 2021- as is the current case in Harlow for example where proposals for a northern bypass and new motorway junction are not agreed despite being necessary for growth to occur- it is difficult to envisage how it will be 'found' in greater amounts to meet the requirements of growth in the longer term- particularly at higher levels. An acceptance of any future levels of growth should only occur if necessary future transport and infrastructure needs can be met.
- When considering the growth proposals for Greater Essex, existing infrastructure and transport defecits must be taken into account. In many places the existing networks operate sub-optimally. Logically existing needs should be met in advance of future needs, or at least in parallel. Future provision should not be a substitute for identified current transport and infrastructure defecits.
- Growth at the higher levels- NHPAU High and GVA- is at a scale never achieved in Greater Essex; and implies rates of housebuilding, transport and infrastructure construction, and job creation that are very high. It is not possible to see practically how these rates of growth can be delivered, particularly given short term recessionary economic conditions.
- Even lower level rates of growth, including RSS and NHPAU Low, will only be achieved if its delivery is focused and fully programmed, and investment in additional transport and infrastructure guaranteed at an early stage.
- Any level of growth will only be achievable with local political 'buy-in'. On that basis, the appropriateness of possible locations for growth needs to be further tested as part of local planning processes, which will take time. This will inevitably be longer than that currently programmed for the revision of RSS (up to 2010); and on that basis we strongly urge that the Regional Planning Body work closely with

all the Section 4 (4) authorities and their districts and that the text in the emerging plan allows for some flexibility in growth levels up to 2031, pending the results of growth options specificed in local planning processes.