Uttlesford Local Plan
Infrastructure Delivery Plan (IDP)

Troy Planning + Design
For Uttlesford District Council

May 2018

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Infrastructure Delivery Plan

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Contents

Note:

Infrastructure schedules relating to the garden communities, existing towns and villages are presented as a free-standing Annex to this report. They will be reviewed and updated overtime as schemes develop further.

1 Introduction

1.1 Infrastructure covered in this report

This Infrastructure Delivery Plan (IDP) has been prepared by Troy Planning + Design as part of the new Local Plan prepared by Uttlesford District Council (The 'Council').

The term 'infrastructure' covers a wide range of services and facilities provided by public and private organisations. The definition of infrastructure is outlined in section 216(2) of the Planning Act 2008 (as amended). The Uttlesford IDP covers a mix of physical, social and green infrastructure, including:

Physical infrastructure:

- Transport
- Utilities
- Water
- Waste

Social infrastructure:

- Schools and other educational facilities
- Health and social wellbeing
- Emergency services
- Social and community (including libraries, allotments and community halls)

Green infrastructure:

- 'Designed landscapes' (including Country Parks)
- Natural / semi-natural green space

The main body of this report is ordered such that it follows the headings outlined above.

The IDP is based upon the housing trajectory and spatial distribution of growth prepared by and agreed with Uttlesford District Council for the purposes of consultation and engagement with service providers in March 2018. This allows for a consistent approach to all infrastructure types. The housing trajectory used for the purposes of the IDP is presented in Section 2 of this report. The IDP is intended to be a 'live document'. Future changes to the housing trajectory and delivery of sites will be monitored and fed into updates of the IDP at a later date.

1.2 Purpose of the report

This IDP seeks to address what infrastructure is required as a result of new growth in the district, where, how and when. A first version of this IDP was prepared in May 2017 and was used to inform the draft version of the Local Plan subject to Regulation 18 consultation which took place during summer 2017. The May 2017 IDP assessed the infrastructure requirements from a number of different garden communities that were being promoted at the time, as well as different growth scenarios for the existing towns and villages. Following receipt of consultation

comments the IDP has been updated to reflect the scale and distribution of growth established in the submission version Local Plan.

Discussions, meetings and workshops have taken place with a variety of infrastructure providers both within the District Council and external organisations to develop an understanding of what infrastructure is needed. This process has enabled these infrastructure providers to think more strategically in terms of future provision and the challenges brought about by significant growth in the long term. In so far as the information has been made available, this IDP brings all these agencies' plans together in one document. This should encourage inter-relationships between parties and provides an opportunity to share information and align / coordinate infrastructure investment plans and programmes as well as potentially co-locate infrastructure. Organisations contacted as part of this IDP include:

- Abellio (Train Operating Company)
- Affinity Water (Drinking water)
- Anglian Water (Waste water)
- Arriva Buses (Bus services)
- BT Openreach (Broadband)
- East of England Ambulance Service
- Environment Agency (EA)
- Essex and Kent Police
- Essex County Council (ECC) (covering all strategic functions, e.g.: schools, transport, waste etc)
- Essex County Fire & Rescue Service
- Essex Superfast Broadband
- Essex Wildlife Trust
- Fibre Wifi (Broadband)
- Greater Cambridge Greater Peterborough Local Economic Partnership (GCGP)
- Hertfordshire and West Essex Clinical Commissioning Group (CCG) / National Health Service (NHS)
- Highways England
- MAG Airports (owner: Stansted Airport)
- National Grid (Gas and electricity supplies)
- Natural England
- Network Rail
- Sport England
- Sustrans (Walking and cycling infrastructure)
- Thames Water (Waste water)
- UK Power Networks (Electricity infrastructure)

This document has been written during a time of significant change, with the Government reforming many of the public services that are responsible for providing and planning infrastructure. This is likely to have an impact on provision, delivery and funding, and how the relevant organisations are able to respond in relation to future growth.

In addition, it is often difficult to be certain about infrastructure requirements so far into the future, as the detail of many development schemes is not currently known. Therefore, this IDP is intended to be a document which is regularly updated given the uncertainty and fluid nature of planning for infrastructure.

1.3 Status and purpose of IDP

The IDP is a supporting document for the emerging Local Plan. The IDP covers the plan period up until 2033, although its content will be monitored and periodically reviewed. The document will also form an important part of the evidence base for any CIL Charging Schedule that the Council may publish.

The IDP is supported by a set of schedules that outline the infrastructure requirements for the District. These are very much seen as a 'living document', which can be updated and monitored over time, as more detail and information on site specific proposals emerges. As such, they are kept as a separate document to this IDP.

The document includes details of the infrastructure identified by the Council and other service providers as being needed to support the delivery of the emerging Local Plan. It explains the approach the Council has taken to identifying this infrastructure, how it will be delivered, and an assessment of the potential risks associated with doing so.

It is important to note that the Local Plan establishes an ambitious scale of growth, including three new garden communities where development will extend well beyond the Plan period. The IDP therefore presents a fairly strategic picture of requirements.

1.4 Approach

There are certain important principles regarding the approach and issues that the IDP has to recognise.

- The IDP does not seek to make up for historic deficits in infrastructure. However, there are instances where supporting growth might most effectively be achieved through the upgrading of existing facilities. This could include, for example, extending existing schools or enhancing current public transport services.
- Not all housing and employment growth planned for individual sites will attract specific additional infrastructure requirements that can be addressed through the development of that site alone. In most cases, the infrastructure needs that have been identified reflect the cumulative impact of growth in a wider area, e.g. based upon growth in and around existing settlements or proposed new garden communities.
- The assessment of infrastructure needs has been based upon the trajectory for development in the existing settlements and at the proposed new garden communities (see text and associated tables in Section 2).
- The IDP, for most infrastructure items, presents the 'worst case scenario' in terms of needs. In the case of social, community, leisure and green infrastructure needs, this is because the methodology for establishing the scale of need is based on calculations per head of the population. In reality, much of the infrastructure that is provided in most locations will be provided either in the form of improvements to existing facilities or as co-located facilities. In particular, co-location is likely to become a growing trend which recognises the limited amount of funding available and, in more urban locations, a lack of land to provide all the requirements individually.

- Co-location is likely to take many forms. Schools are increasingly looking to raise revenue by hiring out sports pitches and other facilities outside of school hours. Equally, the shift in primary healthcare provision to larger health hubs means larger buildings that could share facilities with other health providers – opticians, dentists, physiotherapists, etc – but also equally with a range of other uses, both commercial and community, e.g. retail, community centres, libraries, etc. Indeed, the limited resources available for provision of, for example, library and community services has spawned many excellent examples of alternative types of provision with different management structures to those traditionally used.
- Whilst it is important to recognise such changing ways of providing services, it is extremely difficult for an IDP to be definitive about what these could be. There are too many options open as to how this is provided and this could therefore have a significant impact on needs and costs. However, such provision, particularly on larger strategic sites such as the proposed 'garden communities' where new health hubs and schools are to provided, should be recognised as the way such infrastructure needs will be provided over the plan period.

1.5 Categorising infrastructure

The infrastructure detailed within the IDP has been categorised as either:

- **Critical:** Delivery of the identified infrastructure is critical and without which development cannot commence (e.g.: some transport and utility infrastructure).
- **Necessary:** The identified infrastructure is necessary to support new development, but the precise timing and phasing is less critical and development may be able to commence ahead of its provision (e.g.: schools and health care).
- **Important:** Delivery of the identified infrastructure is important in order to help build sustainable communities, but timing and phasing is not critical over the plan period (e.g.: libraries, green infrastructure and youth provision).

2 Relevant planning policy and context for growth

2.1 National Policy

2.1.1 National Planning Policy Framework

The context for this Infrastructure Delivery Plan (IDP) is provided by the National Planning Policy Framework (NPPF). Paragraph 156 states:

"Local planning authorities should set out the strategic priorities for the area in the Local Plan. This should include strategic policies to deliver:

- *the provision of infrastructure for transport, telecommunications, waste management, water supply, wastewater, flood risk and coastal change management, and the provision of minerals and energy (including heat);*
- *the provision of health, security, community and cultural infrastructure and other local facilities."*

Paragraph 162 goes on to state that:

"Local planning authorities should work with other authorities and providers to:

- *assess the quality and capacity of infrastructure for transport, water supply, wastewater and its treatment, energy (including heat), telecommunications, utilities, waste, health, social care, education, flood risk and coastal change management, and its ability to meet forecast demands; and*
- *take account of the need for strategic infrastructure including nationally significant infrastructure within their areas."*

It is important to note that the IDP addresses 'strategic' infrastructure priorities as distinct from very localised infrastructure needs arising from individual planning applications. As such, the approach of the IDP is to assess the needs arising from larger identified sites which individually, or in combination, will contribute towards addressing the strategic objectives of the emerging Local Plan. It is acknowledged that there will also be growth arising from small, non-strategic sites which could be significant in certain locations. Such growth could therefore represent a burden on existing infrastructure networks. However, even in such locations it is unlikely that such growth will result in the need for additional strategic infrastructure, e.g. schools, medical facilities, utilities infrastructure. As such, it has not been addressed directly in the IDP although infrastructure providers have, in engaging with the IDP process, identified general burdens on existing infrastructure from growth which have been reflected in the study.

2.2 Local plan context and strategy for growth

Uttlesford District Council is currently preparing a new Local Plan for the period 2011-2033. The scale of growth to be accommodated in the district is outlined in the following sections.

2.2.1 Housing:

The Local Plan includes provision for 14,773 additional dwellings over the Plan period. Of these:

- 3,756 dwellings have been delivered in the period 2011/12 – 2017/18.
- 3,670 dwellings are on sites that are committed, either as part of sites already under construction or with planning permission.
- 4,820 dwellings will come forward across three new garden communities (and where delivery will continue beyond the Plan period).
- 1,477 dwellings will come forward on sites within the existing towns and villages in the District. Of these, 140 units will be on sites allocated in the smaller 'Type A' villages[1] identified in the Local Plan.
- 1,050 dwellings will come forward through an allowance for windfall, average 70 units per year over the period 2018/19 – 2032/33. These could come forward in any location across the District.

The broad quantum of housing growth considered in this IDP, aggregated by main town and settlement, is presented in Table 1 below. The spatial distribution of this level of growth and development is illustrated in Figure 1 in relation to the existing towns and villages, and in Figure 2, for the Garden Communities.

Three Garden Communities are proposed in the Plan:

- North Uttlesford will provide 5,000 new dwellings, of which 1,925 are due to come forward in the Plan Period. The first completions are expected in 2022/23.
- Easton Park will provide 10,000 new dwellings, of which 1,925 are due to come forward in the Plan Period. As with the North Uttlesford Garden Community, the first completions are expected in 2022/23.
- The West of Braintree Garden Community straddles both the Plan period and District boundaries. It will deliver a total of 10,000 new dwellings, with the first completions expected in 2025/26. Assumptions with regard to delivery are:
  - 3,500 dwellings will be provided in the Uttlesford part of the Garden Community, of which 970 will be delivered in the Plan period.
  - 6,500 dwellings will be provided in the Braintree part of the Garden Community, of which 1,530 will be delivered in the Plan period.

The build-out rates assumed for the Garden Communities are summarised in Table 2.

[1] Type 'A' villages are listed in the emerging Local Plan as including: Ashdon, Birchanger, Chrishall, Clavering, Debden, Farnham, Felsted, Flitch Green, Great Easton, Great Sampford, Hatfield Broad Oak, Henham, Leaden Roding, Little Hallingbury, Manuden, Quendon and Rickling, Radwinter, Stebbing, Wimbish.

Table 1: Scale and distribution of new housing to be delivered in existing towns and settlements over the plan period (as at March 2018)

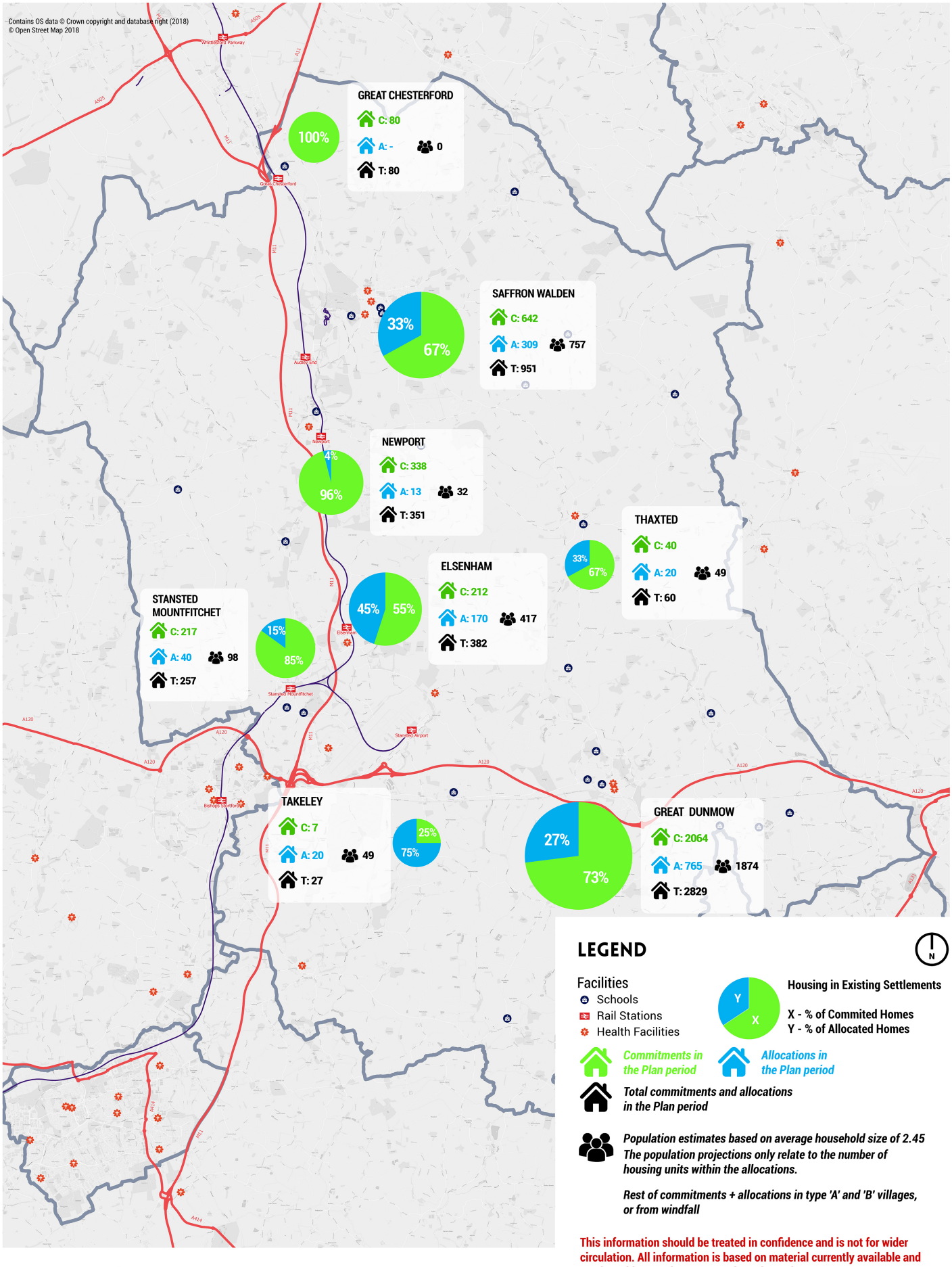
Location	Built	Committed	Allocated	Total in Plan Period (11/12 – 32/33)	Post Plan period (33/34 onwards)	Total (All)
	Years 11/12 - 17/18	Years 1-15 of Plan Period (18/19 - 32/33)	Years 1-15 of Plan Period (18/19 - 32/33)			
Garden Communities:						
Easton Park GC			1925	1925	8075	10000
North Uttlesford GC			1925	1925	3075	5000
WoB GC (in UDC)			970	970	2530	3500
Key Settlements and Villages:						
Elsenham	268	212	170	650		650
Great Chesterford	52	80	0	132		132
Great Dunmow	467	2064	765	3296		3296
Hatfield Heath	20			20		20
Newport	52	338	13	403		403
Saffron Walden	606	642	309	1557		1557
Stan Mountfitchet	359	217	40	616		616
Takeley	588	7	20	615		615
Thaxted	173	40	20	233		233
Other Locations:						
Type A Villages	379	43	140	562		562
Type B Villages	187	27		214		214
Small Sites	535			535		535
Windfall Allowance	70*		1050	1120		1120
TOTAL	**3756**	**3670**	**7347**	**14773**	**13680**	**28453**
WoB (in BDC)			1530	1530	4970	6500
WoB (Total)			2500	2500	7500	10000

*a figure of 70 for windfall has been included here, to represent the completions of 2017/2018. This is because at the time of writing, completion figures for the 2017/18 monitoring year had not been finalised.

Table 2: Annual delivery rates assumed for the three Garden Communities within Uttlesford

	22/ 23	**23/ 24**	**24/ 25**	**25/ 26**	**26/ 27**	**27/ 28**	**28/ 29**	**29/ 30**	**30/ 31**	**31/ 32**	**32/ 33**	**Total in Plan Period**
TOTAL	100	150	200	300	370	450	550	650	650	650	750	8850
Easton Park Garden Community	50	75	100	125	150	175	200	250	250	250	300	1925
West of Braintree Garden Community				50	70	100	150	150	150	150	150	970
North Uttlesford Garden Community	50	75	100	125	150	175	200	250	250	250	300	1925

UTTLESFORD - EXISTING TOWNS + VILLAGES COMMITMENTS + ALLOCATIONS



LEGEND

Facilities
- Schools
- Rail Stations
- Health Facilities

Housing in Existing Settlements

X - % of Commited Homes
Y - % of Allocated Homes

Commitments in the Plan period

Allocations in the Plan period

Total commitments and allocations in the Plan period

Population estimates based on average household size of 2.45
The population projections only relate to the number of housing units within the allocations.

Rest of commitments + allocations in type 'A' and 'B' villages, or from windfall

This information should be treated in confidence and is not for wider circulation. All information is based on material currently available and maybe subject to change as work on the project progresses.

Figure 1: Scale and spatial distribution of growth in the Plan period across the existing towns and villages in Uttlesford

UTTLESFORD - GARDEN COMMUNITIES

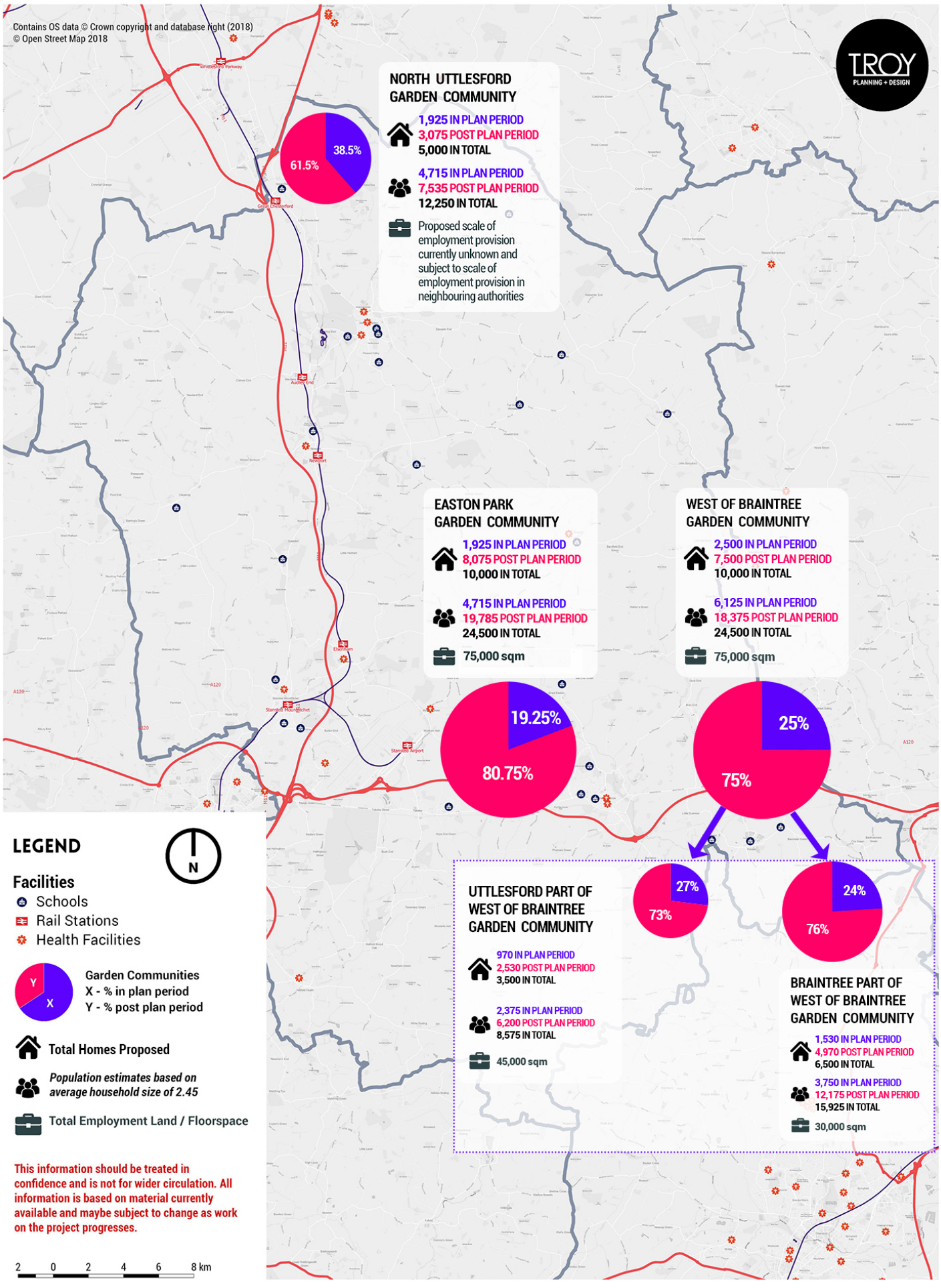


Figure 2: Scale of growth proposed across the three new garden communities in Uttlesford

2.2.2 Employment

The need for new employment space over the Plan period is summarised in the Local Plan as:

- 21,000 sqm of additional floorspace is required over the period 2016-2033, providing for 1,100 additional office-based jobs (use classes B1a/b).
- 10.2 hectares of industrial land will be provided over the period 2016-2033.

The Council's Employment Land review (ELR) suggests that proximity to Stansted Airport, the M11 and A120 are drivers of demand for the location of new employment. It is noted that existing settlements (and the proposed new garden communities) might be appropriate for provision of office space, and that B1c/B2/B8 provision could involve improving existing sites and facilities, particularly where they are vacant or underutilised. Furthermore, it suggests that airport related uses should continue to be supported.

To accommodate employment growth, the Local Plan supports:

- Provision of employment space in the three new Garden Communities
- Support general employment uses at the Northern Ancillary Area at London Stansted Airport (of which 43 hectares of land is available for such use)
- Support further employment activities at the Great Chesterford Research Park.

Two further employment sites are also currently being assessed for inclusion in the Local Plan, adding to the supply of employment land. These comprise:

- In Saffron Walden, land South of Ashdon Road (3,800 sqm)
- In Stansted Mountfitchet, land at either Alsa Road or Sworders Farm (11,800 sqm)

2.2.3 Stansted Airport

In addition to housing and employment growth in the district consideration must also be given to the growth of Stansted Airport. In 2014 the airport was handling 20 million passengers per annum (MPPA) and 230,000 tonnes of freight. At the time of writing it has planning permission to expand to 35 MPPA in 2025 and to process 243,500 tonnes of freight per annum. A Section 106 package for this level of growth has been agreed. It is understood that further growth ambitions exist and a planning application has been submitted to the Council which, if approved, would see Stansted Airport expand such that it can handle 43 MPPA by 2030 and to maintain the exist limit of the total number of aircraft movements per year (274,000).

2.3 Wider growth context

When considering the requirement for infrastructure it is important to acknowledge the relationship with growth in the wider area. There is pressure on land across the East of England for new housing and economic development, with major new housing development proposed along the A120 corridor to the east in Braintree and Colchester, and to the west in Bishops Stortford. Along the M11, Cambridge, to the north, is also experiencing major growth.

To the south, Harlow continues to expand and, beyond this, there are major projects coming forward in the London part of the Lee Valley – at Meridian Water in Enfield

for example. Elsewhere in Essex, places such as Chelmsford are also planning for new growth.

Equally, new opportunities for employment growth are coming forward. A series of employment growth corridors have been identified, running through Essex and across County boundaries, including: (a) the M11 corridor from London to Cambridge and Peterborough; (b) the A12 and Greater Easter Mainline, from London, through Chelmsford to Colchester; (c) the A120 Haven Gateway Corridor, from Bishops Stortford, through Stansted, Braintree and Colchester towards Harwich; and (d) the A13 and A127 Corridors, encompassing Thurrock, Basildon and Southend. Greater London and the City remain key economic drivers and location of jobs.

The strongest employment growth in the County is anticipated to take place in the major towns: at Chelmsford, Basildon, Colchester and Thurrock. Although slower growth is anticipated in Uttlesford, Stansted Airport is an important hub, with transportation and storage identified as the 'economic specialism' in the District. Access to employment, both within the district and out to neighbouring towns and cities, as an important consideration.

This scale and distribution of growth is illustrated in Figure 3 and Figure 4. The combined level of growth in this wider area and the implication for infrastructure delivery is a consideration for service providers and was discussed where relevant during production of the IDP.

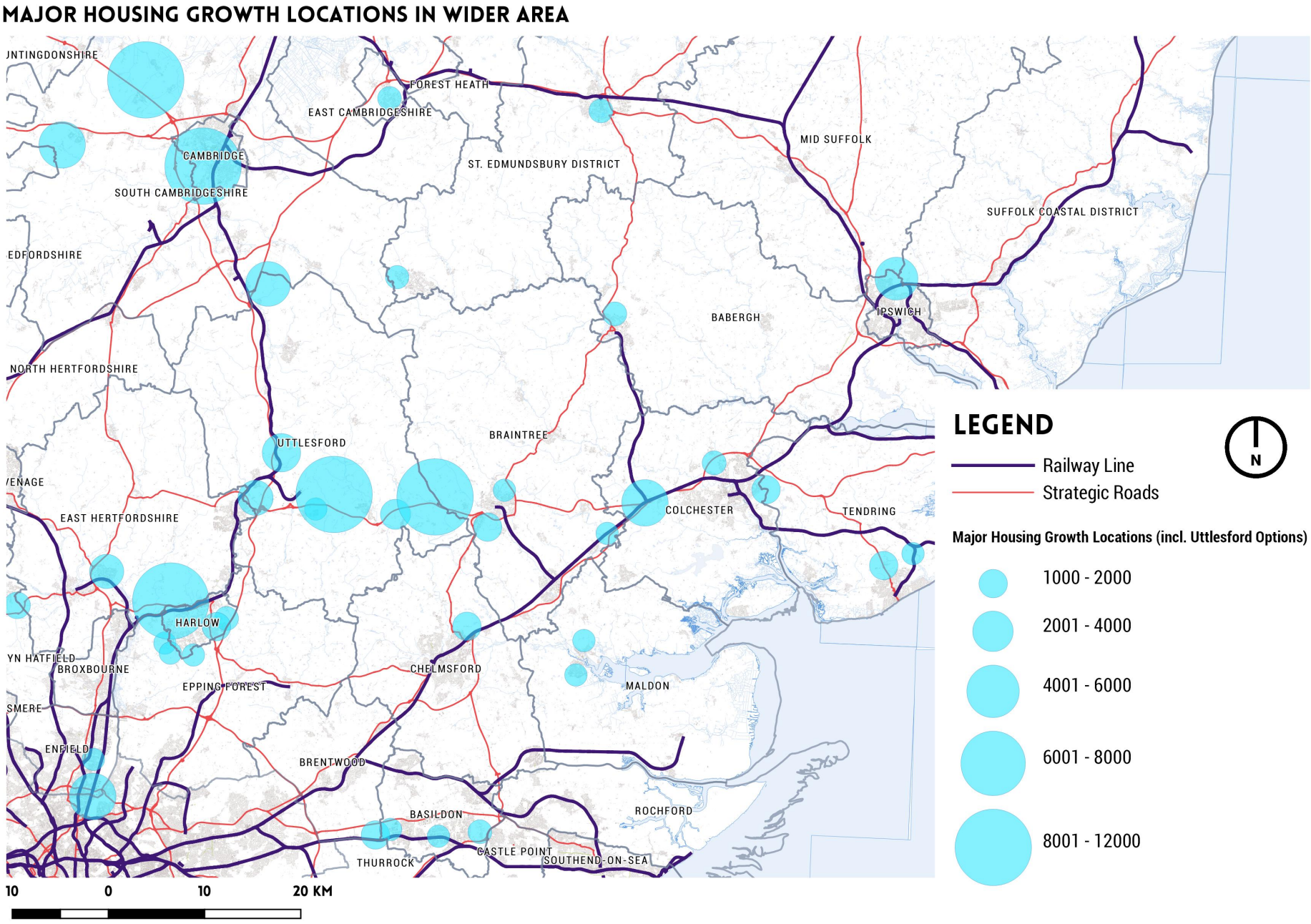


Figure 3: Major housing growth locations in surrounding areas

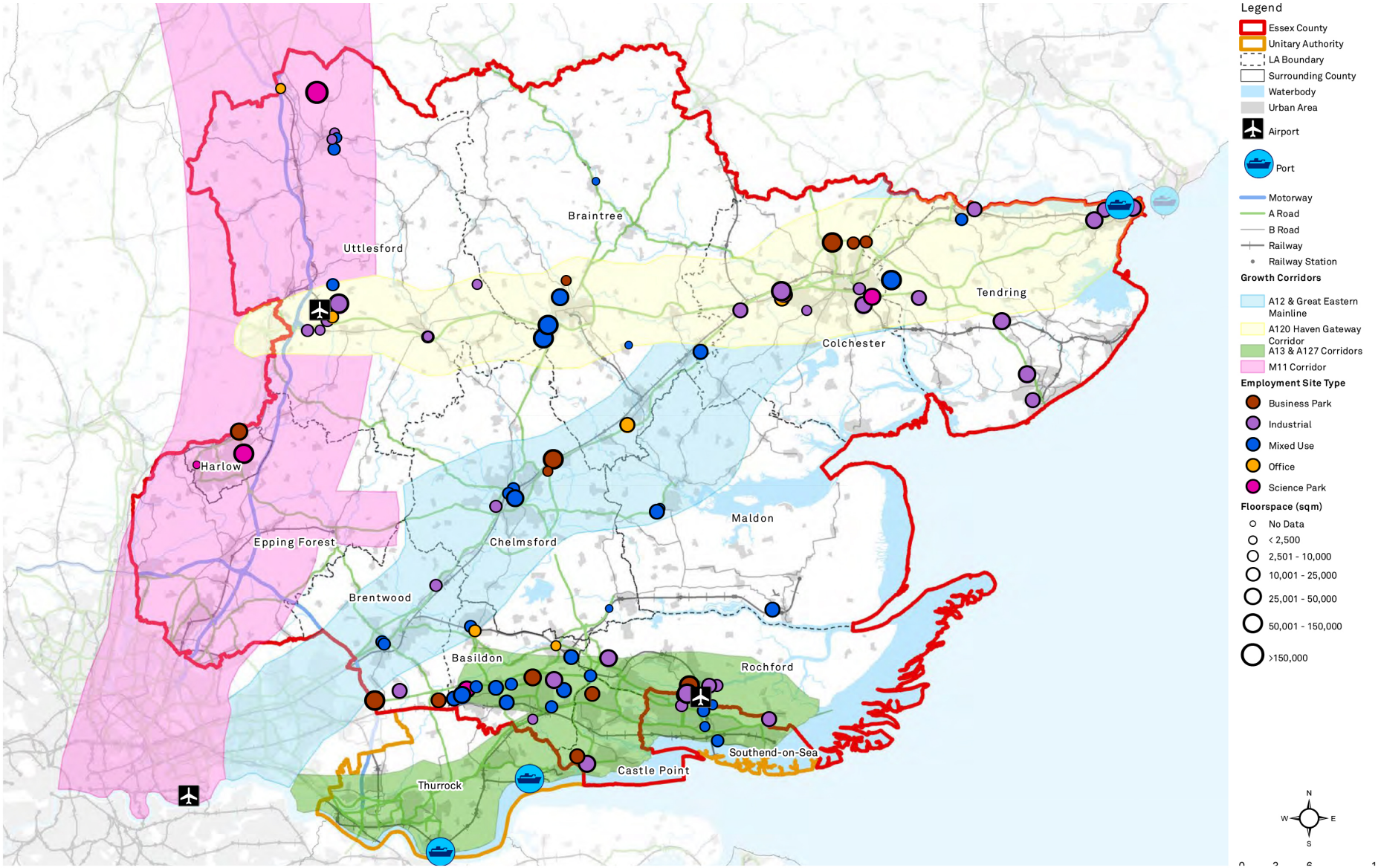


Figure 4: Major employment areas and corridors in surrounding areas

2.4 Garden communities

2.4.1 Principles

During the Council's 'Call for Sites' made as part of the Housing and Economic Land Availability Assessment (2015) reference was made to submissions for development exceeding 500 units being able to demonstrate how they meet 'Garden Development' principles. These are[2]:

- Land value capture for the benefit of the community.
- Strong vision, leadership and community engagement.
- Long-term stewardship.
- Mixed-tenure homes and housing types that are genuinely affordable for everyone.
- A wide range of local jobs within easy commuting distance from homes.
- Beautifully and imaginatively designed homes with gardens, combining the best of town and country to create healthy, vibrant communities.
- Development that enhances the natural environment, providing net biodiversity gains and using zero-carbon and energy-positive technology to ensure climate resilience.
- Strong cultural, recreational and shopping facilities in walkable, vibrant, sociable neighbourhoods.
- Integrated and accessible transport systems, with walking, cycling and public transport designed to be the most attractive forms of local transport.

The Garden Settlements prospectus[3] notes that garden villages are those in the region of 1,500 – 10,000 new homes and that they should be new, discrete settlements, rather than extensions to existing towns or villages. Garden towns and cities are those that provide at least 10,000 new homes. These can be on a new site away from existing settlements, or *'take the form of transformational development, both in nature or in scale to an existing settlement'*[4]. In both instances the provision and delivery of infrastructure is crucial to meeting the principles of new 'Garden Developments'.

[2] Source: www.tcpa.org.uk/garden-city-principles (accessed March 2017)
[3] DCLG, March 2016, Locally-Led Garden Villages, Towns and Cities
[4] Para 53, ibid.

2.4.2 Garden Communities in Uttlesford

Three new garden communities are identified within the Local Plan. These are introduced below, with the infrastructure package included as part of the submissions summarised in Table 3.

Easton Park

Located to the north of the A120 between Stansted Airport and Great Dunmow, this is a site being promoted for 10,000 new homes. Based on commencement in 2022/23 and delivery rates averaging 150-200 units per year, this could potentially deliver 1,925 new homes in the plan period. The site submission also suggests that it could deliver 75,000 sqm of employment floorspace across nineteen hectares of land. It would also include one main centre and four smaller local centres.

North Uttlesford

Located in the very north of the district, this is a site being promoted for 5,000 new homes. Based on commencement in 2022/23 and delivery rates averaging 150-200 units per year, this could potentially deliver 1,925 new homes in the plan period.

West of Braintree

The West of Braintree garden community was previously submitted to the Local Plan as comprising two parts – that known as Andrewsfield and that known as Boxted Wood. The table overleaf presents the infrastructure package outlined in those submissions, though is now being considered as one combined site. This garden community is located on the eastern edge of the district and straddles the boundary with Braintree District Council. In its entirety, the garden community could accommodate 10,000 new dwellings, 3,500 of which would be in Uttlesford, with 970 delivered in the Plan period (based on delivery commencing in 2025/26). As well as the new homes, there will be a range of local employment opportunities, services and facilities. Being located close to the A120 means that the residents of this garden community will have access to London Stansted and Braintree for employment opportunities.

Table 3: Infrastructure package included within Garden Community submission to Local Plan

Physical infrastructure	Social infrastructure	Green infrastructure
Easton Park		
• Fastrack / Fastbus scheme, to be converted into an extension of the railway to Stansted Airport in the longer term	• 1 x secondary school • 4 x primary schools • Library • Health centre • Community 'hub centre'	• 165 hectares open space • Country park with woodlands and wetlands • Sports pitches with changing facilities
North Uttlesford		
• Utility upgrades and connections to provide gas, electricity, telephone, broadband, water and waste water treatment • Sustainable urban Drainage System	• 1x pre-school • Primary schools – 3 form entry school • Secondary school – 1 x 8 form entry school and 2 form sixth-form • 950sqm health care • 850sqm dentist • Library 400sqm • Community halls/ venues 1000sqm	• Public open space • Sports hub • Allotments and /or orchards
West of Braintree		
Boxted Wood		
• Upgrades to utilities • Bus service/ improvements • Improved pedestrian and cycling links • Sustainable Urban Drainage System	• 1 x secondary school • 3 x primary schools	• Public open space
Andrewsfield		
• Bus Service • Pedestrian and cycle paths • Sustainable Urban Drainage System	• 20.36 ha for education comprising 1 x secondary school • 5 x primary schools • 1.15ha in total for education • Community use 1.15ha	• 538.93ha public open space including: Country Park • 6x neighbourhood play areas • 2x village greens and informal open spaces • Formal sports area • 6x allotments/ community orchards

Note to table: The information summarised in the table is based upon the SHLAA submissions made to the District and supplemented, where appropriate, on more up-to-date information provided to the District Council by the site promoters.

3 Physical Infrastructure

3.1 Transport: Highways

3.1.1 Context

The M11 and A120 comprise the main north-south and east-west highway corridors in the district. The M11 links the district with London (to the south) and Cambridge (to the north). The A120 links to Braintree (to the east) and onto Colchester via the A12. To the west, the A120 links with Bishops Stortford and then into London via the A10.

The M11 and A120 intersect at 'Junction 8', between Stansted Airport and Bishops Stortford. To the north of the district, Junction 9 of the M11 links with the A11 at Great Chesterford. To the south, new Junction 7a of the M11 will provide a new access into the growth area to the north of Harlow. Work on this is expected to start in 2019.

Beyond growth in Uttlesford, that in neighbouring areas will also put pressure on the transport network. The West Essex/East Hertfordshire Housing Market Area, which comprises Uttlesford, Harlow, East Herts and Epping Forest district councils, has identified substantial new growth in the M11 corridor. Expansion in Cambridgeshire is also expected, which will increase traffic demand on the M11. Considerable growth in Braintree and Colchester will intensify congestion on the A120, principally on the single carriageway section between Braintree and the A12 junction and at the A120/B1018 Galleys Corner roundabout.

3.1.2 Key strategic highway links

Uttlesford District Council's Local Plan Transport Study[5] assessed a total of 28 growth scenarios across the district. The scenarios included growth up to 14,100 new dwellings in the District, up to three new Garden Communities, and different levels of growth in the existing towns and villages. A range of employment growth scenarios were also tested.

The Transport Study found that, by the end of the Plan period, all key link roads (measuring Annual Average Daily Traffic, and thus 'congestion'), will exceed a 90% stress level, with the majority exceeding 100%, even without any additional development as envisaged in the Local Plan, and assuming current mode share. This means the links are either close to or exceeding capacity and thus likely to result in congestion and delays on a regular basis. The following links are assumed to exceed their theoretical capacity by 2033:

- M11 Junction 7 to 9.
- A120 from the B1383 west of M11 Junction 8 to M11 Junction 8.
- A120(T) from M11 Junction 8 to Stansted Airport.
- B1256 west of Great Dunmow.
- B1008 south of Great Dunmow through Barnston.
- B1383 at Stansted Mountfitchet.

[5] WYG for Uttlesford District Council, December 2016, Uttlesford Local Plan Transport Study, and, WYG for Uttlesford District Council, June 2017, Uttlesford Local Plan Transport Study, Addendum Report

The Transport Study notes that the anticipated additional traffic flows due to Local Plan development are relatively low in many locations across all scenarios tested. Highest traffic flow increases are forecast on the M11, between Junction 7 and 8, and on the A120(T). Outside of the District, increases are expected on the A120(T) around Bishops Stortford, on the A505 in South Cambridgeshire between the M11 and A11(T), and on the A131 Essex Regiment Way within Chelmsford.

The Transport Study reflects existing modal splits that reflect the predominantly rural nature of the district, including a dispersed settlement pattern and long journeys between these that preclude walking and cycling. The Transport Study notes that, in line with the NPPF, new development will be required to deliver sustainable transport measures that provide travel choice to help reduce reliance on the private car. Equally, garden communities will need to deliver a mix of uses and facilities within walking distance of residential properties to minimise the need to travel by car. The Transport Study considers a 10% mode shift away from the car and suggests that the anticipated demand for rail, walking, cycling and bus trips resulting from this can be accommodated by existing infrastructure and services, with local improvements to enhance connectivity to new developments.

3.1.3 Key junctions

Key issues with regard to the highway network are presented in the Transport Study and summarised below:

- Junction 8 of the M11, coupled with adjacent roundabouts to the west (A120/A1250 and A120/B1383) are critical junctions. This will be over capacity at peak time by the end of the Plan period. Short to medium term proposals have been identified by Essex County Council to improve the junction and are being promoted by Highway England's Growth and Housing Fund. However, more comprehensive solutions are required in the longer-term. This junction is discussed further below.
- In South Cambridgeshire, Junction 10 of the M11, as well as the A505/A1301 roundabout, are expected to operate over capacity by the end of the Plan period. Preliminary improvement schemes have been identified that are considered to mitigate the impact of traffic flows associated with growth in the Uttlesford Local Plan.
- Between Junction 8 of the M11 and the A131 (east of Braintree), the A120(T) is dual carriageway and benefits from grade separated junctions. The Transport Study notes that these operate with spare capacity and do not represent constraints to development. Junctions in Braintree, at Galley's Corner and Mark's Farm, do though experience congestion at peak period and options are being explored to resolve this.
- The A131/B1008 Essex Regiment Way roundabout experiences congestion and queuing in the peak periods. The Transport Study notes that Essex County Council is preparing an improvement proposal that will be implemented in the short-term.

M11 Junction 8

Junction 8 of the M11 serves as the main point of access to the strategic road network for the town of Bishop's Stortford and its surrounding area, as well as London Stansted Airport. It also provides access to the A120, an east-west route

connecting Standon at the most westerly point with Harwich on the east coast; and the B1256, which provides an alternative access to the strategic road network for Uttlesford District.

As noted above, the Junction is already operating at capacity. The Highway Agency has previously identified this as a 'problem junction' with a 'severe' level of congestion[6]. Capacity will be exceeded even without development within Uttlesford. In addition to this, the growth being planned for in and around Bishop's Stortford (within East Hertfordshire District), coupled with the potential expansion of London Stansted Airport, will increase traffic demands at Junction 8. Although new Junction 7a may free up some capacity it is considered that a 'major fix' to Junction 8 is required in the long term.

In the meantime Essex CC has obtained funding for a number of minor improvements to Junction 8 which will provide capacity for development in the short to medium term. Highways England is working with Essex CC on detailed design with a view to completing the works during 2019. These are understood to include the widening of the A120 link from Bishop's Stortford, a dedicated free flow left turn from the M11 southbound exit slip to the A120 eastbound, and widening on the M11 northbound exit slip.

The creation of a new M11 junction – Junction 7a at Harlow - has been agreed by the DfT. This will allow for growth in Harlow as well as providing short term congestion relief to M11 Junction 7. Works are expected to start by the end of 2019-20-20.

In the longer-term significant improvements will be needed at Junction 8 to support expansion of London Stansted Airport and anticipated growth. However, there is currently no major scheme proposed to deal with long-term improvements. The Department for Transport's Road Investment Strategy (RIS 1) currently runs until 2020[7]. Work to inform RIS 2, for the period post-2020, is currently underway[8]. Highways England is currently undertaking work to determine investment within RIS 2. M11 Junction 8 (and, indeed, that part of the M11 between Junction 8 – 13) is one area that this study work will focus on. This work will define the issues in this location to determine if and what interventions may be required, and whether improvements could provide value for money or be affordable. This study work is still very much part of the early investment planning process and provides no guarantee that the locations being considered will emerge as a priority for RIS2 period 2020-2025. This is likely to be announced in 2019.

Alongside this, it is likely that capacity improvements will also be needed at junctions along the A120. Further modelling of traffic impacts is required to investigate this further at the appropriately detailed stage.

[6] See Atkins for the Highways Agency, February 2012, Highways Agency Area 6 Congestion Reduction Plan 2011/2012

[7] RIS 1 is the initial step in a long-term programme to improve England's motorways and major roads and covers investment during the period 2015 to 2020. RIS 1 was announced by the government in December 2014. It outlined a multi-year investment plan including over 100 major schemes funded by £15.2 billion of public money

[8] DfT, 2016, Road Investment Strategy post 2020: planning ahead

3.1.4 Place-specific

Highways and access issues associated with the garden communities and growth at other main towns / locations in the District are outlined below:

North Uttlesford:

It is not thought there are any major access constraints associated with new development at North Uttlesford. Furthermore, it is considered that the scale of growth envisaged would not have a major impact on the A505 and that improvements to this are required with or without the proposed development. However, a package of sustainable transport measures will need to be planned for, including connectivity with the Cambridge Park & Ride (on the A1307). Other sustainable transport measures are discussed in later sections of this report. Further work has been undertaken by the promoters of the site, particularly in relation to transport and movement, with a transport vision and strategy having been produced. Three potential access points have been proposed by the promoters of the site. They have also proposed capacity enhanced junction arrangements for the A11 at Stump Cross roundabouts and a new roundabout/ signalised junction onto the B184 near Park Road. There is support from the promoters for proportionate contributions to strategic improvements to the A505 and M11 Junction 10.

Easton Park:

It is considered that access into Easton Park from the A120 (via the B1256) is achievable, and that existing junctions have sufficient capacity to cater for this. However, based on the scale of proposed development, a minimum of two main access points will be sought. At present, only one main access is proposed. Other solutions, including direct bus links to Stansted should be considered and are potentially feasible, subject to further discussion with the Airport. ECC also advise that a new garden community at this location might increase the level of traffic on the B1008 towards Chelmsford (and, further away, the A131), which will require assessment at the appropriately detailed stage.

West of Braintree:

Current assessments for this garden community show proposed access arrangements onto the B1256 from that part of the site within Braintree in the early development phases. Access onto the A120 would then be made at Great Dunmow, negatively impacting on that junction and the local road network. Further assessment of these proposals, including more direct connections with the A120, is required at the appropriately detailed stage.

Saffron Walden:

The transport assessment work undertaken by Essex Highways in 2013 for growth over the period 2012 to 2031 found that, of eleven main junctions assessed in the town, seven would exceed capacity and two approaching capacity.

Essex County Council has since prepared a study looking in more detail at traffic impacts in Saffron Walden[9] arising from the proposed scale of growth in the Local

[9] Essex County Council, Transportation Strategy & Engagement, May 2017, Saffron Walden Traffic Study Update

Plan. In this study, it is considered that there are several junctions require mitigation measures to help deliver the scale of growth in the Local Plan especially those that help circumvent the town centre. A link road was tested as a way of alleviating traffic movements through the town. However, this was found both challenging to deliver (no route identified or available) and unlikely to delivery sufficient traffic relief. Improvements to the Peaslands Road corridor have though been identified, and subject to further Transport Assessment associated with the development site east of Thaxted Road (Kier site), will provide opportunities for traffic to avoid travelling through the centre of Saffron Walden. The study also suggests that improvements previously identified through the Uttlesford Air Quality Plan 2017-2022 are still required. These include:

- Newport Road / Borough Lane priority junction improvements.
- Debden Road, London Road to Borough Lane junction improvements.
- Thaxted Road / Peaslands Road junction improvements.
- Waiting restrictions on Peaslands Road.

Great Dunmow:

It is advised, by ECC, that road accesses and junctions onto the A120 (at Dunmow West and Dunmow South) are reasonably adequate and able to accommodate the scale of growth, being considered in the emerging Local Plan.

The Transport Study notes that existing traffic movements and delays through the town are typical for the context and that, although there are delays on the B184 and B1256 to the south of the town, these will be improved through implementation of conditions associated with committed development.

Stansted Airport:

Stansted Airport is the largest employer in the East of England region. The vast proportion of employees (around 70%) travel to work by car. Equally, a high proportion of passengers travel by car. It is understood that better timetabling of public transport services (rail and bus) might help deliver a mode shift away from the car.

However, with the scale of growth already approved vehicular access will remain important for employees, passengers and other movements, including those associated with freight.

The interim improvements to Junction 8 of the M11 will cater for the existing scale of growth permitted at the Airport up to 35 MPPA. Policy SP11 addresses any growth in passenger numbers. ECC/HE have tested options for strategic improvements to M11 J8 including a range of potential growth options as part of work for a RIS bid above. . However, travel movements associated with the airport do not necessarily coincide with traditional peak hour movements, and this would need reflecting in further studies.

3.1.5 Summary of issues and opportunities

The schemes outlined above are considered by the Transport Study, alongside promotion of a mode shift and provision of a range of services and facilities in the

garden communities, to address forecast traffic conditions and enable the scale of growth envisaged in the Plan period.

However, without further improvement at Junction 8 of the M11, the strategic road network would be unable to cope with the anticipated scale of growth proposed in Uttlesford in combination with surrounding districts and at Stansted Airport.

Improvements to Junction 8 are the most significant infrastructure intervention (in terms of highways). Interventions are currently being approached on the basis of:

- Plans for shorter term improvements that would reduce existing problems for a number of years (for which some funding is now in place).
- Developing plans for a far more substantial and more costly package of solutions designed to achieve greater improvements and address the longer term intervention needs. The scale of this means that external funding would be required to be sought through the RIS process.

3.1.6 Future funding and delivery

The ECC Developers' Guide to Infrastructure Contributions (Revised 2016) notes that large scale strategic projects identified through the Local Plan process are likely to be funded through a Community Infrastructure Levy, where one is in place. When considering the impact of individual developments, ECC will require developers to complete or procure any necessary works to mitigate the impact of their development. Where more than one development in an area (but no more than five) generates the need for a specific Highways project which does not directly form part of one of the developments, it may be appropriate for ECC to secure financial contributions through a Section 106 agreement and procure the necessary works. This approach will, however, only be taken in exceptional circumstances.

The purpose of any Highway works will be set out in a Section 106 agreement between ECC and the developer along with a broad description of the measures and location. A Section 278 or similar agreement may then be required prior to the works commencing to agree the precise design of the measures.

Information on the package of works likely to be required for each of the garden communities is presented in Table 4.

Table 4: Transport requirements, costs and responsibilities associated with the Garden Communities

Nature of Infrastructure	Timescales for Delivery	Responsible Authority(S)	Cost	Notes/ Cost Assumptions
North Uttlesford				
A505 Newmarket Rd/A1301 (capacity)	Unknown at this time	Contribution from developer; Cambridgeshire County Council	Unknown at this time	In South Cambridgeshire District
A11/A1301/B184 Walden Rd (capacity)	Unknown at this time	Delivery by developer/ Essex County Council / Cambridgeshire County Council / Highways England	Unknown at this time	On border between authorities
Junctions in Saffron Walden	Unknown at this time	Unknown at this time	Unknown at this time	
Passenger Transport Infrastructure and subsidised bus services to and from – local transportation interchanges, key community and economic centres. Frequency of service – Peak period (7am – 10am and 4pm – 7pm) every 20 minutes, inter peak and evening minimum hourly service (all subject to viability of bus service provision).	From occupation of first dwelling to occupation of final dwelling plus 5 years	Delivery by developer	£1.2 million*	Concern about the viability of bus services after the subsidised bus services – the quantum of the development limits the viability.
Great Chesterford – contributions for traffic management and safety	Contribution receipt from first occupation	Contribution from developer – delivery by developer or Essex County Council.	£500,000	

Nature of Infrastructure	Timescales for Delivery	Responsible Authority(S)	Cost	Notes/ Cost Assumptions
Cycling – contribution for improvements between the site and Great Chesterford, Saffron Walden, Whittlesford Parkway and Cambridge.	Contribution receipt from first occupation	Delivery by developer.	£2m	
Sustainable bus/cycle link from site to Granta Park	0-5 years	Delivery by developer / Essex County Council (possible CPO)	£10m	
Local level highway infrastructure enhancements will also be required.	Contribution decided following further site information.	Contribution or works by developer	Unknown at this time	
M11 J9 – north-facing slips (to relieve A1301/A505 and A505/M11 J10?	Unknown at this time	Contribution from developer – delivery Highways England / Essex County Council	Substantial funding required.	
Sustainable travel promotion and package	From first occupation to build out of the site plus 5 years following completion of the final dwelling	Delivery by developer – Essex County Council Travel planning team (tbc)	£450,000 - for this plan period.	
Easton Park				
On site Passenger Transport Infrastructure and subsidised bus services to and from – local transportation interchanges, to serve Chelmsford and on-demand services to serve rural hinterland (eg Arriva Click); contributions	First occupation to occupation of final dwelling plus 5 years	Delivery by developer	Services £4.1 million* This has risen because a higher build out rate was assumed in last calculation, the bus services will not	Cost was based on estimated future bus patronage using Tempro and comparison with a similar Essex rural district. Assumptions were made around revenue generation, phasing of developments, services required and vehicles

Nature of Infrastructure	Timescales for Delivery	Responsible Authority(S)	Cost	Notes/ Cost Assumptions
towards off site infrastructure (bus stops etc) Frequency of service – Peak period (7am – 10am and 4pm – 7pm) every 20 minutes, inter peak and evening minimum hourly service (all subject to viability of bus service provision).			become commercial in this LP period Off site infrastructure improvement £200,000	required to provide those services.
Rapid transit direct connection to Stansted Airport as major transport interchange, also to Gt Dunmow, Braintree and eastwards	1-5 years	Unknown at this time	£10,000,000 Does not include cost of running services	Variables include Land, Structures Levels? Crossings Length Envt mitigation Feasibility study for this section separate but Outline business case would encompass whole E:W route
Bus/cycle/walk link to Great Dunmow bypass (with the potential to be all vehicle should the single site access be insufficient)	From first occupation; need for use by all vehicles to be monitored	By developer	£10 million	Monitoring is required to show if it will be necessary to upgrade this link to all vehicles
Improvement to A120 junction / access – A120/B1256 (W) (reference from figure 1 is B).	Before occupation of first dwellings.	Developer funded and delivered.	£2 million	The developer would have to demonstrate what was required for this LP period. Monitoring would be required to show if further accesses were required.
Direct pedestrian and cycle linkage to airport, and high quality connections to local routes and villages	Provision of mitigation measures at early occupation but dependent on phasing and	Developer	£1 million.	Variables include Land, Structures Levels? Crossings Length Envt mitigation

Nature of Infrastructure	Timescales for Delivery	Responsible Authority(S)	Cost	Notes/ Cost Assumptions
	precise location of build.			
M11 J8 major capacity improvement (reference from figure 1 is A)	Towards end of plan period. Possible contribution to be decided following further site information.	Possible contribution from developer – delivery Highways England	Substantial funding.	
Local level highway infrastructure enhancements will also be required.	Contribution decided following further site information.	Contribution/delivery from developer – and/or delivery Essex County Council.	Will come forward with each stage of development	
Essex Regiment Way contributions for sustainable transport mitigation ie expansion of Chelmer Valley P&R.	Contribution receipt from first occupation.	Contribution from developer – delivery Essex County Council.	£1 million plus £150k/year if additional bus needed	Based on the previous expansion of Chelmer Valley Park and Ride. It is important to note that the figure quoted is not the total cost for the scheme, but represents an indicative figure for a contribution that would be accompanied by West of Braintree contributions. [IT: £1m to expand P&R site by 400 sp, another bus? (150k/bus/yr if needed – without additional income, based on 2015, tender prices for previous rounds)
A120 Braintree junctions – A120/B1018 Galleys Corner; A120/B1256 marks Farm Roundabout (reference from	Contribution decided following further site information.	Contribution from developer – delivery and approval from Highways England	Substantial funding	

Nature of Infrastructure	Timescales for Delivery	Responsible Authority(S)	Cost	Notes/ Cost Assumptions
figure 1 is primarily but not exclusively D and E).				
Chelmsford N E Bypass	Contribution decided following further site information.	Contribution from developer – delivery Essex County Council.	£350M total cost estimate	High level indicative cost estimate
Sustainable travel promotion and package and monitoring	From first occupation to build out of the site plus 5 years following completion of the final dwelling	Delivery by developer or Essex County Council Travel planning team or bespoke teams set up for Garden Villages	£450,000. For this plan period	Based on the need for a co-ordinator, materials, monitoring, websites, apps etc. £225 per house
West of Braintree				
Active Modes & Public Realm	Some requirements for initial phases, but all to be delivered during plan period	Delivery and funding spread between Essex County Council, Garden Community, Local Sustainable Transport Fund, S106 funds from Tarmac Quarry	£1.925m-£3.15m	
Rapid Transit (excluding Guided Bus / Cressing Loop)	Unknown at this time	Unknown at this time	£7.175m-£10.325m	
Road	Unknown at this time	Unknown at this time	£5.95m- £9.275	
Travel Plan Measures (@£1,500 per home) – 10,000 homes, includes bus subsidy	Unknown at this time	Unknown at this time	£15m total (£5.25m in UDC)	
Guided Bus and Freeport Transit Hub	Unknown at this time	Unknown at this time	£20.3m- £28m	
Cressing Loop and Freeport Transit Hub	Unknown at this time	Unknown at this time	£40.25m- £53.2m	

Nature of Infrastructure	Timescales for Delivery	Responsible Authority(S)	Cost	Notes/ Cost Assumptions
Chelmsford NE Bypass	Unknown at this time	Unknown at this time	£5.25m- £7.7m	

Source: Essex County Council

Notes:

- The information outlined within the tables above is indicative and may be subject to change. Estimated costings are based on similar schemes delivered in 2015.
- No inflation has been applied.
- The phasing of the infrastructure is difficult to determine without understanding the impact of the development in each Local Plan period. As there is such a great emphasis on the need for sustainability it is assumed that sustainable transport must be provided upfront. Road infrastructure may be phased in as required.
- The passenger transport contribution is a guide only. In reality the support needed is based on the number of places served, existing services, journey time, frequency, buildout rate of development, passenger take up of service, fare base. The viability of the service is also dependent on these factors.

Notes for West of Braintree Section:

- Information taken from the North Essex Garden (NEG) Village Movement and Access Study, May 2017. The costs have been split on the basis of the number of houses.
- Chelmsford North East Bypass is not referenced in the NEG study, which has an estimated cost of £350M

3.2 Transport: Rail

3.2.1 Existing network and service provision:

There are six railway stations in the District. North to south these are: Great Chesterford, Audley End, Newport, Elsenham, Stansted Airport and Stansted Mountfitchet. Rail infrastructure is the responsibility of Network Rail, with services and stations the responsibility of the Train Operating Company (TOC). The TOC for this area is Abellio, whom run the Greater Anglia Franchise from London Liverpool Street to Essex, East Hertfordshire and East Anglia. Three separate routes serve the District. These are:

- **Stansted Express**: which runs between London Liverpool Street and Stansted Airport, stopping at key interchange stations along the way, including Tottenham Hale, Harlow Town, Bishops Stortford and Stansted Mountfitchet.
- **West Anglia**: which runs between London Liverpool Street and Kings Lynn via Cambridge and Ely. All stations within the District, with the exception of Stansted Airport, are served by this route.
- **Regional**: which runs between Stansted Airport north to Cambridge, Ely and other towns and cities in Cambridgeshire, Norfolk and Suffolk. Within the District, Audley End is also served by this route.

3.2.2 Plans and proposals:

Infrastructure, rolling stock and seating capacity

The Anglia Route Study[10] looks ahead to 2043 and outlines choices for ongoing investment and infrastructure improvements across the rail network. This reflects assumptions in regard to growth and demand for rail services, and what might be needed to cater for this. It is anticipated that demand for rail services will increase by 18% between 2013 and 2023, and by 39% between 2013 and 2043[11].

Options identified to cater for this level of demand include both infrastructure improvements (e.g.: additional track and platforms) and non-infrastructure solutions (e.g.: longer trains and revised timetabling). 'Conditional outputs' are identified that need to be met and include:

- Providing sufficient capacity for passengers travelling into Central London and other employment areas during peak hours.
- Providing journey time improvements for services between Stansted Airport, London Liverpool Street and Cambridge.
- Providing sufficient capacity for passengers travelling to Stansted Airport at all times of the day.
- Improving cross London connectivity.

Options for delivering these conditional outputs are outlined in the study: not all of which are committed or funded. Rather they present choices for the Government and third-party funders. Options that will impact on Uttlesford (including those that involve projects beyond the District boundary) are outlined below:

[10] Network Rail, March 2016, Long Term Planning Process – Anglia Route Study

[11] The study notes (in section 4.4.3) that there will be a need to provide further capacity for approximately 1,000 passengers by 2023 and 2,100 by 2043 in the peak hour on the Cambridge and Stansted Airport services into London Liverpool Street. On suburban services, further capacity for 1,700 passengers by 2023 and an additional 4,200 passengers by 2043 will be required.

- **Crossrail 2:** This will provide direct access to Central and South West London from the West Anglia stations. The proposed four-tracking of the railway between Broxbourne and Tottenham Hale will allow for fast services to be split from slower services and freight trains, improving journey times and releasing capacity to enable additional services to be run. It is anticipated that Crossrail 2 will be delivered in the early 2030s. Four-tracking could be provided ahead of Crossrail 2, providing additional capacity in the medium term.
- **Stansted Airport:** Based upon the growth of the airport it is expected that further investment will be required to this branch. This could involve doubling the existing branch and associated tunnel. There is no funding in place for this but will be important for longer-term growth.
- **Ely area upgrades:** The rail network in the Ely area currently presents a constraint to passenger and freight services, as well as associated journey times. Enhancements here will increase capacity and thus present benefits for the Anglia region as a whole, helping to unblock West Anglia and cross-country regional services.
- **East-west Rail**: Provision of a new longer-term route linking Oxford, Bedford, Cambridge and East Anglia will improve connectivity between these areas.
- **Level crossings**: Network Rail consulted on changes to level crossings in 2016 and is proposing to close or remodel nine crossings in the district[12], with the intention of improving safety and service reliability. This will require the diversion of routes across the railway to other existing underpasses or bridges.

Delivery of the conditional outputs will, in the long-term, provide additional seating capacity on services within the Uttlesford area, as indicated in Figure 5.

Delivery of increased capacity on rail services is the responsibility of the TOC. The Greater Anglia Franchise was awarded in October 2016 and runs for a period of nine years, with the option for an additional one-year extension. Planned service improvements thus relate to this period.

New trains will be rolled out across the network from 2019. Stations in Uttlesford will be served by new Bombardier Aventra trains. During peak-times all trains will comprise ten carriages, equivalent to 1,146 seats plus wheelchair spaces. Five carriage trains will operate off peak: each has capacity for 544 sitting passengers plus wheelchair spaces. Together, this represents an increase in seating capacity of between 22-45% in comparison to existing rolling stock. Network Rail are confident that the proposed development in Uttlesford can be accommodated by the rolling stock already proposed by Greater Anglia.

[12] Network rail refers to the nine crossings as being within the 'Newport area'. They are: Fullers End, Elsenham Emergency Hut, Ugley Lane, Henham, Elephant, Dixies, Windmills, Wallaces, and Littlebury Gate House.

Figure 4.6 Average load factor of all West Anglia Main Line outer services into London Liverpool Street between 08:00 and 08:59 in 2013, 2019, 2023 and 2043

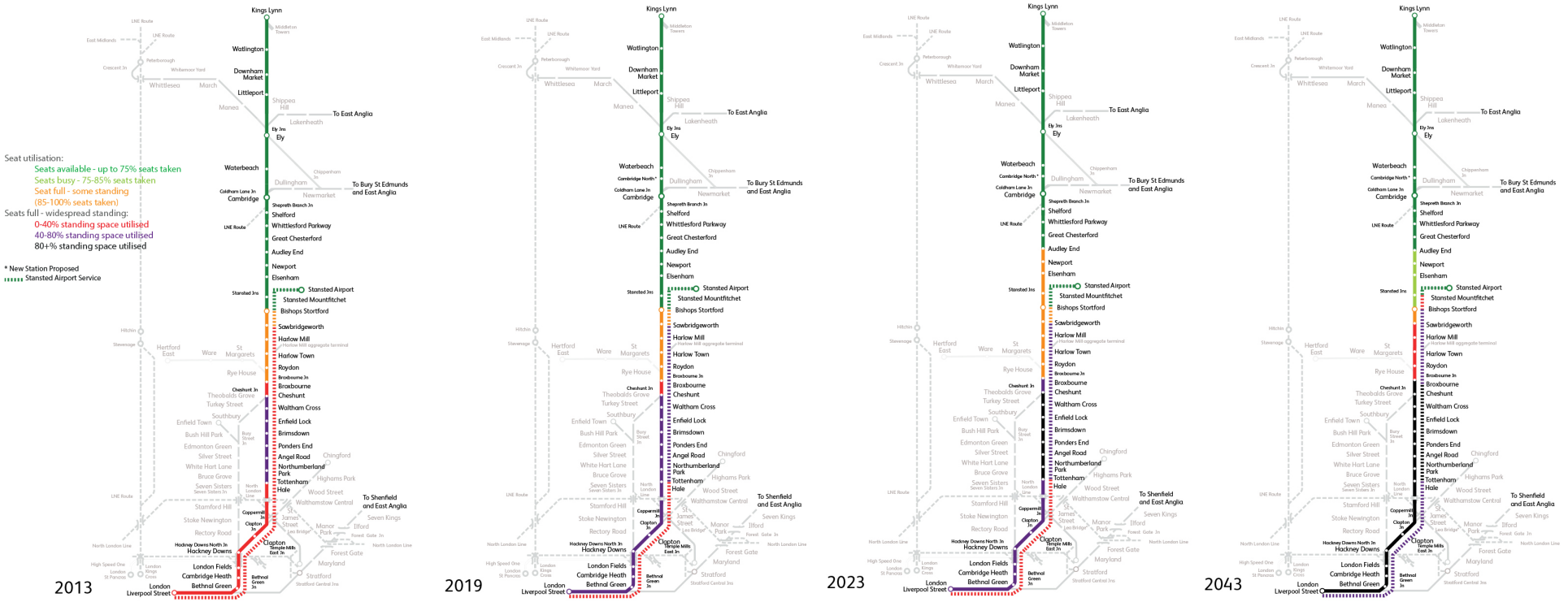


Figure 5: Future seating capacity on rail services within the Uttlesford area
Source: Network Rail

Access to stations

To help support the delivery of sustainable transport measures, reduce the need to travel by car, reducing carbon emissions and promote healthy active lifestyles, Greater Anglia / Abellio has identified a number of constraints around stations where investment is required to help deliver sustainable growth and travel.

Station Lease Areas

The stations (platforms and buildings) and surrounding land (car parks and access roads) areas are leased to Greater Anglia for the term of the franchise up to 2025. In most cases Greater Anglia has utilised the land within the lease area and has little opportunity to expand. Car parks are nearly full at the stations in Uttlesford and at those close by in neighbouring authorities. Expansion of car parks is constrained by the limitations of the lease hold areas, and in the main the option to accommodate parking growth is to provide an extra deck within the existing lease area. Such an approach may however be restricted given factors such as proximity to heritage assets and other sensitives.

Provision of additional station car parking can help reduce the need to park on street in adjacent residential areas in the local community. Where there is insufficient parking capacity, Greater Anglia notes that this can result in tension between residents and those parking, and the normal solution is for the local authority to introduce parking restrictions and the necessary enforcement measures. Demand is in part dependant on the level of train service which varies at the stations in Uttlesford.

Stations where car parking is limited include Stansted Mountfitchet (63 spaces) and Newport (34). Larger car parks are available at Audley End (599) and Whittlesford Parkway (386). Demand at these locations has exceeded 86% of capacity. Investment will be made by Greater Anglia at Audley End to expand the car park. At Great Chesterford and Elsenham there is no station managed car park. Harlow Town has a large car park (629 spaces) but demand has been recorded at 93% of capacity.

Cycle Parking and links to the station

Greater Anglia supports cycling with different levels of facilities available at stations. Expansion of cycle parking is constrained by space (linked to franchise requirements). With most of the stations in Uttlesford being on the edge of the community it serves, cycle routes to the stations (outside of the GA lease areas) from the community/developments needs to be improved to be able to promote safe cycling and attract new cyclists.

Bus Routes and Interchange

Bus services in Uttlesford are limited with low frequencies and lengthy routes serving the local communities. The bus services stop on the highway in the vicinity of the stations at Stansted Mountfitchet, Newport, Elsenham and Great Chesterford: the stations are constrained and door to door access is not possible. Therefore, signing to and from the nearest stop is essential and the quality and safety of the walking route and waiting environment should be improved. At Audley End the bus stops on the forecourt . When considering future bus services timings should be

designed to connect with the train services. Local through rail/bus ticketing is available to Saffron Walden via Audley End station and relies on two bus operators to provide the bus service.

Where developments are required to have travel plans incentives to use trains through travel planning package should be considered.

3.2.3 Funding and delivery:

Network Rail is moving towards a more devolved approach to funding, meaning that opportunities for funding from third parties (e.g.: through Local Economic Partnerships) can be provided as well as that from more traditional sources, such as through Government (Department for Transport).

The TOC is currently committed to a series of station improvements across the network over the next nine years, including provision of information screens and new vending machines. Additional station investments will require third-party funding.

In addition, other mechanisms, including CIL / s106 and any other Council funding will be sought to contribute towards infrastructure improvements.

3.3 Transport: Bus

3.3.1 Current provision:

In Essex around 85 per cent of the bus network is provided commercially. Commercial operators set their own bus routes, maintain their own buses and run their services as their commercial interests dictate. Around fifteen per cent of the bus network is supported by Essex County Council[13].

There are a wide range of bus operators within Uttlesford, offering a relatively dense network of routes (Figure 6). However, the speed, frequency and cost of these routes varies.

Arriva operates bus services focussed around the south of the district and Stansted Airport. Their services include:

- The 508/509/510, running between Stansted Airport, Bishop's Stortford and Great Dunmow. This runs every ten minutes, 24 hours a day, seven days a week.
- The 133 runs between Stansted Airport and Braintree via Great Dunmow. It runs on an hourly basis for most of the day, seven days a week. It requires some support from Stansted Airport to provide the Sunday service.

3.3.2 Plans and priorities:

Essex County Council prioritises local bus services according to the 'Getting Around in Essex Strategy'. As part of this, the Bus and Passenger Transport Strategy, published in 2015, outlined a range of proposals intended to make bus travel better and easier. Subsequent to this, the Essex Local Bus Service Priority Policy 2015 to 2020 has been published. The purpose of this is[14]:

- First, to enable the Council to prioritise where its limited financial resources should be allocated as part of the area review process.
- Second, once the revised supported bus network is put in place, it allows the Council to respond to changes to the commercial bus network over which it has no control and assess the need for additional contracted services that result from them (or indeed to cease providing a contracted service where a comparable commercial service is started).

The County Council has developed a series of tables setting out Service Intervention Points (SIPs) that indicate the level of bus service available to residents in an area beneath which it will consider the need to provide additional transport services. However, the County is unable to provide for every potential transport need that might occur and thus needs to prioritise its support for services. The County will focus expenditure on those services that most effectively meet residents needs.

If insufficient funding is available in the local bus budget to provide a new service, even if it has a high priority, then the County Council will look at the following options:

- Not to provide the service at this time, but place it upon a reserve list, with priority for provision, should additional funding be made available at a future date.

[13] Source: Essex County Council, 2015, Getting Around in Essex: Bus and Passenger Transport Strategy
[14] Source: Essex County Council, 2016, Local Bus Service Priority Policy 2015 to 2020

- Allocate additional funding to provide the service identified from within other Essex County Council resources.
- Provide the service and fund it by withdrawing services with the overall lowest priority (lowest priority category and highest cost per a passenger journey within that category) sufficient to provide the necessary funding.

It should be noted that the presence of Stansted Airport within the district means that bus routes serving the airport need to operate for a longer length of time than would normally be the case for other bus routes. This adds additional costs to the operating of these services.

Arriva are focused on improving existing services and developing them further. Recent investment has led to improved frequencies and quality of vehicles operating on the 508/509/510 routes.

3.3.3 New routes and services:

It is advised by Essex County Council that the strongly rural nature of the district raises challenges for implementing sustainable travel initiatives.

In terms of standards for providing new services, a rough benchmark is that 1,000 homes will support one bus, although this is dependent upon the route and duration of operation over the day. Hourly services are unlikely to be viable but, if tied into existing routes, can increase their chance of being commercially viable.

Small scale developments are unlikely to contribute to improved services, but the combination of proposed and potential growth along the A120 between Stansted and Braintree is likely to support improved services. However, the implementation of new or improved services will need to be phased so that they are commercially viable to operate. Thought will need to be given to bus routing during the design stage of any proposed new development so that it doesn't impede existing services, but so that it also integrates provision for new routes.

Bus only segregated routes are considered to deliver the greatest journey benefits, allowing for quicker and more reliable journey times, increasing their attractiveness to passengers but also making services more efficient to operate. Alternatively, new bus lanes and priority measures should be provided. Walking distances to bus stops should also be sufficiently attractive and accessible to all.

Stansted Airport represents the key sustainable travel hub for the district and there are opportunities arising from the district's two main travel corridors (with bus / coach services linking east-west to numerous towns) and the rail corridor linking north-south to London and Cambridge, with other destinations in-between (such as Harlow).

Ensuring bus services connect and tie in with railway stations and services (such as Audley End station for Saffron Walden) represents a potential beneficial improvement. The provision of real-time passenger information for bus services serving the district would also be beneficial.

The promoters of North Uttlesford have proposed a new public bus service connecting the Wellcome Genome Campus, Whittlesford Parkway and Granta Park, connecting into the site as well.

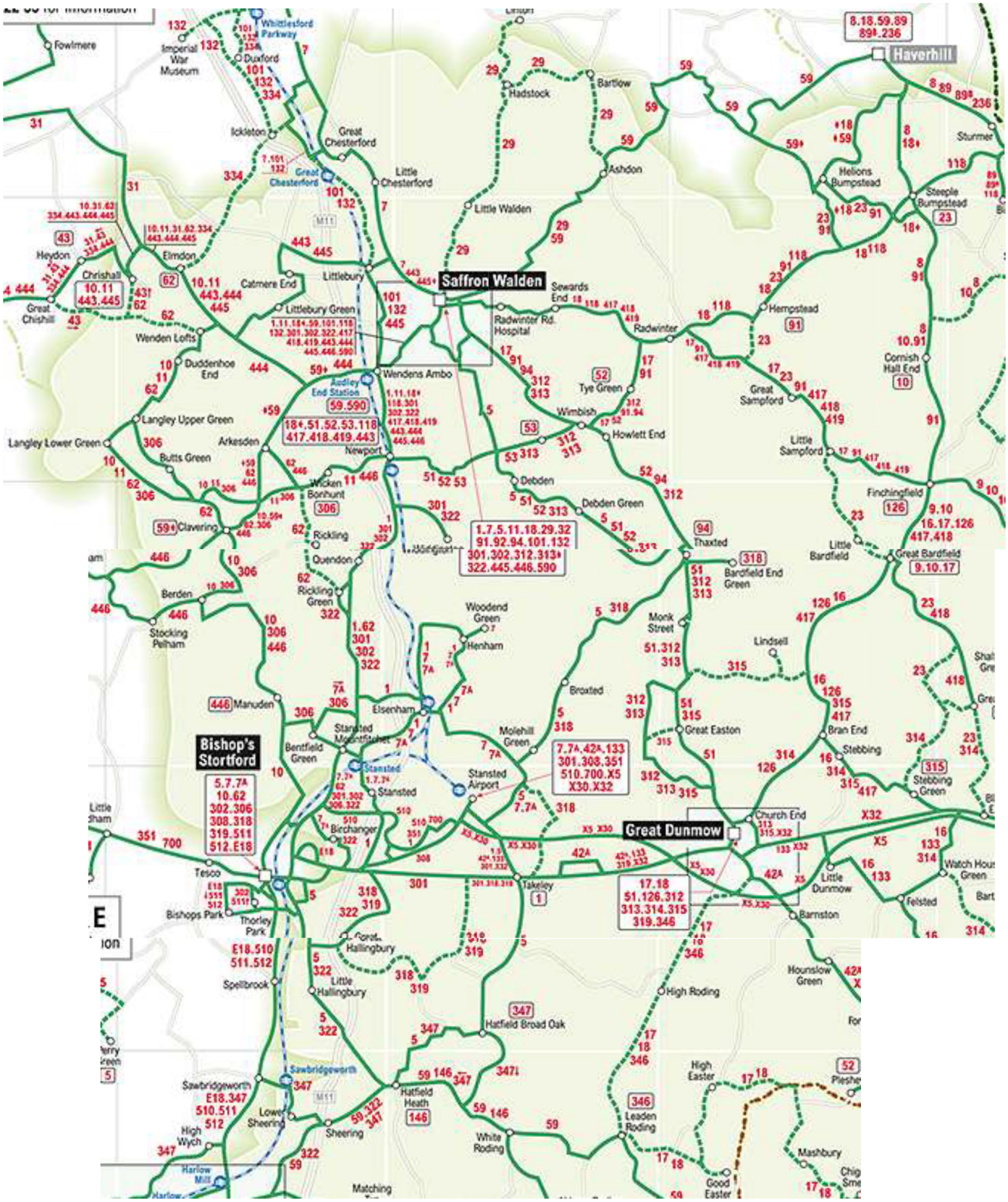


Figure 6: Bus routes in Uttlesford
Source: Essex County Council

3.3.4 Funding and delivery:

Developers will be required, through a Section 106 agreement, to negotiate directly with bus companies and deliver an appropriate package of services.

So as to encourage modal shift, bus services should be provided at the time dwellings are first occupied. It is thereby likely that in most cases the developer will be expected to subsidise a service until it becomes commercially viable. The agreement may, however, set time, occupation or cash limits to this contribution.

Revised road infrastructure needs to be in place in time for first occupation to allow early bus services to be available before new residents buy/use cars

Bus priority measures need to be planned to make bus journeys more attractive than car use. Timing of additional services needs to be phased at an early stage of new residents moving in.

3.4 Transport: Cycling and walking

3.4.1 Current provision:

There are two national cycle routes which run through Uttlesford. These are:

- National Route 11, running north south through the district and connecting Harlow to Cambridge via Stansted Mountfitchet and Thaxted, with a link to Saffron Walden.
- National Route 16, running east to west through the district and connecting Stansted and Braintree. Much of this runs along the route of the former railway line between Braintree and Bishops Stortford: the Flitch Way.

Additionally, National Cycle Route 1 skirts along the southern edge of the district boundary, connecting Harlow, Chelmsford and Colchester.

3.4.2 Current plans and programmes

Essex County Council recognises the importance of cycling, both to individuals and to the county as a whole and is committed to establishing a coherent, comprehensive and advantageous cycle network in every major urban area. As part of the Essex Cycling Strategy[15], each local authority in Essex will have an up-to-date Cycling Action Plan (CAP) which is renewed every five years. The purpose of this is to set out the key elements of a long-term plan that will lead to a significant and sustained increase in cycling in Essex, establishing it in the public's mind as a 'normal' mode of travel, especially for short 'A-to-B' trips, and as a major participation activity and sport for all ages.

The Uttlesford CAP is targeted towards the specific needs of Uttlesford residents, which will assist Essex County Council in tackling wider problems associated with poor health, pollution, traffic congestion and inequalities of opportunities for Uttlesford's youth population and people on low incomes.

The CAP identifies that in order to make cycling a more regular mode of transport, the barriers that currently exist to it need to be removed, with the aim of creating a connected cycle network.

Some of the recommendations of the CAP include the maintenance of existing routes, a review of existing signage and lighting, increase the provision of useful cycle routes and fill in any gaps, increase cycling permeability through the town centre and the production, development and promotion of flagship routes.

The CAP is currently in draft format and further consultation is required before the overall Action Plan can be finalised. Potential routes and schemes have not been constrained to a set budget and the feasibility and exact costings can only be established through further study.

Active travel should be planned for that complies with the core principles of coherence, directness, safety, comfort and attractiveness. These active travel routes need to link with all major transport nodes- railway stations, shops, schools, surgeries and employment centres. There should also be provision for routes into the countryside for recreation benefit. The paths should ideally be separated from the highway for safety. There should ideally be grade separation between

[15] Essex Highways, November 2016, Essex Cycling Strategy

pedestrians and cyclists too. Cycle and walking paths should be provided before new houses are occupied. In this way, the link with active travel can be made from the beginning. The routes need to be way-marked to promote use.

3.4.3 Future Potential for Cycling

Generally, levels of cycling to work within the urban areas of the District are low. Propensity to cycle is shown to increase significantly, however, under the Go Dutch scenario – from around 0-2% in most urban areas to 7-15%. Therefore, improving the cycle permeability of urban areas could encourage a large number people to cycle to and through urban areas for work. Of course, this infrastructure would also benefit leisure cyclists wishing to access the shops and services of the urban centres. Saffron Walden shows relatively high levels of car trips to the town centre for work, so it makes sense that some of these trips could be transferred to cycle with the implementation of good cycle infrastructure. The census analysis highlighted an opportunity to encourage a modal shift to cycling by providing cycling infrastructure in order to allow people to travel by bike across Saffron Walden.

There are a relatively high number of internal car trips within the Stansted airport zone. Improving cycle infrastructure in the vicinity of the airport and between it and key origins would assist in a transfer of employee journey to work trips by car to bike. Notable origins for employee journey to work at the airport include: Takeley, Canfield, Great Dunmow, Elsenham, Henham and Stansted Mountfitchet.

The potential for e-bikes to be encouraged, or an e-bike pool scheme to be implemented at a major employer in the area, in conjunction with implementation of good cycle infrastructure, could result in a significant uptake of cycling to work as it would reduce the barrier of topography and distance, which can be off-putting to less-experienced cyclists. The scale of Stansted airport, in terms of its number of employees would be an ideal location to facilitate this kind of infrastructure.

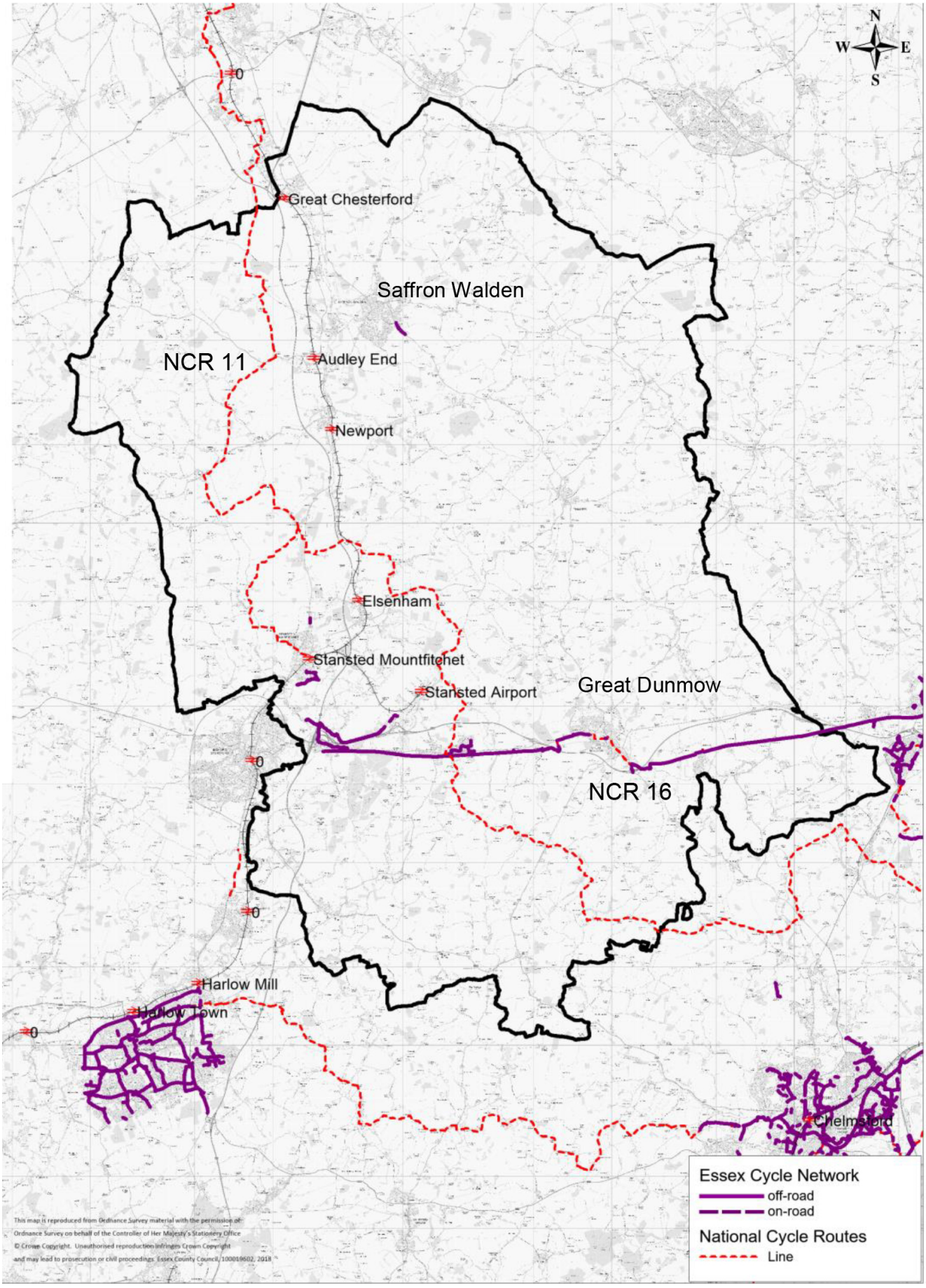


Figure 7: Existing cycle provision across Uttlesford District
Source: Essex County Council

3.4.4 Place specific issues

North Uttlesford

There is an existing cycle route south to Saffron Walden (along the B184 Walden Road). A contribution towards the upgrade of this and promotion of it to provide an enhanced walking and cycle route would be sought by ECC. This is anticipated to cost in the region of £3m. Equally, Essex Highways has also investigated the feasibility of providing an off-road cycle route between Great Chesterford and Saffron Walden, which would also provide improved access to Cambridgeshire and Audley End House. It is estimated that such a scheme would cost in the region of £1.2m, though could be broken down into smaller sections for delivery[16].

New walking and cycling routes linking the proposed settlement at North Uttlesford with the railway station and existing village, as well as to the wider network of routes in and around Cambridge and proposed commercial developments (e.g.: Science Parks) should be provided. Links to the railway station are particularly important in order to promote sustainable travel.

Links to the Park & Ride serving Cambridge (on the A1307) should also be considered and form part of the package of sustainable transport measures. Possible rerouting of existing bus routes, or promotion of existing services, might be required to serve new residents. Any new or enhanced bus service provision must be self-sustaining.

The site promoters have suggested to deal with the barrier effect of the A11 by looking at opportunities to facilitate a pedestrian and cycle bridge or tunnel from the site to the west. They have also proposed new walk and cycle connections that link the site and Chesterford Research Park, the site and Great Chesterford railway station, Saffron Walden and the Wellcome Trust.

Easton Park

Walking, cycling and bus links to Stansted Airport would need to be provided as part of the package of transport measures. The site promoter has suggested provision of a 'Fastbus' connection with Stansted Airport. However, delivery of this would be subject to discussions with Stansted Airport and how this ties in with their plans for future growth. New and improved walking and cycling routes to local settlements, centres and facilities will also need providing, particularly towards Great Dunmow. The site promoter has indicated that they are in ownership of all land between the proposed Easton Park development area and Great Dunmow which could allow for delivery of a walking, cycling and public transport link. However, there is a covenant associated with land alongside Woodside Way which restricts any further connections to the west (i.e.: in the direction of Easton Park). Delivering a link between the two would thus require this issue to be overcome.

West of Braintree

There is great potential within the West of Braintree proposed garden settlement to maximise the use of and create enhancements to the Flitch Way as a quality walking and cycling corridor for all.

[16] see p.19 Essex Highways, October 2014, Uttlesford Cycling Strategy

New bus services should also be provided, linking the site east-west as well as south to Chelmsford (and the proposed new railway station at Beaulieu Park). Although bus priority measures can be introduced within the proposed settlement, improvements would also be required on the surrounding network to make bus provision viable and attractive to users.

3.4.5 Summary

Table 5 has been provided by ECC and provides a breakdown of sustainable transport infrastructure requirements, costs and responsibilities on for the proposed new garden communities.

It should be noted that all figures are indicative and subject to change, and the passenger transport contribution is a guide only. In reality the support needed is based on the number of places served, existing services, journey time, frequency, buildout rate of development, passenger take up of service, fare base. The viability of the service is also dependent on these factors.

Table 5: Sustainable transport requirements based upon scale of growth within the proposed garden communities

Infrastructure Item	Timescale for delivery	Responsible Authority	Cost
North Uttlesford			
Increased frequency on Citi7 services south of Sawston, to be routes through the core of the site to the railway station	1-3 years	TBC	£450,000 per annum
Extend Park and Ride services towards walking / cycling distance of Great Chesterford		TBC	
Improve B184 Walden Road and B1383 Newmarket Road to include an off-road bi-directional cycleway	1-3 years	TBC	£2.75m
Introduction of high quality cycle links between the site and Wellcome Genome Campus, Chesterford Research Campus making use of existing rights of way and local access roads. Introduce cycling links along the A1307 to Grant Park and wider cycling infrastructure along the Cambridge to Haverhill corridor.	1-3 years	TBC	£750,000

Table continued overleaf

Table 5 continued:

Infrastructure Item	Timescale for delivery	Responsible Authority	Cost
Easton Park			
Passenger Transport infrastructure and subsidized bus services to and from local transportation interchanges, key community and economic centres	First occupation to occupation of final dwelling plus 5 years	Delivery by developer	£3.4m
Guided busway connection to Stansted Airport	Upper range of build-out	Delivery by developer	£10m
Direct pedestrian and cycle linkage to town centre	Provision of mitigation measures at early occupation but dependent on phasing and precise location of built	Developer	£1m
Sustainable travel promotion and package	From first occupation to build out of the site plus five years following completion of the final dwelling	Delivery by developer – ECC Travel Planning Team	£1.25m bond
West of Braintree (Uttlesford part of garden community)			
Passenger Transport infrastructure and subsidized bus services to and from local transportation interchanges, key community and economic centres	First occupation to occupation of final dwelling plus 5 years	Delivery by developer	£3.2m
Flitch Way – contribution for improvements between the site, Great Dunmow and Braintree	Contribution receipt from first occupation	Contribution from developer – Delivery by ECC	£100,000
Sustainable travel promotion and package	From first occupation to build out of the site plus five years following completion of the final dwelling	Delivery by developer – ECC Travel Planning Team	£562,000 bond

Source: Essex County Council
Notes:

- All figures are indicative and subject to change
- The passenger transport contribution is a guide only. In reality the support needed is based on the number of places served, existing services, journey time, frequency, buildout rate of development, passenger take up of service, fare base. The viability of the service is also dependent on these factors.

3.5 Water (Foul)

3.5.1 Service providers

The provision of waste water services in Uttlesford District is split between Anglian Water Services (AWS) and Thames Water (TW). Geographically, AWS covers the northeast part of the district, TW the southwest. The waste water operational areas covered by AWS and TW are shown on Figure 8.

In addition, although the Environment Agency (EA) does not have responsibility to provide treatment facilities or other associated infrastructure in respect of foul water, it does have responsibility for setting limits, monitoring and regulating discharges to watercourses from water recycling centres (WRCs).

The EA also issues permits that enable water companies to discharge into watercourses. These permits state the volume of treated water that may be discharged per annum, together with limits for certain substances, such as phosphates. These permits and limits are intended to ensure the continued health of the water body.

3.5.2 Current plans and programmes

Sewage treatment upgrades are made in five-year regulated Asset Management Periods (AMP's). Sewer network upgrades are undertaken on a rolling five-year programme and therefore flexible in terms of delivery. The current asset management plan period is known as AMP6 and relates to the period 2015 to 2020.

Anglian Water (AWS)

AWS has prepared a Business Plan for the current AMP[17]. This identifies the need for further investment in infrastructure based upon the best available information including population and household projections. AWS will be submitting their business plan for the next five years later on this year. This will be informed by the scale, location and timing of local plans in their area of responsibility.

AWS is also currently considering a 25-year growth forecast for their area of responsibility and is developing long-term integrated strategies to manage growth for highest risk catchments. These will be published and consulted upon in the new Water Recycling Long Term Plan as part of the next business plan.

[17] see: http://www.anglianwater.co.uk/about-us/our-plan-2015-to-2020.aspx

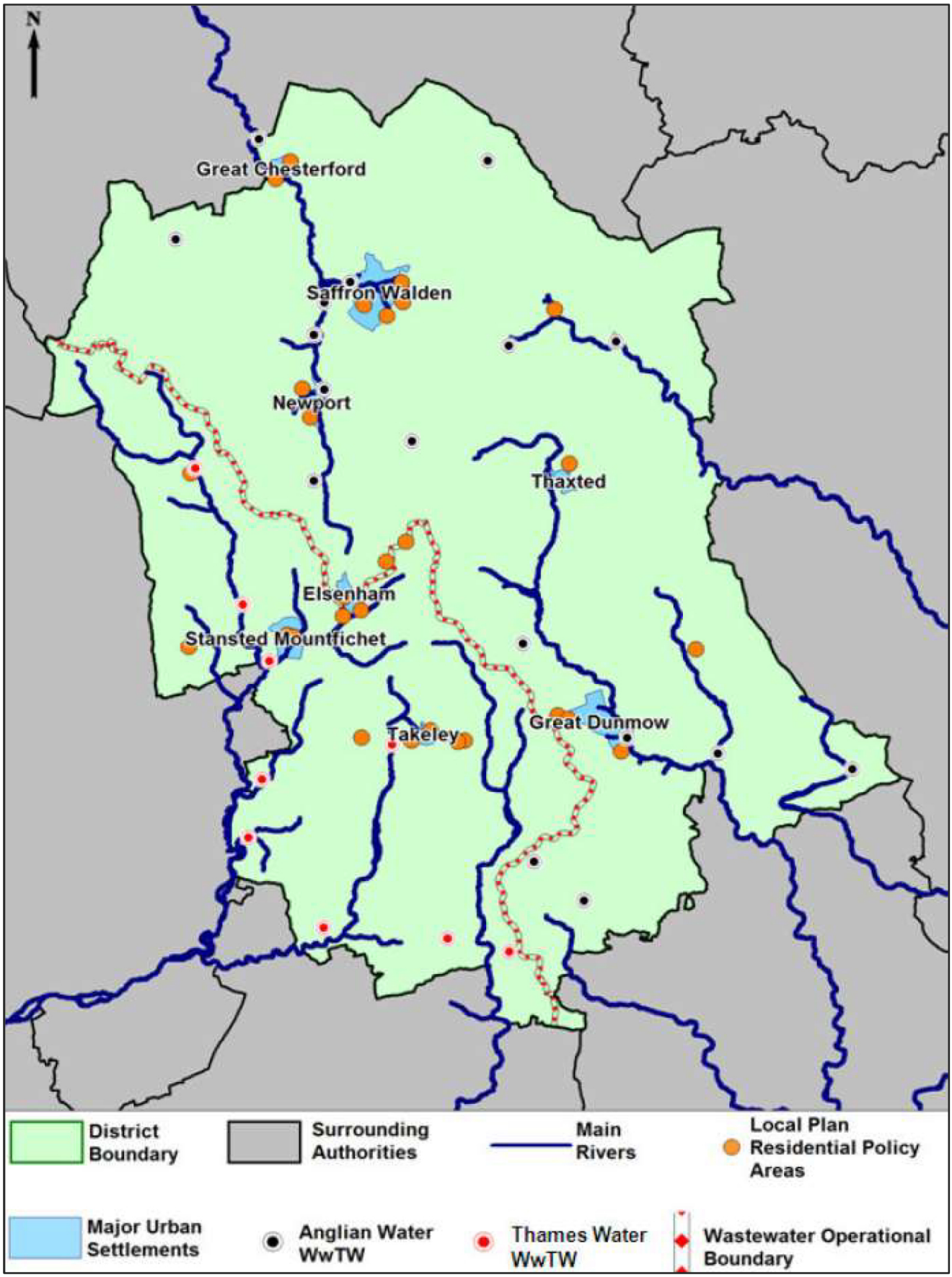


Figure 8: Waste water recycling centres serving Uttlesford
Source: Uttlesford Water Cycle Study

Thames Water (TW)

Information has been provided by TW in regard to the following WRCs:

- **Takeley:** Based on TWs latest model prediction and data, the existing works has sufficient headroom to deal with the current level of growth forecast within AMP6 (2015-2020) and AMP7 (2020-2025). A quality project is due to complete in early AMP7. However, upgrades are likely to be required within AMP7 to cope with the impacts of additional growth being considered in the new Local Plan.
- **Stansted Mountfitchet:** TW has expressed concern about the potential impact of the level of growth in the catchment area on the sewerage treatment work at Stansted Mountfitchet (which includes development at Elsenham). Although considered to have sufficient headroom at the moment, it is expected that upgrades will be required during early-mid AMP7.
- **Bishops Stortford:** Based on current data, the existing works has sufficient headroom to deal with the level of growth forecast within AMP6 and AMP7.

3.5.3 Future capacity and shortfall: Location Specific

There are no specific standards for providing new or improved assets based upon population size or growth. Rather, capacity is dependent upon a combination of factors, including the location and scale of growth proposed in a particular catchment area, local catchment conditions and the hydraulic capacity of the existing network. Some catchments serve more than one local authority which means that the impact of growth from all local authority areas served needs to be considered. For this reason, capacity is assessed at a catchment level and any necessary solution will be designed and built based on that approach.

The Council has commissioned a Water Cycle Study[18] to assess the extent to which the proposed development in the Local Plan can be accommodated. A key focus of the report is the assessment of the Garden Communities and the ability for their water and waste water needs to be accommodated through the existing network.

Existing towns and villages

The headlines from the Water Cycle Study in relation to the scale of growth envisaged in the existing towns and villages across the District are set out below.

- The EA currently classes the surface water and groundwater resources within the District as over-licensed and over-abstracted. This means there is no additional water available for supply and this highly emphasises the need for new developments to encourage the conservation of water.
- A study by Affinity Water has found that at a strategic level, modelling shows that water will need to continue to be brought into the District from the west.
- Overall there are limited constraints associated with the allocated development in the existing towns and key villages in the District, with the existing WRCs having the capacity to accommodate increased flows, allowing for future investment and planning by the operating company. The table below Table 6 shows the Dry Weather Flow (DWF) impacts from new development in Towns and Key Villages only.

[18] Arcadis, March 2018, Uttlesford District Water Cycle Study: Detailed Update – First Stage

Table 6: Impact of Local Plan growth in the existing towns and villages

WRC / Water Company	Increase in Dwellings (2018-2033)	Summary Comments
Saffron Walden / AWS	799	WRC not at risk of exceeding available DWF headroom within existing permit. Further investment by AWS not anticipated to be required.
Great Dunmow / AWS	2921	Calculations indicate DWF headroom is only an issue with the current WRC configuration. A new WRC is due to open in the summer of 2018. Capacity at WRC for further growth will be reviewed as part of AMP6 (this catchment is interrelated with Felsted WRC).
Great Easton / AWS	103	Available DWF headroom at AMP7. Insufficient biological capacity in AMP7. Review as part of price review in 2024 for potential investment in AMP8 (2025 to 2030). Existing consent is marginally exceeded.
Newport / AWS	267	Flow compliance scheme anticipated to be required as part of AMP7, subject to business planning process. Existing consent is marginally exceeded.
Great Chesterford / AWS	82	WRC not at risk of exceeding available DWF headroom within existing permit. Further investment by AWS not anticipated to be required
Felsted / AWS	129	Calculations indicate DWF headroom is only an issue with the current WRC configuration, where flows from Great Dunmow are transferred to Felsted. A new WRC at Great Dunmow is due to open in the summer of 2018 and flow transfer will end. Capacity at WRC for further growth will be reviewed as part of AMP6 (catchment interrelated with Great Dunmow WRC).
Takeley / TW	47	Allocated development in Towns and Key Villages alone does not exceed the existing DWF consent.
Stansted Mountfitchet / TW	752	

Source: Arcadis, March 2018, Uttlesford District Water Cycle Study: Detailed Update – First Stage

Garden Communities

Due to the strategic scale of development planned at the Garden Communities, a separate assessment has been undertaken for each development allocation to consider the cumulative impact on the relevant existing WRCs (i.e. over and above what is presented above). A summary of comments associated with each Garden Community is provided in below Table 7.

Table 7: Water capacity and infrastructure requirements associated with the garden communities

Garden Community	Increase in Dwellings (2018-2033)	Options to Discharge to Existing WRC	Summary Comments
Easton Park	1800	Great Easton (AWS)	There would be insufficient headroom at the WRC by the end of AMP7 (by 2025). Insufficient biological capacity in AMP7. A review is required by AWS as part of price review in 2024 for potential investment in AMP8 (2025 to 2030).
		Great Dunmow (AWS)	Capacity for further growth will have to be reviewed by AWS following the scheme planned as part of AMP6 (Great Dunmow and Felsted catchments are currently interrelated).
		Takeley (TW) / Bishops Stortford (TW)	TW are currently investigating options for serving Easton Park by utilising either the Takeley or Bishops Stortford WRCs. TW have indicated that using Bishops Stortford is likely to be the preferred option from a treatment perspective, but further technical and economic feasibility assessment is required to confirm and develop the best solution.
North Uttlesford	1900	Great Chesterford (AWS)	There would be insufficient headroom and biological capacity during AMP7. Would require review by AWS.
West of Braintree	970	Rayne (AWS)	Existing DWF consent would be exceeded. Capacity is available at other WRCs in the catchment. Unlikely to be viable option to discharge due to small size of works.
		Bocking (AWS) Braintree (AWS)	With West of Braintree Garden Community only there is sufficient headroom within existing permit to accommodate residential growth. Taking into account all development within Braintree District Council and the Garden Community the headroom at both WRCs is exceeded. There would a need for further investment to be reviewed by AWS as part of price review in 2024 for potential further investment relating to biological capacity in AMP8 (2025 to 2030).

Source: Arcadis, March 2018, Uttlesford District Water Cycle Study: Detailed Update – First Stage
Note: the housing figures assumed to be delivered in the garden communities in the plan period are slightly lower than that presented in the housing trajectory in this IDP.

Overall, the Water Cycle Study concludes that there is no major reason that would prevent timely delivery of at least one suitable and technically feasible option for the Garden Communities, by upgrading the impacted existing WECs owned by AWS or TW. Further information, provided by AWS and TW, is presented below.

Whilst the EA has been consulted on the first Phase of the detailed WCS, they reserve judgement on the Thames Water area content until the Phase 2 work has been carried out. The outcomes of this may well need to be reflected in future updates to the IDP.

Anglian Water Services

Information provided by Anglian Water Services is summarised below and is reflective of the WCS:

- Based on current commitments and allocations in the existing settlements coming forward, there are constraints relating to wastewater capacity at WRCs in Great Easton, Great Dunmow and Newport. All will require enhancements to treatment capacity. At Saffron Walden, capacity exists for the scale of growth identified in the Local Plan that will come forward through commitments and allocations. Similarly, there are constraints to wastewater capacity at WRCs in Bocking (West of Braintree garden community), Great Chesterford (North Uttlesford garden community) and Great Easton (Easton Park garden community).
- Foul infrastructure requirements will be dependent on the location, size and phasing of development. All sites will require a local connection to the existing sewerage network, which may include network upgrades. Based on commitments and allocations in the existing settlements, growth at Saffron Walden and Great Dunmow will require substantial off-site sewerage reinforcement. Upgrades are to be expected elsewhere, as the AWS sewers are not designed to have capacity for all future growth. Substantial off-site reinforcements will be required for all of the proposed new garden communities.
- AWS's preference is that surface water should be discharged into Sustainable Urban Drainage Systems (SuDs) consistent with national planning guidance. Where it is proposed to discharge surface water into the public sewerage system then AWS would expect developers to provide evidence to demonstrate that no alternatives exist.

Thames Water

Thames Water has noted that there is potential that the increase in flows from anticipated growth in both East Hertfordshire and Uttlesford, and expansion of capacity at the airport, could result in the need for upgrades to wastewater treatment works which are either not technically feasible or not cost efficient. At the least, it is considered that significant infrastructure upgrades are likely to be required to ensure sufficient treatment capacity is available to serve the proposed scale of development/ wider growth in the area.

The trigger points for new infrastructure being required will depend on actual increases in flows. For sewage treatment infrastructure the actual and projected rates of growth within the catchment will be monitored alongside other information such as the observed flows to the treatment works to determine when upgrades are necessary to accommodate growth.

TW has advised that upgrades and new infrastructure would be required within their operational area to cater for the additional demand arising from the proposed scale and distribution of growth. In addition, significant drainage infrastructure would be required to ensure sufficient capacity is brought forward ahead of development.

Previous correspondence with TW suggested that due to the scale of development proposed at the Easton Park garden community a new WRC would be required to be built. This posed problems with timescales and the need to deliver homes before the end of the Plan period.

However, following further investigations, TW have now put forward 4 options (as part of the WCS study) that are workable solutions which could address the issues and none of these propose a new WRC. TW has two preferred options, which suggest that the Easton Park garden community can be accommodated with WRC upgrades and investment, which can be factored into TW planning periods in the future. The final preferred option is still the subject of discussion between TW and the EA.

3.5.4 Other Considerations

The EA advise that, in some cases, it is possible for permits to be altered to allow for increased discharge flows where it can be demonstrated that the WRC can be altered to treat the discharge satisfactorily. The technical challenges this presents can be addressed more easily if treated effluent is discharged to a large volume of water so that it dilutes quickly.

However, where WRCs are located near the headwaters of a river it is often the case that there isn't a sufficient flow of water to ensure adequate dilution if the volume of discharge is increased. In these cases, and even with use of the most up-to-date available technology, it might still not be possible to reduce concentration levels low enough to allow an increased discharge to be permitted. The WTCs at Great Easton, Great Dunmow and High Roding all discharge close to the headwaters of a river. This challenge will need to be addressed should the preferred growth options mean increased use of these WRCs. The distribution of Garden Communities around the district helps address water quality issues by utilising locations with the largest rivers as well as those that are head waters.

For all sites, the surface water network capacity is a constraint to provision. Urban run-off needs to be controlled on site to ensure no increase in run-off to the local river system. The use of sustainable drainage systems (SuDS) to provide water quality, amenity and ecological benefits in addition to the flood risk management benefits, will be expected. This will also ensure that:

- new development does not cause a deterioration in Water Framework Directive (WFD) status to any waterbody;
- a package of mitigation works to enhance the WFD status of relevant waterbodies are undertaken; and

- development does not prevent the future achievement of Good Ecological Status/Potential in any waterbody.

Only as a last resort, if a SuDS solution is not possible, should surface water be planned to enter the used water network.

All sites will therefore need to address surface water matters appropriately but this will need to be done on a site-by-site basis.

3.5.5 Costs, funding and delivery

Costs for provision of additional water infrastructure will need to be determined when schemes are progressed and assessed in more detail.

In general, upgrades to WRCs, where required to provide for additional growth, are wholly funded by the water company (AWS and TW) through their AMPS. Foul network improvements are generally funded or part funded through developer contributions via the relevant sections of the Water Industry Act 1991. The cost and extent of the required network improvements are investigated and determined when the water company is approached by a developer and an appraisal is carried out.

In order for the water companies to fund specific upgrades arising from the scale of growth it will be necessary to put forward growth schemes for inclusion within future AMPs and for these to be approved, planned and funded, as well as signed off by the regulator, OFWAT. The other alternative is that developers forward fund this work; however, given the potential costs involved, this is unlikely for all but the largest schemes.

As mentioned above, four options are currently being explored to determine the preferred approach for accommodating development at the Easton Park Garden Community. These discussions are ongoing, and as such, there is not currently information available regarding costs, funding or delivery. The preferred solution will feed into an update to the IDP once it has been determined.

It is important to note that the approach to funding network infrastructure has recently changed and costs for delivering network reinforcement works required to accommodate housing growth will be covered by Thames Water through the Infrastructure Charge applied for connections of new development to the network. Further information on network costs can be found here:

https://developers.thameswater.co.uk/New-connection-charging.

3.6 Water (Drinking)

3.6.1 Responsibilities, current plan and infrastructure requirements

Affinity Water is responsible for provision of drinking water.

The Affinity Water business plan for 2015-2020[19] states that, in agreement with the EA, water abstraction will be reduced by 5% by 2020, that leakages will be cut, and, given an assumed population growth of 6% over their operating region, that customers will be encouraged to use water more efficiently. A water efficiency programme and targeted universal metering programme will be rolled out. Between 2015 and 2020 investment in infrastructure will be increased to more than £500m (again, across the entire operational area) to be able to provide high quality water to customers.

Affinity Water has also published a 25-year Strategic Direction Statement[20]. In this, Affinity Water state that (see page 8):

'We expect the population we supply with water to grow by at least 15 per cent by 2040. We will invest in our network and assets to support this growth and protect our service for future generations. We will prioritise the health and well-being of our communities in everything we do'.

Affinity Water has prepared a draft Water Resources Management Plan 2019 (WRMP19) and a customer consultation is now open (running until 23rd May 2018). This reflects a best estimate of future growth based upon information from local authorities and incorporation of planned housing development figures. This analysis has led to a forecasted 29% increase in the number of households Affinity Water will serve by 2045. Affinity Water will review these figures in line with latest information from published Local Plans and will reflect any updates in the final WRMP19 to be submitted later this summer.

Affinity Water has previously assessed the scale of growth in Uttlesford through various Strategic Reviews. Affinity Water considers that some network reinforcements will be required to cater for the proposed growth but no critical areas have been identified.

Affinity Water will continue to liaise with Uttlesford District Council to better identify the level of future growth and its phasing and will include any required intervention within its capital programme

3.6.2 Costs, funding and delivery

Water companies are able to fund infrastructure needs associated with growth from new development through a combination of general investment funding from customer bills and through charges to developers. Sites where additional lengths of water main are required would be expected to be funded by the developer as a site-specific cost.

Any new development would be funded by the developer in accordance with the requirements of the Water Industry Act. In reality, the actual payments made by the developer for any on-site water main would be significantly less than the cost of the

[19] Affinity Water, December 2013, Our Business Plan for 2015-2020
[20] Affinity Water, Spring 2013, Investing to your community: Our Strategic Direction Statement

asset. Any new service connection would be charged in accordance with standard rates and standard infrastructure charges would also apply.

Site specific connections and the necessary supporting infrastructure must be provided as part of the construction phase. This will be the responsibility of the developer to provide in conjunction with the water company.

3.7 Flooding

3.7.1 Responsibilities

Responsibility for management of flooding and flood risk lies with a number of organisations:

- The Environment Agency is responsible for the management of flooding from main rivers.
- Essex County Council is responsible for the management of flooding from ordinary watercourses, surface water and ground water. The County is also responsible for highway flooding.
- Anglian Water and Thames Water are responsible for managing sewer flooding.

Furthermore, as the Lead Local Flood Authority, Essex County Council is a statutory consultee on surface water for major developments. As part of this role, site-specific drainage strategies are reviewed to ensure that surface water flood risk is not increased on or off site up to the 1 in 100 inclusive of climate change storm event.

3.7.2 Flood Risk in Uttlesford

The Uttlesford Strategic Flood Risk Assessment[21] (SFRA) (Level 1 Study) notes that many settlements across Uttlesford have, in the past, experienced flooding from a combination of main rivers, ordinary water courses, and surface water. The District is located in the headwaters of three major river catchments (Great Ouse, North Essex and Thames[22]), with areas of fluvial floodplain well-defined and limited in extent by local topography. Catchment Flood Management Plans are prepared by the EA for the three catchment areas. The SFRA notes that for the three catchment areas in Uttlesford, all have been identified as rural areas of low to moderate risk.

Flood Risk is generally well understood within the existing settlements, though can be exacerbated through poor maintenance of culverts. Groundwater and sewer flooding are limited and very localised. However, local sources of flooding, from ordinary watercourses and surface water, are identified as a potential problem in the SFRA.

The SFRA assessed flood risk in areas of search for future development in the Local Plan, comprising a mix of proposed new settlements ('garden communities'), extensions to existing urban areas, at key villages and the Type A villages listed in the Local Plan. The SFRA concluded that it should be possible to keep the majority of new development within Flood Zone 1 (the lowest risk areas), but that the large areas of search means that there will be some flood risk, and that all areas have some localised flood risk. In such areas, it is expected that the design of proposed development should include flood zone areas preserved as open space.

Problem locations for localised flooding include, amongst others, Saffron Walden Great Dunmow, Thaxted and Stansted Mountfitchet. It is noted that development

[21] JBA Consulting for Uttlesford District Council, May 2016, Uttlesford Strategic Flood Risk Assessment, Final Report

[22] The Great Ouse catchment includes the River Cam, The Slade, and River Bourn. The North Essex catchment includes the River Pant, River Chelmer, Stebbing Brook, River Ter, and River Can. The Thames catchment includes the River Roding, Pincey Brook, River Stort, Bourne Brook, Stansted Brook, and Ugley Brook.

in such locations could have a significant impact on flood risk downstream if Sustainable Urban Drainage System (SuDS) principles and recommended controls for runoff are not strictly enforced.

The Strategic Flood Risk Assessment (2016) classifies areas as flood risk into tiers, to prioritise flood risk management actions. Tier 1 is the areas at highest risk of flooding and tier 3 the lowest risk of flooding. Within Uttlesford, Saffron Walden was classified at being in Tier 2 due it its surface water risk, and Clavering, Great Dunmow, Manuden, Radwinter, Takeley, Thaxted and Stansted Mountfitchet have been identified as Tier 3 areas. All other locations were unclassified.

Essex County Council has since advised that it has recently carried out a review of the Preliminary Flood Risk Assessment which includes Surface Water Management Plan areas, and has re-classified a number of areas. As part of this review, Tier 3 has now been removed as a classification, so all areas that were previously Tier 3 are now unclassified.

3.7.3 Summary

The SFRA recommends that all new developments (including minor development) build SuDS into their design. ECC has confirmed that for every development a developer needs to submit a site specific drainage scheme at the planning application stage that is consistent with the Essex SuDS Design Guide.

The SFRA also notes that the garden communities (and other major development on greenfield sites) offer excellent opportunities to ensure that masterplanning integrates SuDS and make space for water into site design right from the early concept stage.

3.8 Gas

In the UK, gas leaves the transmission system and enters the distribution networks at high pressure. It is then transported through a number of reducing pressure tiers until it is finally delivered to consumers. There are eight regional distribution networks, four of which are owned by National Grid. The gas distributer for Uttlesford is National Grid Gas Distribution Limited. The gas pipeline route through Uttlesford is illustrated in Figure 9.

It is understood that capacity is available for the proposed levels of growth across much of the district without the need for reinforcement to the current network.

National Grid provides connections on a first-come, first-served basis. As such, there is no guarantee that this capacity will still be available at the time an official connections request is sent in.

Gas supplies are funded by developers and National Grid. When a request for a supply is received, developers are quoted a Connection Charge. If the connection requires reinforcement of the network then a Reinforcement Charge may also be applied. The apportioning of reinforcement costs is split between the developer and National Grid, depending on the results of a costing exercise internally. These are site-specific costs so there would be no call on external funding sources.

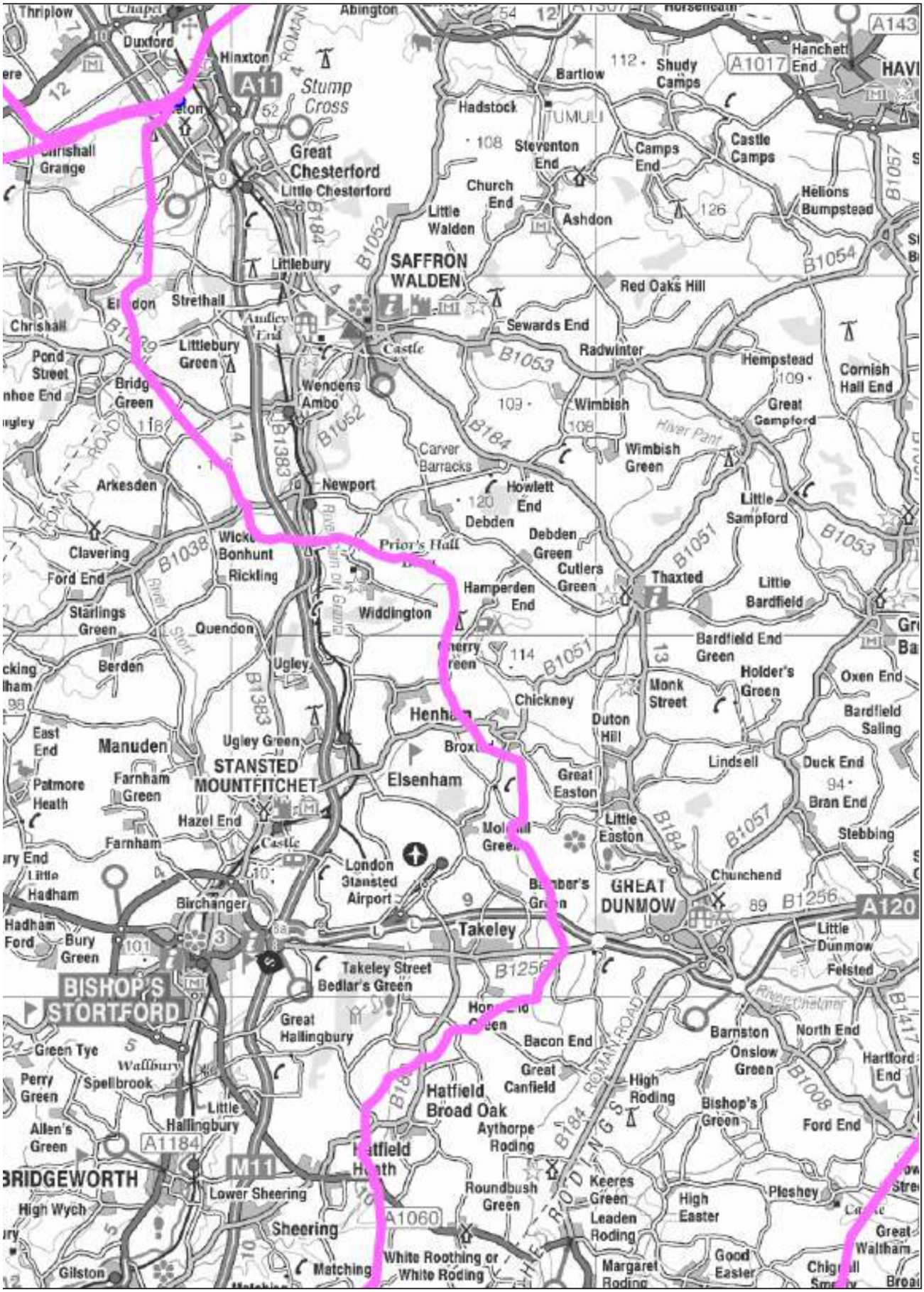


Figure 9: Route of gas pipeline, Uttlesford

3.9 Electricity

3.9.1 Current provision:

National Grid operates the national electricity transmission system across Great Britain and owns and maintains the network in England and Wales, providing electricity supplies from generating stations to local distribution companies.

Electricity is generated from power stations and transmitted through a national network of electricity lines operating at 275kV and 400kV before connecting to local networks owned by distribution companies. UK Power Networks (UKPN) is the appointed distribution company for Uttlesford District.

Electricity in Uttlesford is supplied from the National Grid transmission system to UK Power Networks at 132kV. Their Grid and Primary sub-stations supply the towns and villages at 33kV and within the catchments via smaller sub-stations and a network of underground cables at 11kV.

The area is served by three 132/33kV (Grid) substations, at Bishops Stortford, Braintree and Thaxted (see Figure 10). Each Grid substation supplies several 33/11kV substations that finally provide the 11kV distribution network to meet the local requirements. There are ten such substations in the area. Furthermore, there is one 400/132kV National Grid substation at Pelham.

The current capacity and existing demand on each substation is presented in Table 8. Demand does fluctuate across the year, reflecting the effects of the weather and organic growth and decline based on customers connected to the network. The information presented in Table 8 reflects capacity and demand as of Winter 2017/18. There have been, as expected, small increases in demand at a primary substation level[23]. The connection of several major battery installations has reserved headroom at the higher voltages (33kv and 132kv).

3.9.2 Current plans and projects:

The current OfGEM[24] regulatory period ends in 2023. Major projects planned within this period include the rebuilding of the 33kV circuits between Great Dunmow and Braintree, and replacement of the 33/11kV transformer at White Roding.

In recent years several projects have been undertaken for reinforcement purposes and asset replacement, yielding additional network capacity. This includes new (and larger) 132/33kV assets at Thaxted, new (and larger) 33/11kV transformers at Saffron Walden, Takeley and at Newtown (in Bishops Stortford). Most 33kV circuits across the area have also been rebuilt to an increased specification.

[23] As referred to in Uttlesford Local Plan- Infrastructure Delivery Plan May 2017 (p65) https://www.uttlesford.gov.uk/CHttpHandler.ashx?id=7053&p=0

[24] The government regulator for gas and electricity markets in Great Britain.

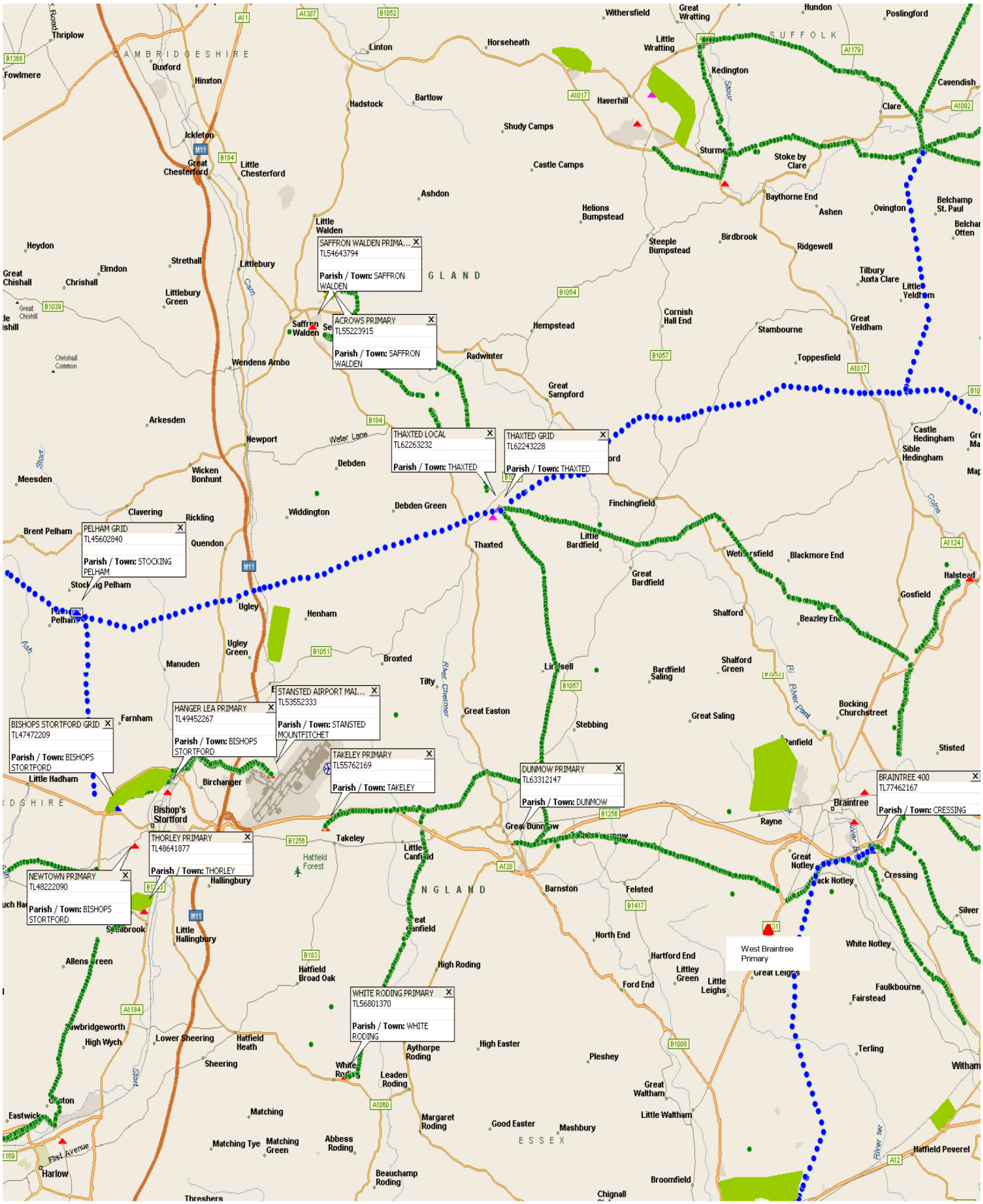


Figure 10: Existing electricity substations serving Uttlesford
Source: UKPN

Table 8: Current capacity and demand of electricity substations

Substation	Operating voltage	Winter capacity 2017/18 (MVA)	Winter demand 2017/18 (MVA)
Acrows Primary	33/11kV	10	6.7
Dunmow Primary	33/11kV	24	13.8
Hanger Lea Primary	33/11kV	23	14.4
Safford Walden primary	33/11kV	23	21.4
Stansted Airport Main Primary	33/11kV	4	2.5
Takeley Primary	33/11kV	8	6.5
Thaxted Local Primary	33/11kV	8	5
Thorley Primary	33/11kV	23	15.5
West Braintree Primary	33/11kV	24	14.5
White Roding Primary	33/11kV	9	6.2
Bishops Stortford Grid	132/33kV	114	99
Braintree Grid	132/33kV	114	97
Thaxted Grid	132/33kV	114	105
Pelham National Grid	400/132kV	280	260
			(includes contracted by un-utilised demands)

Source: UK Power Networks

Note: MVA = Mega Volt Amp

3.9.3 Future infrastructure needs

The average housing demand per property is assumed to be in the region of 2kVA – 2.75kVA per dwelling. A Primary substation (33/11kV) can typically cater for 8,000 – 12,000 customers and a Grid substation (132/33kV) can typically cater for four to six times this amount (around 30,000 – 70,000 customers each). Furthermore, it is assumed that (a) new housing stock will have gas-fired central heating and (b) the potential take-up of new electric vehicles over the Plan period will not impact on peak time use of the network (Between 4:30pm and 7:30pm of a winters day).

Following this, it is considered that most of the growth in the emerging Local Plan can be accommodated within existing infrastructure, though there are areas where new or reinforced infrastructure would potentially be required. These are:

- The new garden community proposed in **North Uttlesford** may need new network or primary substations to meet the levels of growth envisaged. Some demand can be catered for in the early stages of development, allowing initial dwellings to be serviced.
- The proposed garden communities at **Easton Park** and **West of Braintree** are both likely to require new primary substations in the long term, though, as above, some demand can be catered for in the early stages of development, allowing initial dwellings to be serviced.

It is important to note that the 132/33kV substations at Bishops Stortford and Braintree are shared assets with the neighbouring districts and thus development of infrastructure in adjoining areas will need to be co-ordinated to optimise network investment.

For the employment development, without an idea of loadings or demand required (based on the types of users by use class), it is not possible to assess the capacity constraints (and demands) on the network.

3.9.4 Costs and funding:

The allocation of costs for future reinforcement is a complicated mechanism as UKPN is not permitted by its licence conditions to invest ahead of need or for speculative developments. When reinforcement is required the cost for reinforcement and possibly connections is passed to the developer making the request for the new demand. They may receive some funding from the regulatory income UKPN has from OfGEM where existing assets are reinforced/replaced.

Estimation of works more than a few years ahead are also likely to be inaccurate and unreliable as the network evolves and changes as a matter of course. Costs and estimates for connections and reinforcement would need to go through UKPN's commercial department having received an application first.

In 2015, the cost of providing for these needs has been estimated at approximately £1,000 per dwelling, plus the cost of the 11kV network extension or diversion. The cost of providing an on-site substation to serve the larger sites (as outlined above) would also be extra, with the total cost estimated in 2015 to be in the region of £50,000, depending on the load requested by the developer. Such costs would be covered solely by the developer.

Where a new primary substation is required for a garden community, the cost of this may be in the order of £3-£4m depending on size, capacity and civil works etc. The 33kV circuits to the substation can vary greatly depending on the type of route that new cables are laid in. A highway-based route for example is more costly than laying cables in verge or unmade ground (such as farm land). A budget cost figure for two 33kV cables along a common route may be between £300k - £600k per kilometre.

Depending on the organisation involved and nature of the inquiry, the charges can differ greatly from the costs.

It should also be noted that schemes coming forward after 2020 may have different charging strategies and policies as directed by OfGEM.

UKPN provide developers with budget costs when requested, through the application process on their website.

3.9.5 Delivery and timing

There are not considered to be any major risks to the various growth options being considered, though some will, as outlined above, require further investment in infrastructure to be able to fully realise the scale of development envisaged.

Site specific connections and the necessary supporting infrastructure must be provided as part of the early construction phases. This will be the responsibility of the developer to provide in conjunction with UKPN.

3.10 Waste

3.10.1 Responsibilities

Management of municipal waste is a UK-wide challenge as both European and national legislation and policy seeks to deal with waste more sustainably and to reduce the amounts of waste being deposited into landfill. Waste is also increasingly seen as a resource that through recycling and treatment processes can be utilised.

Population and development growth, as outlined in Local Plans, will impact on waste management systems on a number of levels as the resultant population growth will lead to an increase in waste arisings which require handling and disposal.

Essex County Council and Southend-on-Sea Borough Council is the joint waste planning authority for Essex. They are responsible for the preparation of the Waste Local Plan and determining applications for the management of waste. Within Essex, waste collection is the responsibility of district, borough and city councils. The County, with Southend-on-Sea Brough Council, then acts as waste disposal authority, and is responsible for co-ordinating and managing the disposal of municipal waste. Waste management facilities are operated by the private sector, with contracts entered into with the County and Southend-on-Sea Borough Council for the treatment and disposal of municipal waste.

3.10.2 The Waste Local Plan

The Essex and Southend-on-Sea Waste Local Plan was adopted in July 2017 and covers the period up to 2032. It seeks to ensure that the future waste needs of the area can be appropriately met through sites situated in the most appropriate locations and with minimal impact on communities and the environment.

The Plan promotes a move away from traditional forms of waste management towards greater levels of re-use, recycling and recovery.

As of 2015 there were twelve waste facilities within Uttlesford, either existing or under construction. These facilities include a mix of recycling facilities, landfill, transfer, and biological waste management facilities[25]. Waste collected by the Local Authority is managed through a network of sites across Essex, including the municipal waste transfer station in Great Dunmow.

The Plan notes that there is a need to provide additional waste facilities to reflect changes in local population and demand. This includes enhanced provision of recycling facilities for household waste, as well as new facilities for recycling, treatment and disposal of other waste streams.

The Plan is based on the principle of net self-sufficiency, where practicable, with only limited cross border movements with other waste authorities. Across Essex, new waste development is principally directed towards the key urban centres and areas of growth, in Basildon, Chelmsford, Colchester, Harlow and Southend-on-Sea. In addition, for more local needs, areas of search for new waste management

[25] Essex County Council & Southend Borough Council, July 2017, Waste Local Plan, Map 3 (https://www.essex.gov.uk/Environment%20Planning/Minerals-Waste-Planning-Team/Planning-Policy/Documents/Waste_Local%20_Plan2017.pdf)

facilities are identified. These are close to employment facilities, which are considered suitable locations for such uses.

3.10.3 Waste facilities and allocations in Uttlesford

Through production of the IDP, Essex County Council advised that the major waste treatment infrastructure currently in place for managing Local Authority Collected Municipal Waste has been equipped to accommodate the anticipated waste growth levels resulting from the proposed Local Plan growth. However, it is likely that pressure will be placed on the ancillary smaller scale infrastructure, such as waste transfer stations, waste operational depots and the public-facing Recycling Centres for Household Waste (RCHW). These facilities, which provide, local communities access to waste disposal options for household generated bulky waste are, by their very nature, required to be close to population centres and are therefore particularly vulnerable to medium and large-scale developments.

In Uttlesford, the existing municipal waste transfer station at Great Dunmow is safeguarded as integral to the sustainable management of household waste. The waste facility at Saffron Walden is operating at or near capacity, as are the sites located outside of the plan area which are used regularly by residents of Uttlesford. These include facilities located in Braintree, Chelmsford, Mountnessing, and Harlow. Housing growth and the associated population/waste growth will at the least require existing infrastructure to be re-modelled and upgraded and may require the establishment of new infrastructure to serve this.

A review of existing and potential facilities will be taking place during the first five-year Local Plan period to determine requirements in the ten to fifteen-year period. The proposed phasing of development means this need will be accelerated and although precise requirements cannot be determined, the need to expand existing service provision through either a programme of infrastructure upgrades and expansion or the delivery of new facilities will be necessary.

In terms of strategic allocations for new waste management facilities, the Waste Local Plan identifies sites at:

- Elsenham, Crumps Farm (Great and Little Canfield) and Newport Quarry, for inert waste recycling facilities;
- Little Bullocks Farm (Great and Little Canfield) and Newport Quarry, for inert landfill facilities;
- Little Bullocks Farm (Great and Little Canfield), for hazardous landfill facilities.

The Waste Local Plan notes the following with regard to these allocations:

- The strategic allocations at Crumps Farm and Little Bullocks Farm comprise an extension to the existing minerals and waste site. The Waste Local Plan notes that a vehicle routing agreement is required to ensure the site can be accessed via the existing access onto the B1256, allowing onward travel via the A120 and M11. The allocation comprises three sites, available in the short to medium term, and each having a 'life' of approximately twelve to fifteen years.
- The allocation at Elsenham comprises an undeveloped site wither side of the existing haul road to Elsenham Quarry. The Waste Local Plan notes that a vehicle routing agreement is required to ensure use of the appropriate

road network. The Waste Local Plan assumes this is available in the short term and would comprise a permanent facility.

- The allocation at Newport is located within the existing quarry. The Waste Local Plan assumes that the site will be available in the short term and has a 'life' beyond the Plan period, extending to 2042.

Land at Start Hill, Great Hallingbury, is also identified as an area of search for additional waste management facilities over and above the strategic allocations listed above. This is to build in flexibility so that the Waste Authority can respond to potential changes in future demand.

3.11 Wi-Fi / Broadband

The Superfast Essex Programme aims to extend the fibre broadband network as far as possible in Essex. The objectives of the programme are to ensure that at least 2Mb/s download speed is available across Essex and to achieve 'superfast' speeds of 24 Mb/s or more where possible. The Programme aims to extend superfast broadband coverage to 97 percent of the County by 2020. Current broadband download speeds within Uttlesford are shown in Figure 11. These vary across the district.

Alongside this programme Superfast Essex has, with funding support from the Government, County Council and Gigaclear, commenced a pilot 'Rural Challenge Project' in Epping Forest District. The aim of this is to provide fibre-to-the-premise technology, enabling homes and business to access broadband speeds of between 50Mbps and 1,000Mbps. This is a £7.5m project. Subject to further funding sources being identified consideration will be given to rolling this programme out across other rural areas in the County.

The Government has committed to giving all premises in the UK access to a minimum of 2Mbps download speeds, whether they are a resident or business. As part of this commitment, Superfast Essex, in conjunction with Broadband Delivery UK (BDUK), is offering eligible premises access to a basic satellite or wireless broadband service at a capped cost for the first year.

All new development should include a requirement to provide future proofed, fibre based internet access, ideally Fibre to the Premises (FTTP). Any new housing development over 30 homes will be provided with FTTP free of charge by the large network operators. Openreach and Virgin Media specifically will be keen to work with developers. Gigaclear will also have a significant network deployment in Uttlesford and would be keen to extend their own FTTP network to new housing or business parks. Smaller in-fill type developments are likely to be built within existing FTTC (fibre to the cabinet) or FTTP footprints, so are unlikely to require additional infrastructure deployment.

In March 2011 the Council awarded the Radio Broadband company, Buzcom, a grant to bring radio broadband to the residents of Uttlesford. FibreWiFi provides urban and rural areas with high speed broadband at Super Fast (25Mb) and Ultra Fast (50Mb) connection speeds. The service enables customers to upload as fast as they download. FibreWiFi is delivered by radio so there is no need for telephone lines. This means that the service is accessible in areas that standard broadband providers do not reach.

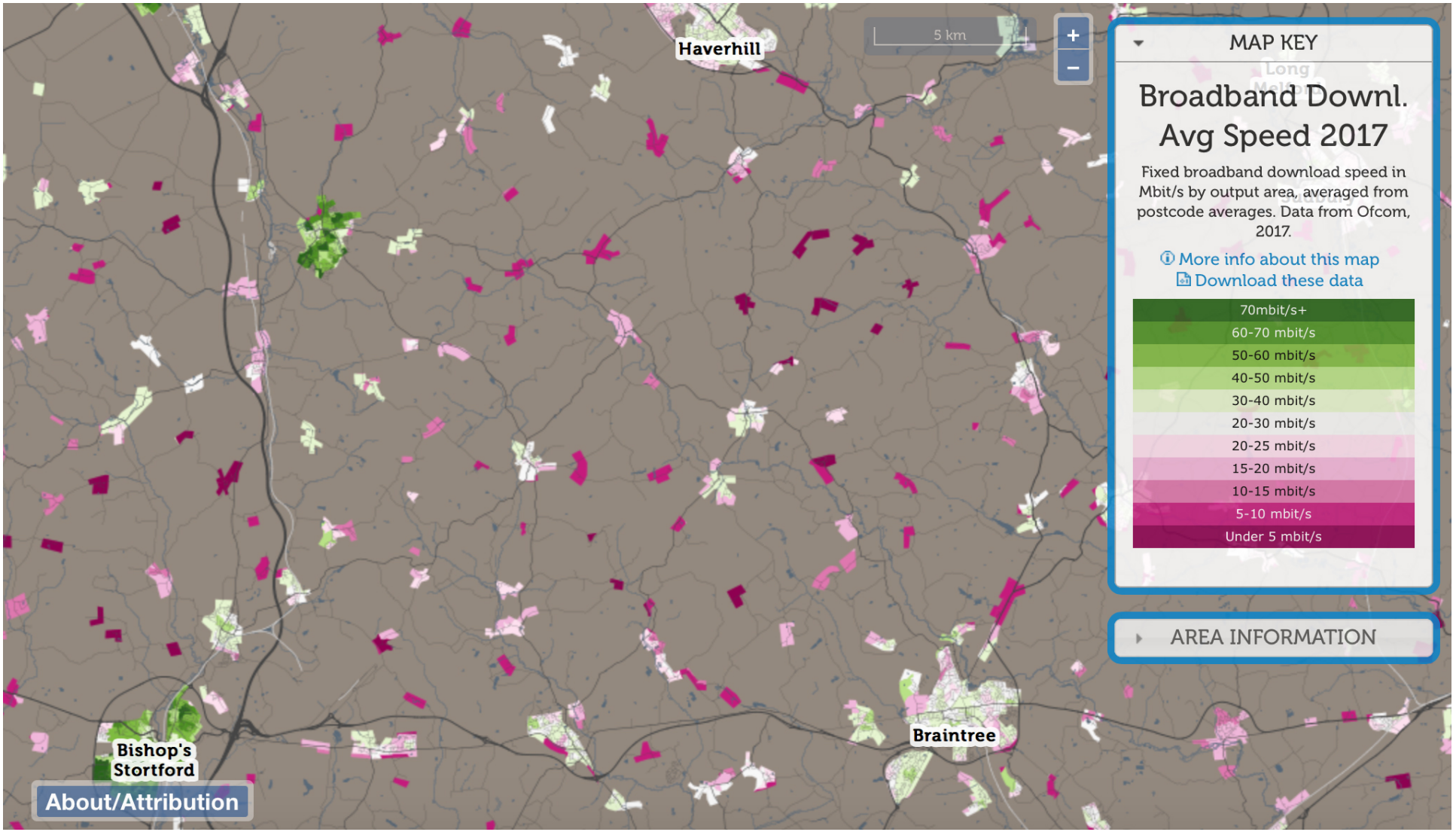


Figure 11: Average broadband download speeds
Source: www.maps.cdrc.ac.uk

4 Social Infrastructure

4.1 Education

4.1.1 Overview

Education services in Uttlesford are largely delivered by Essex County Council (ECC). This section seeks to simplify what is a very complicated subject, based on information provided by ECC.

The section is broken down to present requirements based on (a) growth in and around the existing towns and settlements, and (b) that in the proposed garden communities. In both cases this is a high-level assessment of need and would be subject to further assessment once the preferred scale and distribution of growth is established. The following education services are included within this assessment:

- Early Years and Childcare (EY&C).
- Primary education.
- Secondary education.

Current legislation dictates that whilst the local authority can build schools there has to be a full published offer for either an Academy or Free School to run them.

Free Schools and Academy Schools are outside local authority control, but it is still necessary to consider them in pupil place planning. Of relevance to infrastructure planning is that, if there is insufficient capacity in existing schools, the local authority is not able to expand Free Schools or Academies to take additional children without the prior approval of these schools. It is then the responsibility of these schools to apply to the local authority to fund the school expansion with the use of developer contributions (if the need for additional places was created by new development).

As part of the provision of new schools and associated sports and leisure facilities (indoor and outdoor), it is expected that such spaces will increasingly need to be available for use by the community outside of school hours. However, this will need to be considered on a case-by-case basis for both new and existing school facilities and therefore the IDP does not assume that this will happen in all cases. The assessment of leisure and recreation needs in later sections therefore reflects the overall need and cost which may ultimately be reduced if facilities can be shared.

For the purposes of this IDP, all dwellings, irrespective of size or type (e.g. retirement homes), are assumed to be ‘qualifying houses’ and thus generate a need for education. It is possible that the numbers of pupils generated by individual developments may be lower than indicated.

The information presented in the section of the IDP focuses on education needs for the Plan period. As the garden communities continue to be built out, there will be further growth that requires further provision of education facilities. The IDP schedules that sit alongside this document, detail the likely cost beyond the plan period too.

4.1.2 Cost and delivery assumptions

Early-years and childcare

The Essex County Council Developers' Guide to Infrastructure Contributions Revised Edition (2016) sets out the school place assumptions behind new development proposals[26].

The Guide referred to above notes that the cost of provision, and any appropriate developer contribution, must be considered on a case by case basis. It notes that the expansion of existing facilities has in the past cost in the region of £13,500 per place. The provision of a new build, 56-place nursery, costs £19,014 per place.

Where expansion of existing provision is required, but not possible within the current limits of the particular site in question, alternative solutions for provision will need to be found. These should be considered on a case-by-case basis. Whilst a significant proportion of provision is made by the private sector and it is assumed that this will continue, it is necessary for the purposes of planning to work on a cautionary basis that the private sector it is not in a position to expand.

In the garden communities, new provision will likely be a mixture of provision as part of new primary schools and stand-alone facilities.

In terms of childcare, it is noted by Essex County Council that families do not always access childcare that is closest to where they live. For some families it makes sense to access childcare closer to where they work or the railways stations which they travel to and from for the purpose of work. Providers of childcare are independent businesses and therefore can open and close and short notice.

Primary Schools

The following principles are used by ECC to determine overall needs and costs:

- New primary schools are assumed to be two forms of entry (2FE on 2.1 hectares of land) with a 56-place nursery unless otherwise stated. The cost of such provision is approximately £7.3m.
- Expansions are costed at £12,218 per primary school place. All costs are given at April 2016 prices and all contributions must be index linked to this date.
- Land and site preparation costs are excluded. As per the 2016 ECC Developers' Guide to Infrastructure Contributions, it is expected that the developer will provide free, fit-for-purpose sites that are fully serviced and remediated.
- Contributions from development should be secured though s106 agreements unless otherwise stated.
- Where the need for new schools are identified against a site, other sites that benefit may be required to contribute towards land costs.
- Where school facilities are to be used outside school hours by local communities, e.g. sports facilities, the education authority is not expected to bear any of these costs.
- The Local Plan should specifically allocate education land as Class D1 use to avoid projects becoming unviable over the lifetime of the development due to changing residential land values.

[26] The Essex County Council Developers' Guide to Infrastructure Contributions Revised Edition, p.27 (2016)

Secondary schools

The principles for secondary education are the same as those for primary education. The only amendments and additions are:

- Expansions are costed at £18,561 per secondary school place.
- Sufficient land has been allowed at proposed secondary schools for sixth forms but build costs for post-16 provision are excluded.
- Where new secondary schools are to be provided the preference is for larger schools rather than several smaller schools. National standards for school site size should apply.

4.1.3 Infrastructure requirements within the Plan Period

The increase in childcare requirements based on the allocation of sites through the Local Plan is presented in Table 9. Table 10 and Table 11 set out the requirements during the Plan period for primary and secondary school provision, respectively. These tables detail the approximate cost of each required project, the indicative start date and the potential sources. The costings are an approximate estimate as at April 2018. This information has been provided by ECC.

4.1.4 Infrastructure requirements beyond the Plan period

The delivery rates envisaged within the three garden communities will see development of these continue beyond the Plan period. The full-scale of education provision required for these is outlined below:

Easton Park

Beyond the Plan period a further six primary schools on 2.1 hectare sites and costing £6.5m each would be needed plus a second secondary school on a 9ha site. The cost of additional secondary provision can be put at circa £31m as the second school would need to be larger than the first or the first expanded as well.

North Uttlesford

Beyond the Plan period a further two primary schools each on 2.1 hectare sites and costing £6.5m would be needed. The secondary school opened during the plan period will be sufficient for 5,000 homes in terms of land but an expansion costing circa £3m should be allowed for.

West of Braintree

During and beyond the Plan period would require 6 primary schools on 2.1 hectare sites at a cost of £6.5m plus a 2.9 ha site for a primary school costing £9.8m. Two secondary schools, each on 9 hectare sites need to be planned at a total cost of circa £56.2m.

These figures include the schools needed within the Plan period and are not split out as for Easton Park and North Uttlesford. This is because part of the need is not only in the Plan period but also in Braintree.

Table 9: Early-years and childcare requirements based upon Local Plan Housing allocations

Location	Dwellings to be provided in the new allocation draft plan 2016-33	Current childcare provision	Required increase in childcare	Narrative
New Garden Communities				
Easton Park Community	1,925	- 24 places - No vacancies	1,925 dwellings x0.09 =173.25 childcare places	173.25 childcare places required to support the development. If new school identified new nursery could be developed at the same time.
North Uttlesford	1,925	- 178 places	1925 dwellings x0.09= 173.25 childcare places	As the need for new schools are identified new nurseries could be developed at the same time. 106 contributions to enable providers to increase capacity to meet growth needs
West of Braintree	970		970x0.09 =87.3	New nursery provision will be required plus 106 developer funds. If new school need is identified new nursery provision could be built at the same time.
Market Towns				
Saffron Walden	309	Saffron Walden Shire 182 places - 169 taken - 13 vacancies Saffron Walden Castle 68 places - 57 taken - 11 vacancies Saffron Walden Audely - 82 places - 82 places taken - No vacancies	309 dwellings x0.09=27.8 childcare places	106 contributions to enable providers to increase capacity to meet growth needs
Great Dunmow	765	Great Dunmow South and Barnston	765 dwellings x0.09=68.85 childcare places	68.85 childcare places could be 2 x 32 place nurseries plus any 106 contributions to enable

		- 91 places - 90 places taken - 1 vacancy Great Dunmow North - 40 places - 40 places taken - 0 vacancies		providers to increase capacity to meet growth needs If new primary schools are identified new nursery provision could be provided at the same time.
Key Villages				
Elsenham		- 66 places available - 66 places taken - 0 vacancies	Number of proposed dwellings x 0.09 = number of required childcare places	A need for childcare provision in the village has long been identified. If need for new school is identified, then a new nursery could be built at the same time.
Great Chesterford		- 98 childcare places available. - 92 childcare places taken - 6 vacancies	Number of proposed dwellings x 0.09 = number of required childcare places	These three wards cover a wide rural area which can make it extremely difficult for families to access childcare close to home or local school. However, a new provider is currently developing a larger full day care nursery in the Great Chesterford ward. This would contribute towards supporting families being able to access childcare while the new developments are progressing. These wards would also be directly affected by the proposed North Uttlesford Garden Community.
Hatfield Heath		No vacancies reported at the time of this report	Number of proposed dwellings x 0.09 = number of required childcare places	
Newport		No vacancies reported at the time of this report	Number of proposed dwellings x 0.09 = number of required childcare places	Currently one main provider in the village – expansion has taken place to meet the need but as development increases dwelling numbers so requirement for childcare will increase.
Stansted Mountfitchet		No vacancies reported at the time of this report		At the time of the report families are unable to fully access all their childcare entitlement however new providers are

Takely		- 192 places available - 191 childcare places taken - 1 vacancies	Number of proposed dwellings x 0.09 = number of required childcare places	Takely is already a large new development and has a new large nursery that has been growing to meet the increased need. If there is a requirement for a new school so a nursery could be provided to meet any increased need providing this would not place sustainability strains on existing providers.
Thaxted		No vacancies reported	Number of proposed dwellings x 0.09 = number of required childcare places	New developments in and around Thaxted have already placed a strain on existing providers. Any new development would need careful planning to ensure that new childcare is provided as number of dwellings increase.
Other Villages				
		In the villages, there are very few childcare vacancies. Vacancies do exist in Ashdon, Hatfield Broad Oak and Felstead. Families living outside of these areas will need to look further afield for the provision of childcare places. This is currently already the case for a number of the villages, but any increase in population with further heighten this trend. Further work will need to be done to understand the need for childcare. This is the one ward/village in Uttlesford with considerable number of vacancies reported. However Felstead preparatory school will no longer be providing funded childcare places which will create more demand from the other providers in the village.		

Source: Essex County Council

Table 10: Requirement for primary schools (excluding early-years and childcare: see previous table) within the Plan period.

Location	Project	Approximate Cost	Indicative Timing	Potential Funding Sources
Garden Communities				
West of Braintree	New primary school on 2.1ha D1 use allocation within Garden Community	£6.5m	2028	s106
North Uttlesford	New primary school on 2.9ha D1 use allocation within Garden Community	£9.8m	2025	s106
Easton Park	New primary school on 2.9ha D1 use allocation within Garden Community	£9.8m	2025	s106
Existing Towns and Villages				
Dunmow	New 2fe Primary School on Smith's Farm site	£6.5m	In 10 Year Plan for 2019 but likely to slip.	S106 including partial funding from extant agreement for site.
	New Primary School on 2.1ha D1 use allocation at Woodside Way	£6.5m	2024	S106 including partial funding from extant agreement for site.
	Expansion of Smith's Farm or Woodside Way school	£2.8m	2029	s106 / Basic Need
Saffron Walden	New Primary School on Radwinter Road / Shire Hill location.	£6.5m	2020	s106 / Basic Need
Newport	Half form entry school expansion	£1.75m	2020	s106 / Basic Need
Stebbing	Additional Permanent accommodation	£0.4m	2019	s106 / Basic Need
Felsted	Additional Permanent accommodation	£0.4m	2020	s106 / Basic Need

Source: Essex County Council

Note: The addition of a 56 place EY&C facility to a new primary school would add circa £1.1m to the cost of each. All figures are indicative and subject to change.

Table 11: Requirement for primary schools (excluding sixth=form) within the Plan period

Area	Project	Approximate Cost	Indicative Timing	Potential Funding Sources
Garden Communities				
Easton Park	New secondary school on 9ha D1 use allocation within Garden Settlement	£25.2m	2025	s106
North Uttlesford	New secondary school on 9ha D1 use allocation within Garden Settlement	£25.2m	2027	s106
West of Braintree	New secondary school within Braintree section of Garden Settlement	£4.7m (pro rata contribution)	2027	s106
Existing Towns and Villages				
Stansted	1fe expansion of Forest Hall	£3m	2021	s106 / Basic Need
Newport	Joyce Frankland minor expansion	£1.2m	2021	s106 / Basic Need

Source: Essex County Council

Note: The addition of sixth form provision would add a minimum of 20% to the cost of each secondary school project. All figures are indicative and subject to change

4.1.5 Funding of education provision

Funding will predominantly come from developer contributions. Where specific school/EY&C sites are identified and appropriate levels of contribution can be secured from no more than five sites, then S106 contributions can be pooled. Outside of this, other contributions will come from CIL.

Some limited funding will also come from Central Government Basic Need funding. Although this funding is only expected to address the needs of the population being schooled at the time, i.e. not the needs arising from future growth, in many cases where existing schools are expanded it will be difficult to distinguish between the two in terms of additional provision.

4.1.6 Timing and delivery of education provision

All items are seen as critical to the sustainability of the developments proposed.

Land should be transferred to ECC prior to first occupation, with other sites in the area only being commenced on delivery of the new facilities. There may be some flexibility to bring forward modest development earlier depending on build and birth rate fluctuations. Smaller projects will be timed once precise unit mix and development phasing is known.

ECC will take the lead but delivery of schools may be in partnership with an Academy and EY&C with a private provider. Where new sites for education facilities are required, ECC requires that the necessary land is provided for free and is fit for purpose, i.e. is fully serviced and remediated. This requirement is identified in the ECC Developers' Guide.

ECC has indicated that its requirements would need to be kept under review if these developments did not come forward in the first ten years of the plan period. This is particularly relevant for the major strategic sites where longer timescales are expected to be the case.

4.2 Health and Social Wellbeing

4.2.1 Overview

For the purposes of the IDP, health and social wellbeing consists of the following:

- General Practitioner (GP) services.
- Hospitals.
- Social care.
- Public health.

This analysis does not take into account specific wider primary care service needs such as dentists, pharmacies, opticians, community health (health visiting, school nursing, midwifery, district nursing, etc). All of these services will be impacted by demand from growth and therefore any changes in provision, e.g. a move to provision of fewer, larger primary care hubs, could mean that such services are provided in a similar way. However, with many of these services provided privately, this will be addressed by the providers themselves.

The Health and Social Care Act 2012 has radically changed the way that primary care services are planned and organised. This has facilitated a move to clinical commissioning, a renewed focus on public health and allowing healthcare market competition for patients. This is primarily provided by the Clinical Commissioning Groups (CCGs), who are responsible for planning and buying ('commissioning') local health services.

Separately, Sustainability and Transformation Plans (STPs), are being prepared for wider areas that incorporate some or all of the CCG areas. Uttlesford falls within the Hertfordshire and West Essex area. A 'New Vision for a Healthier Future' was published in December 2016. Critically, this notes that:

"In Hertfordshire and west Essex, we spend about £3.1 billion a year on health and social care. Faced with increasing demands for services, we expect to have a funding gap of more than £550 million a year by 2021 unless we take action now to improve our own personal health and the way that health and care services work together."[27]

Of relevance to Uttlesford, the vision notes that, for the west Essex part of the STP:

"Health and social care services in Essex are working together with residents with a view to creating a new, single health and care organisation to deliver better, more joined-up and affordable care. Called 'My Health, My Future, My Say', the Essex proposals include the area of west Essex which falls into our Sustainability and Transformation Plan area. For younger adults, the emphasis of 'My Health, My Future, My Say' is on maintaining health and wellbeing. An older or frail person would have a single care plan involving a range of professionals and services dedicated to keeping that person living independently for as long as possible."[28]

Public health services are provided by Essex County Council in partnership with the respective local authorities. These services are focused on prevention and early

[27] See: http://www.enhertsccg.nhs.uk/news/201612/new-vision-'-healthier-future'-hertfordshire-and-west-essex accessed April 2017
[28] Page 10, NHS, ECC and HCC, A Healthier Future: Improving health and care in Hertfordshire and west Essex, 2016-2021

intervention, specifically developing measures that help to reduce illness and to tackle the causes of poor health at source. This includes initiatives to increase activity and healthy living, such as cycling and walking, as well as provision of green space within developments. The strategic overview of the STPs includes consideration of these issues.

4.2.2 Primary Care Services

The Primary Care Strategies of the CCGs focus on the following key areas:

- General Practice to be provided at scale aligned to defined neighbourhoods of a minimum of 50,000 practice list size.
- The creation of a neighbourhood multi-disciplinary primary care workforce embedded in the Care Closer to Home model of care. This will provide General Practice that is fully integrated care with the local authority and voluntary sector delivering services in a co-located primary care hubs.
- Improved use of technology in General Practice.
- Improved quality of care and safety of General Practice.
- Increased patient access – seven day services and reduce demand in the wider healthcare system through improved prevention and self-care.
- Fit for purpose estate for the delivery of modern General Practice.
- Supporting the development of a resilient General Practice workforce.

A particular focus of the STPs is bringing simple diagnostics and care more into communities. This doesn't necessarily mean needing more properties but trying to find space in existing surgeries for activity that would traditionally be found in an acute care setting.

The CCGs are also looking at more prevention-based and integrated service provision with social care. Ideally they would like citizens advice, mental health, yoga, pilates, a cyber café, etc, as part of the hub provision.

This growing focus on bringing care provision into a single point within the community means in practice the creation of primary care hubs. It is envisaged that GPs will share buildings with a wide range of health providers, including dentists, pharmacies, optometrists, opticians, etc. There may be some smaller 'spoke' facilities which provide particular specialisms not otherwise provided at the main hub. Often the need for a spoke facility will be because of geography, e.g. an area of population is not large enough to merit its own hub but is physically separated from the main hub by a river, making journey times unacceptably long for patients.

New facilities don't have to be stand-alone buildings. Any way of keeping revenue down is desirable. So, for example, a hub may have residential development above it, retail provided on site or community uses as part of the same site. It could also be co-located with extra care provision. Essex County Council would deliver the building as extra care provider and then the healthcare providers could take another part of the site or building.

There are also CCG priorities related to services being:

- Paper-free at the point of care.
- Provided digitally.
- Improving population health and wellbeing through the use of information, insight and innovation.
- Modern infrastructure, systems and services.

This in turn will lead to the 'Digital Patient' programme which will provide alternative methods for patients and the wider community to receive and contribute to care using technologies that most appropriately meet their needs. Practically, this could mean the use of video-conferencing services, e.g. Skype, to reducing the need for face-to-face appointments and care.

4.2.3 Hospitals

The Cambridge University Hospitals NHS Foundation Trust manages the Saffron Walden Community Hospital. There are also a number of hospitals located in neighbouring districts which serve Uttlesford (see Table 12).

Table 12: Hospitals serving Uttlesford

Hospital	Location
Saffron Walden Community Hospital, Radwinter Road, Saffron Walden, CB11 3HY	Radwinter Road, Saffron Walden, CB11 3HY
Herts and Essex Community Hospital	Haymeads Lane, Bishop's Stortford, Hertfordshire, CM23 5JH.
Braintree Community Hospital	Chadwick Drive, Braintree, Essex, CM7 2AL.
St Michael's Hospital	Rayne Road, Braintree, Essex, CM7 2QU
William Julien Courtauld Hospital	London Road, Braintree, Essex, CM7 2LJ
Halstead Hospital	778 Hedingham Road, Halstead, Essex, CO9 2DL
Fulbourn Hospital	Fulbourn, Cambridge, CB21 5EF

Source: NHS [29]

The STPs envisage that, over the next five years, hospital services will be reconfigured and transformed, with new models of care meaning more care will be provided as close to people's homes as possible.

In line with Primary Care Strategies and shifting care closer to home where possible, it is envisaged that the impact on the acute sector will culminate in the greater complexity and health needs of patients presenting in the acute sector. Hospitals will need to be redesigned to treat the patients of the future, with specific redesign based upon:

- Greater community-based care for less acute patients.

[29] http://www.nhs.uk/Services/Trusts/HospitalsAndClinics/DefaultView.aspx?id=104299 Accessed April 2017.

- Ageing population.
- Hospital facilities which maximise the potential to treat the most-needy in the most efficient manner possible, centralising services and maximising economies of scale.
- Greater treat and discharge models of care, linking to increased community and social care provision.
- Move to designated day-case and ambulatory models of care and settings.
- Increased health needs/acuity of those patients presenting in the acute sector.
- Provision of the transfer of patients to less acute settings as soon as clinically appropriate, providing patients with care closer to home as soon as possible.
- The centralisation of support functions and services, such as Pharmacy, enabling the greater provision of community healthcare whilst maintaining the most acute patient care within the acute setting.
- Repatriation of tertiary services where practically possible.

At this current time it is not possible to accurately determine the nature of any infrastructure requirements related to hospital based care.

4.2.4 Social care

Social care for both adults and children is provided by Essex County Council (ECC). This covers a range of functions and services and is provided by a range of different providers. There is money in the ECC Capital Budget for vulnerable people, independent living and Essex Cares Limited, a separate company that provides services to allow people to live independently in their homes. This includes supporting adults with learning, physical, sensory or mental health needs. Essex County Council can make specific provision of built infrastructure for care services, e.g. extra care.

4.2.5 Future Needs

There is no official standard for when the need for new GP provision will be triggered. However the CCG advise that, as a rule of thumb, one FTE GP per 2,500 patients can be used as a guide. They have also advised that some existing GP practices in the Uttlesford area would still not have capacity to accommodate significant growth.

With regard to existing towns and villages, the CCG note that Dunmow is the greatest challenge in terms of population growth. Schemes for Saffron Walden are being considered, with the option to utilise the community hospital site a possibility. Thaxted is already in progress in terms of extending current capacity, as are Newport.

It is noted that the Local Plan submissions made in respect of the proposed garden commuities include provision of new health facilities as part of their package of infrastructure. The estimated need for GPS associated with the scale of growth envisaged in the garden communities is set out in Table 13.

Table 13: Potential GP need arising from the scale of growth envisaged in the garden communities

Garden Community	Total Dwellings	Total Population	GP Need
North Uttlesford	5,000	12,250	5
Easton Park	10,000	24,500	10
West of Braintree	10,000	24,500	10

Note: Population based on average household size of 2.45. Need based on one GP per 2,500 population

The three garden communities will have a big impact on the surrounding GP practices. The first completions are not until 2022, however this would be a major trigger point. An options paper for Dunmow in particularly will be needed to agree the infrastructure in time for the growth.

4.2.6 Costs

It is not possible to accurately determine the build cost or size of new health hubs at this stage. This will depend a large number of complex and inter-related factors that can only be resolved at a more advanced stage in the planning of such provision on a particular development site.

With the changing nature of health provision, it is not possible to establish other health infrastructure costs either because the type of change required to accommodate growth, particularly over the medium- to long-term, is not possible to accurately determine. This is discussed in more detail below under 'Timing and nature of future provision'.

4.2.7 Funding

Funding for expansion of existing GP surgeries would firstly come through the Improvement Grant. This is funding that practices can apply for through NHS England for capital improvements to their practices. The contribution would be up to 66% of what is requested and the practices are then required to bridge the financial gap. This could in some cases be difficult for practices to achieve. Any gaps in funding would therefore need to be bridged through developer contributions.

NHS England's Estates and Technology Transformation Fund (ETTF) is a multi-million pound investment (revenue and capital funding) in general practice facilities and technology across England (between 2015/16 and 2019/20). It is part of the General Practice Forward View commitment for more modernised buildings and better use of technology to help improve general practices services for patients. The ETTF funding comes out of the £1bn Primary Care Infrastructure Fund which as well as providing a funding boost for estates and technology has invested in other areas of general practice such as workforce. Funding through the ETTF is helping contribute towards the extension of existing facilities as well as building new health centres. Funding is based upon recommendations made by the CCGs, identifying where investment is required.

Any gaps in funding would therefore need to be bridged through developer contributions.

Land may or may not be provided free for the development of a healthcare facility. However, this would only be desirable for larger 'hub'-type developments that would house a range of medical services. Smaller developments which may only accommodate a practice of two or three GPs would make this inefficient in most, if not all, situations.

4.2.8 Timing and nature of future provision:

The provision of appropriate primary healthcare facilities to support growth is a critical item. The necessary provision should be delivered as new growth comes forward to ensure that healthcare impacts are appropriately mitigated.

If any on-site provision is required as part of any larger site, whether an extension to an existing settlement or a new 'garden settlement', then this would need to be provided in a timely manner once a patient-orientated critical mass has been achieved.

However, it is not possible to determine the exact quantum of space or the cost of providing it. The reason for this is that the provision of healthcare services and delivery models are changing so significantly and will continue to change for the foreseeable future, possibly in many different ways and certainly in ways that are difficult to anticipate at this point in time.

The reasons for this are multiple and complex. Firstly, every location will have slightly different needs to accommodate and therefore the most suitable version of a health hub will vary, even within a CCG area or a district.

Secondly, changing service delivery models are likely to bring totally different ways of providing services into the mainstream. One of the most significant examples, raised earlier, is digital provision, where people see their GP via video-conference. If this were to be become a significant part of service provision then it would arguably be a better use of available funding to improve broadband provision to all homes than providing a new built medical facility. Whilst there will be a continuing need for clinical buildings, if digital provision grows then there may also need to be provision made for digital service bases as well. This may also be supported by mobile services, where CCGs provide mobile units that can visit a series of facilities in an area and provide specific clinical support as needed. It may then be desirable to have this funded by development as well.

Over the Plan period, health providers will need investment but more than likely it will be in very different forms of delivery and asset than the buildings that have traditionally been developed. It will be important that this is reviewed regularly as part of the IDP update process. Moreover, promoters of development must liaise with health commissioners at the earliest possible stage in order to understand what type of provision will fit most appropriately with local needs.

4.3 Emergency services

4.3.1 Police

Essex Police is responsible for delivering services to address community safety, tackle the fear of crime and seek to achieve a reduction in crime in Essex through a number of methodologies including the detection of offenders. The primary roles of the police service are: protection of life and property; prevention and detection of crime; and, maintenance of 'The Queens Peace' ('The Peace').

The delivery of growth and planned new development in the borough would impose additional pressure on the Essex Police existing infrastructure bases, which are critical to the delivery of effective policing and securing safe and sustainable communities.

It is most likely that refurbishment of the existing police estate, from which police staff can operate, would be required. The specific nature of any requirements will need to be assessed on a case-by-case basis.

It is understood that there is no existing funding source for the Police service to support the required growth in infrastructure from central or local taxation. The Police service does not receive sufficient central capital funding for new growth-related development. The funding allocated to the Police and Crime Commission via Home Office grants, Council Tax precept and other specific limited grants is generally insufficient to fund requests for capital expenditure whilst there is a time lag associated with the Police receiving operational funding.

Some funding will therefore have to come from capital reserves, with the remainder coming from developer contributions.

4.3.2 Fire Service

No advice has been provided as to whether additional facilities are required as a result of growth. However, the Essex Fire Authority has published an Integrated Risk Management Plan for the period 2016-2020[30]. In regard to fire stations, this notes (at page 12):

"Essex Fire Authority has reviewed the disposition of the fire stations across the County and almost all are in the right place and are required to assist the Service in meeting the Authority's response standards."

"The Authority has fire stations which are located in towns and villages across the County and together they provide an emergency response to any incident. Some of these fire stations have one fire engine, others have two or more. Because of where the Authority's fire stations are situated they provide support and assistance to each other when required. This also allows the Service to manage larger scale incidents by facilitating the provision of the right number of fire engines immediately along with the right number of firefighters to tackle the incident safely."

Alongside this, the Fire and Rescue Service has published its Strategy for the period 2016 to 2020[31]. This notes (on page 3) that:

[30] Essex County Fire and Rescue Service, Integrated Risk Management Plan 2016-2020: Leading the way to a safer Essex

[31] Essex Fire and Rescue Service, Essex Fire Authority Strategy 2916 to 2020, Leading the way to a safer Essex

"One of the biggest reasons we face change is the significant cut in funding from central government to finance the service. So from 2016 to 2020 we will simply have to manage with less money."

4.3.3 Ambulance

The East of England Ambulance Service NHS Trust operates ambulance services in Uttlesford.

At the time of writing, the Service is investing in aligning the current estate with a more efficient hub and spoke type model which aims to deliver an efficiency in estate footprint and improved operational performance. It is considered that this investment will help the Service respond to the pressures of increasing demand[32].

[32] East of England Ambulance Service NHS Trust, Operational Plan 2016/17

4.4 Libraries

Library services are provided by Essex County Council.

Libraries and their provision is changing significantly. Partly this is due to reducing budgets but also due to the growth of information technology and the population's needs of a core community information service.

A 2013 report by the Arts Council and Local Government Association[33] set out the changing ways in which local residents use library facilities. The report drew upon best practice experience to outline ways in which communities are supporting and managing local library services. Library facilities in the district are also used for community-run events and activities, and are increasingly becoming spaces where the public can come together.

There are four public libraries in Uttlesford, Great Dunmow, Saffron Walden, Stansted and Thaxted. Great Dunmow, Saffron Walden and Thaxted libraries provide a full-time service. Stansted library currently is providing a temporary service, while work is undertaken to create a new community hub. There is a mobile library which visits a range of settlements across the district fortnightly. There is also a home library service for people who can't get to the library owing to age, disability or caring responsibilities.

There are no distance standards relating to libraries. For this reason, it has to be assumed that there is no existing deficit in library provision.

In terms of future provision, opportunities for the co-location of services and maximising the use of existing buildings will be encouraged, to respond to the increasingly integrated models of service provision and provision for multi-purpose facilities. There is increasing emphasis on the integration of other forms of community infrastructure, such as libraries and community spaces. For the purposes of this IDP when assessing future need mobile libraries have not been considered as they offer little flexibility for co-location and are less appropriate for meeting the long-term needs of new and existing communities.

New provision is therefore likely to be in the form of a co-located community hub/library. This will be dependent on the level of population growth and the demographic of that population, along with the service requirements of future library provision. It is therefore likely that new provision could be made at some of the larger growth locations, particularly if there is a need for other community facilities, e.g. health centres, community halls etc. However, at this stage it is not possible to identify specific needs or costs of provision.

Funding will need to come from developer contributions and will be appropriately designed to serve new developments and communities through the masterplanning process.

[33] Locality (2013) Community Libraries: Learning from experience; guiding principles for local authorities, for Arts Council England and the Local Government Association

4.5 Allotments

4.5.1 Existing provision

Allotment provision is not commonly undertaken by one specific body. Many allotments were provided several decades ago when funding and provision regimes were very different. Today it is more reasonable to expect developers to provide allotments as part of large developments. The maintenance and upkeep of allotments is commonly undertaken by parish councils.

There are currently 24 allotments in Uttlesford. These were assessed in the Uttlesford Open Space, Sport Facility and Playing Pitch Strategy (2012). Most were assessed as being in 'good' condition (see **Error! Reference source not found.**).

Table 14: Location and condition of allotments in Uttlesford

Allotment	Condition
Brick Kiln Lane, Stebbing	Excellent
Chickney Road, Henham	Excellent
The Street, High Roding	Good to Excellent
Stortford Road, Clavering	Good to Excellent
Mallows Green Road	Good
Roger's End, Ashdon	Good
Little Walden Road, Saffron Walden	Good
Mill Road, Felsted	Good
Jubilee Allotments, Great Dunmow	Good
Mill Road, Debden	Good
Allotments off Broad Street, Hatfield Broad Oak	Good
Frambury Lane, Newport	Good
Crocus Fields, Saffron Walden	Good
Rickling Green Road, Quendon and Rickling	Moderate to Good
Pennington Lane, Stansted	Moderate
Land rear of Magdalen Green, Thaxted	Unknown
Land off The Street, Manuden	Poor
Land off Radwinter Road, Saffron Walden	Unknown

Off Bardfield Road, Thaxted	Unknown
Site off Peaslands Road, Saffron Walden	Unknown
Windmill Hill, Saffron Walden	Unknown
Birchanger Lane, Birchanger	Unknown
Church Lane, Elsenham	Unknown
Off The Street, High Easter	Unknown
Off Hamel Way, Widdington	Unknown

Source: Uttlesford Open Space, Sport Facility and Playing Pitch Strategy, (2012)

A large proportion of households in the district are within 4km of an allotment, the recommended standard according to UDC's analysis in 2012[34]. However, some neighbourhoods have been identified as being deficient of allotments. These are as follows: Chrishall, Elmdon and Wenden Lofts, Great Chesterford, Hempstead, Priors Green Little Canfield, Little Hallingbury, Radwinter, The Stampfords, Takeley and small parts of Hadstock[35].

4.5.2 Needs and costs

Guidance published by Fields in Trust[36] recommends provision of 0.3 hectares of allotment space per 1,000 people. Policy in the emerging Uttlesford Local Plan states a requirement for two squares metres of allotment provision per person. This therefore provides a range of need, and the midpoint of that range is used in the calculations below.

Based on the cost of provision elsewhere, it is estimated that the cost of allotment provision is in the region of £25,000 for a twenty-plot allotment. A twenty-plot allotment equate to approximately 0.25 hectares of land, meaning that the overall cost of provision would be £100,000 per hectare.

Table 15 summarises the needs and costs for allotment space arising from commitments and allocations in the plan period up until 2033. This shows that there is a need for just over 1.5 hectares of allotment space at a cost of up to £158,940.

Table 15: Allotment needs arising from growth from allocations in the existing towns and settlements

Settlement	Dwellings to be allocated	Allotment Need (hectares)	Cost
Saffron Walden	309	0.19	£18,856
Newport	13	0.01	£978
Elsenham	170	0.10	£10,248

[34] Uttlesford Open Space, Sport Facility and Playing Pitch Strategy, p.70, (2012).
[35] Uttlesford Open Space, Sport Facility and Playing Pitch Strategy, p.70, (2012).
[36] http://www.fieldsintrust.org/Upload/file/Guidance/Guidance-for-Outdoor-Sport-and-Play-England.pdf

Stansted Mountfitchet	40	0.02	£2,470
Thaxted	20	0.01	£1,235
Takeley	20	0.01	£1,235
Great Dunmow	765	0.47	£46,614
Great Chesterford	0	0.00	£0
Other smaller villages	140	0.09	£8,645
Windfall allowances	1,120	0.69	£68,660
Total	2,597	1.59	£158,940

The total allotment requirement arising from the proposed garden communities is shown in Table 16. This includes estimated costs for each settlement.

Table 16: Allotment needs arising from the proposed garden communities

Garden Community	Dwellings	Population	Allotment need (Hectares)	Cost (£)
North Uttlesford	5,000	12,250	3	£306,250
Easton Park	10,000	24,500	6	£612,500
West of Braintree	10,000	24,500	6	£612,500

4.5.3 Delivery and timing

Provision of allotment facilities would be delivered on-site as part of developments coming forward. It will be for the masterplanning process to establish when and where allotments are delivered, so this should be agreed between Uttlesford District Council and the developer. Increasingly, alternative models of growing provision are being adopted in developments. In particular, the use of community growing spaces is becoming increasingly popular, whereby growing space is made directly outside residential properties and is shared by the community. This means that less space is required because it can be provided more flexibly and allows communities to grow exactly what they need. Such alternative models are much cheaper and may be preferable particularly in built-up areas.

4.6 Community Centres

4.6.1 Existing provision

Community centre are flexible spaces for public use. There are 54 community centres in Uttlesford. These are not considered to be operating at over capacity[37].

4.6.2 Needs and costs

The standard of 1 community hall per 1, 500 people is set out for Uttlesford in the Sports Development Strategy, p.139, (2016).

It is noted that provision of community centres could be made in a number of ways, mixing large and small centres as appropriate. However, it may be preferable to provide community facilities as part of one large, multi-use facility. Community centres are often used for sporting activities. New community centres will need to be considered in context of whether there is an existing commitment to provide sporting facilities (either as a stand-alone facility or through use, for example, of secondary school facilities).

It is assumed that the cost of providing a flexible community space is in the region of £1-2m per facility (based on information provided by ECC), though smaller facilities may cost less. For the assumptions outlined below a mid-point cost figure of £1.5m has been used. This will need to be refined as site proposals, particularly for the garden communities, are developed in more detail.

Table 17 summarises the needs and costs arising from growth at commitments and allocations in the existing settlements. Table 18 outlines the requirement arising from the proposed garden communities, as well as estimated costs.

Separate youth facilities (including shelters and skate facilities etc) are also likely to be required, particularly within the proposed garden communities. ECC has commented that these cost in the region of £0.2m per facility (index linked to April 2015 costs). Sites for youth facilities and community centres should be provided in compliance with the ECC developer's guide.

[37] Uttlesford Sports Development Strategy, p.140, (2016).

Table 17: Requirement for new community centres arising from growth from allocations at the existing towns and settlements in Uttlesford

Settlement	Allocated no. dwellings	Requirement	Cost
Saffron Walden	309	0.114	£170,336
Newport	13	0.005	£7,166
Elsenham	170	0.062	£93,713
Stansted Mountfitchet	40	0.015	£22,050
Thaxted	20	0.007	£11,025
Takeley	20	0.007	£11,025
Great Dunmow	765	0.281	£421,706
Great Chesterford	0	0.000	£-
Other smaller villages	140	0.051	£77,175
Windfall allowances	1,120	0.412	£617,400
Total	2,597	0.954	£1,431,596

Table 18: Requirement for new community centres arising from proposed scale of growth at garden Communities

Garden Community	Dwellings	Population	Community Centres	Cost (£)
North Uttlesford	5,000	12,250	8.17	£12,250,000
Easton Park	10,000	24,500	16.33	£24,500,000
West of Braintree	10,000	24,500	16.33	£24,500,000

4.6.3 Funding

New community centres are either provided from local authority capital expenditure budgets or through developer contributions. In certain circumstances, funding can be sought from Sport England if the facility is to provide a significant level of sports facilities. Contributions from development are expected to be secured through a CIL charge.

Commonly as part of major developments such land is provided as free land in lieu of other charges, so a developer may offer either the land and a capital contribution towards the construction of a community building, or the identification of a site and construction of the building with subsequent transfer to the local planning authority or, if there is one, a parish council. All sites should be provided in compliance with ECC developer's guide.

4.6.4 Timing of provision

There is no particular need for community centres to be provided at a certain time although they should be provided by the time that a reasonable proportion of the population of a new strategic development has been established.

4.7 Leisure and Recreation

Leisure and recreation infrastructure helps to create, sustain and enliven communities. Leisure and recreation infrastructure ranges from purpose-built leisure facilities, indoor and outdoor sport facilities and play space. Together these places support the activities which are required to help build community, foster a sense of place, meet the cultural and recreational needs of communities and promote community wellbeing.

The population of the local authority area is expected to increase. This can be attributed both to planned housing growth and an ageing population. The leisure and recreation needs of Uttlesford will therefore have to continue to accommodate for current day needs whilst also supporting and encouraging activity amongst a higher proportion of older persons. The additional demand arising from the increase in housing growth should be addressed by the new sport strategy, currently being produced. Sport England has proposed that they will provide further comments once there is an updated sports strategy. As the IDP is a living document, it can be updated as and when new or revised information is produced.

Provision has historically been provided within the larger settlements where demand is highest. Development must ensure that, where appropriate it meets the needs of the immediate proposal and address any existing under provision. Where existing under provision has been identified, the strategy for additional planned leisure and recreation services can be planned carefully to maximise on the positive benefit of such new facilities on both the current and future needs of the population. New facilities should seek to offer flexible uses and combine facilities/ services which may have historically been provided on separate basis.

In particular, the opening up of school facilities to the wider public outside of school opening hours can provide specialist facilities in new developments with reduced costs. Essex County Council has advised that most academies would, in principle, be amenable to renting their pitches to local sports clubs or rooms for community interest activities, e.g. adult education, where possible, as an income generator. In practice this is easier to achieve with new schools as this can be stipulated when looking for an academy sponsor and included in the lease, or if an additional facility is required this can be designed in if other funding sources are available for it.

However, this will need to be considered on a case-by-case basis for both new and existing school facilities and therefore the IDP does not assume that this will happen in all cases. The assessment of leisure and recreation needs therefore reflects the overall need and cost which may ultimately be reduced if facilities can be shared.

4.7.1 Children's Play Facilities and Youth Facilities:

Children's play space is defined in four main categories:

- Local Areas for Play (LAPs) are sites designed specifically for younger children (up to the age of about six) with a minimum size of approximately 100sqm.
- Local Equipped Areas of Play (LEAPs) are play areas which are designed for slightly older children between four and eight years old with a minimum size of approximately 400sqm.
- Neighbourhood Areas of Play (NEAPs) These are sites which are designed to serve older children other than the two types above, these sites have a minimum size of approximately 1000sqm.
- Multi-Use Game Areas (MUGAs) Areas which provide opportunities for a range of games to be played. Usually consists of hard surfacing, goal posts, basketball hoops, seating and fencing. These sites serve the needs of older children.

4.7.2 Existing capacity

The Uttlesford Open Space, Sport Facility and Playing Pitch Strategy, (2012) identifies that there are 71 play spaces in Uttlesford (Table 19). Of these, the condition of 28 were unknown. The condition of 43 was determined and this is set out below. Of the sites assessed 59% were in public ownership. The condition of sites was generally 'moderate' or 'good'. Of these spaces below there are five skate parks in Uttlesford. This forms part of the Districts provision of Multi-Use Game Areas (MUGAs), serving the recreational needs of for older children/teenagers. These were rated as being in 'moderate' condition. The one exception was the Land off Rectory Road, Farnham which rated 'poor'. This was attributed to the sites appearance and lack of disabled access.

Table 19: Location and condition of play spaces in Uttlesford

LEAP/NEAP/MUGA	Location	Condition
Great East Play Area	Great Easton	Excellent
Vernon's Close	Henham	Excellent
Mnet Park	Saffron Walden	Excellent
Mill Road	Denham	Excellent
Church Field and All Saints	Ashdon	Excellent
Anglo American Playing Fields	Saffron Walden	Good
The Causeway	Great Dunmow	Excellent
Bentfield Green	Stansted	Good
Broadfield	High Roding	Good
Land Fronting Lower Meadow Field	Great Dunmow	Good
Manor Road	Little Easton	Good
Oakroyd Avenue	Great Dunmow	Good
Burns Playing Field	Great Easton	Good
Medlars Mead	Hatfied Broad Oak	Good
The Street	Manuden	Good
Bentfield Green	Stansted	Good
Long Horse Close	Saffron Walden	Good
The Causeway Skatepark	Great Dunmow	Good
Pulford Playing Field	Great Dunmow	Good
Jolly Boys Lane North	Felsted	Good
Clarendon Road, Priors Green	Little Canfield	Good
St Nicholas Field	Berden	Good
Jigneys Meadow	Great Dunmow	Good
Talberds Ley	Great Dunmow	Good
Watts Close	Banston	Moderate to Good
Rectory Lane	Ashdon	Moderate to Good
Play Area off The Shaw	Hatfield	Moderate
Saffron Trals	Saffron Walden	Moderate
Stokes Road	Little Canfield	Moderate
Baynard Avenue	Flitch Green	Moderate
Evelyn Road	Felsted	Moderate
Burnsite Road	Felsted	Moderate
Barnston Village Happ	Barnston	Moderate
Children's Play Area	Arkesden	Moderate
Harvest Fields	Takeley	Moderate
Station Road	Newport	Moderate
Mountfitchet Road	Stansted	Moderate
Meadow Ford	Newport	Moderate
Land behind cricket ground	Takeley	Moderate
Honey Road	Little Canfield	Moderate
Warwick Road	Little Canfield	Moderate
Off Rectory Road	Farnham	Poor
Equipped play area, basketball court and open grass off Petlands, Saffron Walden	Saffron Walden	Moderate

Source: Uttlesford Open Space, Sport Facility and Playing Pitch Strategy, (2012)

4.7.3 Needs and costs

The Uttlesford Open Space, Sport Facility and Playing Pitch Strategy (2012) provides a standard of 0.2ha of equipped/ designated play space per 1000 population[38]. The Fields in Trust (FIT) is the operating name of the National Playing Fields Association. For the provision of MUGAs the (FIT) standard is 0.30 hectares per 1,000 population[39].

The Essex County Council Developers' Guide to Infrastructure Contributions Revised Edition (2016) sets out the estimated cost for a MUGA is £40,000[40]. Based on developments elsewhere the typical cost of a LEAP is £40,000, a NEAP is £80,000. It will be important for the Borough Council to be confident that the additional burden of maintaining these sites can be absorbed by its future revenue budgets. As there is no longer a standard methodology for assessing how to apportion the type of play space per development, this cannot be stated at this time. However, these costings can be used at a later stage when the specific requirements of each site are known.

The overall requirement for equipped play space and MUGAs arising from allocations in the plan period, in the existing towns and villages, is presented in Table 20. This amounts to a total of 1.27ha of equipped open space and 1.91 MUGAs over the plan period. The total need for play space as a result of growth at the garden communities is set out in Table 21, totalling 12.25ha of equipped open space, and 18ha MUGAs.

4.7.4 Funding

Outside of local authority budgets, there is no known source of funding available for the provision of additional play space as would be required by the development options. It is assumed that these would be funded solely through developer contributions.

4.7.5 Delivery and timing

Provision of children's play facilities would mostly be on-site as part of developments coming forward. It will be for the masterplanning process to establish when and where they are delivered, so this should be agreed between Uttlesford District Council and the developer. Ultimately it will be the developer that delivers such facilities. The potential on larger sites to co-locate community, sports and play facilities will help to maximise efficiency.

Provision of facilities in other locations could be the responsibility of either the District Council or the parish/town council in question.

[38] Uttlesford Open Space, Sport Facility and Playing Pitch Strategy, p.62, (2012).
[39] Guidance for Outdoor Sport and Play: Beyond the Six Acre Standard, (2015)
[40] The Essex County Council Developer' Guide to Infrastructure Contributions p.38, (2016)

Table 20: Play space requirements arising from growth from allocations in the existing towns and villages

Settlement	Allocated no. dwellings	Equipped/ designated play space (ha)	MUGA
Saffron Walden	309	0.15	0.23
Newport	13	0.01	0.01
Elsenham	170	0.08	0.12
Stansted Mountfitchet	40	0.02	0.03
Thaxted	20	0.01	0.01
Takeley	20	0.01	0.01
Great Dunmow	765	0.37	0.56
Great Chesterford	0	0.00	0.00
Other smaller villages	140	0.07	0.10
Windfall allowance	1,120	0.55	0.82
Total	2,597	1.27	1.91

Table 21: Play space requirements arising from growth in the proposed garden communities

Garden Community	Total no. dwellings	Equipped/ designated play space (ha)	MUGA
North Uttlesford	5,000	2.45	4
Easton Park	10,000	4.9	7
West of Braintree	10,000	4.9	7

4.8 Indoor sports halls

4.8.1 Existing provision

Sports halls can accommodate a diverse range of sports and recreational activities offering space for team sports, gymnastics, martial arts, group exercise classes, conditioning and training. The flexibility of sports halls can also offer space for non-sporting activities for wider community use when designed and managed well.

The provision of indoor sports halls is high within the local authority area but the size, function and use of these spaces varies greatly. Provision is offered directly by the local authority and through facilities which cater for education with community access. Fee paying commercial facilities are also available across the area. For the purposes of this assessment, and based on the significant call on developer contributions meaning that provision should be made as efficiently as possible, it is assumed that new sports halls required will also provide for wider, non-sporting community activities in the same building. Providing greater access to existing schools and new schools should be considered to aid with the cost-effective delivery of new sports halls and improving accessibility.

There are six sports halls in Uttlesford (Table 22). These are all rated as being in good condition[41].

Based upon Sport England's definition of 'Comfortable Capacity', whereby a sports hall is deemed to be effectively full when usage reaches 80% of theoretical full capacity, four of the sports halls are operating at well above this level and two are below the level but with restricted opportunities to expand. With 76% of the overall capacity in the district used, there is effectively no spare capacity in sports halls in Uttlesford[42].

[41] Uttlesford District Council, Sports Facilities Development Strategy, January, 2016 p.80
[42] Uttlesford District Council, Sports Facilities Development Strategy, January, (2016) p.80

Table 22: Location, condition and use of indoor sports halls in Uttlesford

Facility Type	Location	Maintenance	Disabled access	Use Capacity
County High Sports Centre	Audley End Road, Saffron Walden CB11 4UH	5	5	40%
Friends School	Mount Pleasant Road, Saffron Walden CB11	5	5	100%
Lord Butler Leisure Centre	Peaslands Road, Saffron Walden CB11 3EG	5	5	100%
Great Dunmow Leisure Centre	Parsonage Downs, Dunmow CM6 2AT	5	5	100%
Mountfitchet Romeera Leisure Centre	Forest Hall Road, Stansted CM24 8TZ	5	5	
Joyce Frankland Academy, Newport	Cambridge Road, Newport CB11 3TR	5	4	46%

Key: (1) very poor (2) poor (3) average (4) good (5) very good

Source: Uttlesford District Council, Sports Facilities Development Strategy, January, 2016 p.80

4.8.2 Needs and costs

The standards for sports halls provision in Uttlesford is 1 sports hall per 11, 349 people. This is set out in the Uttlesford Sports Development Strategy, (p. 139. 2016) and is based on the Sport England Facilities Planning Model[43].

There is no need arising from commitments and allocations for new sports halls within the Plan period. However, there is a requirement for indoor sports hall provision arising from the proposed garden communities. This is set out in Table 23.

[43] https://www.sportengland.org/facilities-planning/planning-for-sport/planning-tools-and-guidance/facilities-planning-model/

There may be other needs for health and fitness stations (mainly in the form of gymnasia) and other types of specialist provision, e.g. squash, indoor bowls, indoor tennis etc. However, these are specialist requirements that are often provided by the private sector and they are not included as part of this assessment.

Table 23: Requirement for indoor sports halls arising from growth at the proposed garden communities

Garden Community	Dwellings	Population	Indoor Sports Hall Need	Cost (£)
North Uttlesford	5,000	12,250	1.08	723,191
Easton Park	10,000	24,500	2.16	1,446,383
West of Braintree	10,000	24,500	2.16	1,446,383

4.8.3 Funding

Outside of local authority budgets, there is no known source of funding available for the provision of new facilities. It is assumed that these would be funded solely through developer contributions.

It should also be noted that some of these needs may be addressed through private facilities which would not be funded by the developer.

4.8.4 Delivery and timing

Where provision of indoor sports facilities is through improvements to existing facilities responsibility would likely fall with Uttlesford District Council. Where new, private facilities come forward, these will clearly be the responsibility of the developer in question.

4.9 Indoor swimming pools

4.9.1 Existing provision

Uttlesford's Sports Facilities Development Strategy, January 2016, notes that there are four community accessible swimming pools of 20m or larger in Uttlesford, supplemented by one learner pool. This equates to one main pool per 19,861 people. The location and use capacity of these are listed in Table 24.

Table 24: The location and capacity of swimming pools in Uttlesford

Facility	Location	Maintenance / Cleanliness	Disabled access	Use capacity
Felsted School	Felsted	4	4	45%
Friends School	Saffron Walden	5	2	36%
Pace Health Club	Stansted	unknown	unknown	unknown
Livingwell Health Club	Stansted	unknown	unknown	unknown
Hatfield Health Primary School	Hatfield	unknown	unknown	unknown
Great Dunmow Leisure Centre	Great Dunmow	4	4	49%
Lord Butler Leisure Centre	Saffron Walden	5	5	58%

Key: (1) very poor (2) poor (3) average (4) good (5) very good

Source: Uttlesford District Council, Sports Facilities Development Strategy, January, 2016

Of the existing provision of swimming pools, 75% are on school sites and only accessible to the community on a dual use basis. Not all facilities are available un-restrictively. Therefore, even though there may appear to be good numbers of some types of facility, usage capacity is frequently quite limited. Levels of provision vary between sub-areas, with no provision at all in the Stansted sub-area. The quality of provision is generally good, although the changing facilities and disabled access at the Friend's School pool are rated as 'poor'[44]. There is a current deficit equivalent to two lanes of a 25m pool based upon Sport England's definition of 'Comfortable Capacity', whereby a swimming pool is deemed to be effectively full when usage reaches 70%.

[44] Uttlesford's Sports Facilities Development Strategy, January, (2016), p.12

4.9.2 Needs and costs

Uttlesford's Sports Facilities Development Strategy, January, (2016), p.12 sets out the standard of 1 swimming pool per 17,654 people. Sport England's Facilities Planning Model[45] calculates a deficiency equivalent to a further 0.5 of a pool.

The commitments and allocations within the Plan period do not generate the need for an additional swimming pool. However, when looking beyond the Plan period and at the scale of growth in the garden communities as a whole, need for new facilities are then generated, as shown in Table 25.

The growth in the garden communities, including that post the plan period, generates the need for swimming pool facilities, as detailed in the table below.

Table 25: Need for new swimming pools as generated by scale of growth in the garden communities

Garden Community	Dwellings	Population	Swimming Pool requirement
North Uttlesford	5,000	12,250	0.69
Easton Park	10,000	24,500	1.39
West of Braintree	10,000	24,500	1.39

[45] https://www.sportengland.org/facilities-planning/planning-for-sport/planning-tools-and-guidance/facilities-planning-model/

4.10 Outdoor grass pitches

4.10.1 Existing provision

General participation in sport for at least 30 minutes is higher in Uttlesford at 39% than that across the East of England as a whole (35%) nationally (34%).

There are a total of 168 grass playing pitches in Uttlesford District. These facilities support a wide number of sports including: football; baseball; softball; cricket; hockey; lacrosse; hurling; cycling polo; and rugby[46]. There are a number of facilities considered to be operating at over-capacity. These are set out in Table 26.

Table 26: Location and condition of pitches which are over-capacity in Uttlesford

Facility type	Pitches identified at over-capacity	Condition
Adult football pitches	4 sites at full capacity	8 sites in need of upgrade
Cricket pitches	7 beyond capacity	15 in need of an upgrade
Rugby	2 pitches are being used beyond their capacity	n/a
Youth football pitches	6 sites are being used beyond their capacity	4 sites in need of an upgrade

Source: Uttlesford Sports Development Strategy, p.131, 2016

There are ten artificial pitches in Uttlesford, four are private and six are for public use. The majority of these are located in Saffron Walden. One of these is '3G' pitch (Table 27). Sport England's Facilities Planning Model[47] sets out the standards for turf pitch provision. The model is based on a comparison of local demand with supply, taking account issues such as capacity and access. Based on this model there is a current deficit of 0.61 artificial turf pitches in the district[48]. The condition of the current artificial turf pitches is 'standard' to 'good' according to the Uttlesford Sports Development Strategy.

Table 27: Location and quality of artificial turf pitches in Uttlesford

Facility	Type	Condition
Carver Barracks	Sand Filled	Good
County High Sports Centre	Sand Filled	Good
Dame Bradbury School	Sand Filled	Unknown
Felsted School	Sand Filled	Standard
Great Dunmow Leisure Centre	Sand Filled	Unknown

[46] https://www.activeplacespower.com/reports/standard-facility. Accessed on 31/03/17.
[47] https://www.sportengland.org/facilities-planning/planning-for-sport/planning-tools-and-guidance/facilities-planning-model/
[48] Uttlesford's Sports Facilities Development Strategy, p. 37, (2016)

Joyce Frankland Academy	Sand Filled	Standard
Manuden Village Hall and Sports Trust	Sand Filled	Good
Rodings Primary School	3G Rubber Crumb Pile	Unknown

Source: Active Places Power database/Condition Assessment in Uttlesford Sports Facilities Development Strategy, 2016

4.10.2 Needs and costs

Based on guidance provided by FIT[49], a standard of 1.2 hectares per 1,000 population is applied to all grass pitch provision in Uttlesford. The need for additional artificial turf pitches is not assessed. Whilst some artificial pitches can substitute in for some grass pitch provision (for 5-a-side, junior football, etc), artificial pitches are mainly an additional requirement. Artificial pitches are increasingly being provided as part of larger MUGA provision, which caters for a range of sports, e.g.: football, tennis, basketball, netball.

Where an area creates a need for at least four pitches, it is assumed that changing facilities are also required.

Guidance on costs from Sport England[50] show that the cost of providing grass pitches is as follows:

- Adult football pitches £80,000
- Junior football pitches £70,000
- Mini football pitches £20,000
- Adult rugby pitches £105,000

The overall cost of provision is likely to be higher, depending on the mix of football and rugby pitches.

Table 28 shows that there is a need for approximately six outdoor pitches in the plan period. The requirement for outdoor sports pitches generated through the total level of growth in the garden communities (and thus extended beyond the Plan period) is shown in Table 29.

[49] Guidance for Outdoor Sport and Play: Beyond the Six Acre Standard, (2015)
[50] https://www.sportengland.org/media/10289/facility-costs-2q16.pdf

Table 28: Outdoor sports pitch requirement in Uttlesford arising from growth from allocations in existing towns and settlements

Settlement	Allocated no. dwellings	Grass sports pitches needs (ha)	Grass sports pitches
Saffron Walden	309	0.91	0.67
Newport	13	0.04	0.03
Elsenham	170	0.50	0.37
Stansted Mountfitchet	40	0.12	0.09
Thaxted	20	0.06	0.04
Takeley	20	0.06	0.04
Great Dunmow	765	2.25	1.66
Great Chesterford	0	0.00	0.00
Other smaller villages	140	0.41	0.30
Windfall allowances	1,120	3.29	2.44
Total	2,597	7.64	5.65

Table 29: Grass pitch requirements arising from total scale of growth at the garden communities

Garden Community	Total dwellings	Total population	Grass pitch need (ha)	Equivalent grass pitches	Cost
North Uttlesford	5,000	12,250	14.7	10	£800,000
Easton Park	10,000	24,500	29	20	£1,600,000
West of Braintree	10,000	24,500	29	20	£1,600,000

Note: Population estimate based on average household size of 2.45 people

4.10.3 Funding

Outside of local authority budgets, there is no known source of funding available for the provision of additional pitches as outlined in the estimates above. It is assumed that these would be funded solely through developer contributions.

4.10.4 Delivery and timing

Provision of football pitches would mostly be on-site as part of developments coming forward.

It will be for the masterplanning process to establish when and where they are delivered. This should be agreed between Uttlesford District Council and the developer. Ultimately it will be the developer that delivers such facilities. The potential on larger sites to co-locate community and sports facilities will help to maximise efficiency.

Provision of facilities in other locations could be the responsibility of either the District Council or the parish/town council in question.

There may be needs for other types of reasonably specialist provision, e.g. tennis, bowls, golf etc. However, these are specialist requirements that are often provided by the private sector and are not included as part of this assessment. It should also be noted that many of the requirements for additional tennis and hockey will be addressed through the provision of multi-use games areas (MUGAs). These are considered in the earlier section on youth facilities.

5 Green Infrastructure

5.1 Introduction

Green infrastructure refers to a *'strategically planned and delivered network…of high quality green spaces and other environmental features'* (Natural England). There are a range of different types of space that could be considered to be green infrastructure. However, for the purposes of this study which looks at infrastructure needs, this is confined to the requirement for green spaces to support new populations resulting from the needs set out in local guidance. In particular this focuses on the natural areas used for informal and semi-formal recreational social value. This mainly consists of:

- Natural and semi-natural green space
- Parks, gardens and amenity space

5.2 General standards of provision

Based on standards promoted by Natural England and the Essex Wildlife Trust, people should have access to:

- 2ha+ of accessible natural greenspace (ANG) within 300m of home - this has been termed the neighbourhood level
- 20ha+ of ANG within 2km of home - the borough level
- 60ha+ of ANG within 5km of home - the sub-regional level
- 500ha+ of ANG within 10km of home - the regional level

An assessment of the provision of ANG against these standards (referred to as 'ANGSt') in Uttlesford was undertaken by Natural England in 2009. This showed that more than half of all households in the district met none of the ANGSt requirements. Furthermore, only around one percent of the entire area covered by the district is classified as accessible natural green space[51].

[51] The Analysis of Accessible Natural Greenspace Provision for Essex, including Southend-on-Sea and Thurrock Unitary Authorities by the Essex Wildlife trust and Natural England, (2009)

5.3 Country Parks

5.3.1 Current provision

Country parks are areas for people to visit and enjoy the natural environment. Natural England register country parks in England which meet the criteria listed below:

- at least 10 hectares in size
- defined by a clear boundary – marked on a map, whether it's open or fenced in
- accessible – less than 10 miles from a residential area
- free to enter
- inclusive and accessible – show how you've met equality and disability needs and provided for varied groups
- predominantly natural or semi-natural landscape, e.g. woodland, grassland, wetland, heathland or parkland, with no more than 5% of the area built upon (excluding car parks)
- signposted and easy to navigate – visitors should be shown where they can go and what they can do and directed along footpaths, bridleways and cycle routes
- visibly staffed, eg litter collection and maintenance
- available for public or educational events
- near public toilets – either on-site or a 2-minute walk away
- informed by the local community – the public should have some influence over the management and development of your site[52].

Country parks are also encouraged to contain the following; a visitor centre; play facilities; catering; bike and horse trails; art and sculpture; permanent staff presence; information for visitors; activities e.g. water sports and adventure sports; a green transport policy, e.g. buses and cycle routes to facilities; planned for the management of biodiversity, geodiversity and preservation of historical environment; opportunities for practical community involvement; and a programme of events and guided walks.

There are eight country parks in Essex, although there is no country park provision within Uttlesford district. The most accessible country parks in relation to Uttlesford are Flitch Way and Great Notley country parks which are located south east of Uttlesford in close proximity to West of Braintree.

Great Notley Country Park is currently at capacity in the school holiday periods. The all-weather car parking, catering offer and toilet provision would need to be extended if its usage were to increase[53]. An extension to the park may also be required (potentially into Uttlesford).

The Flitch Way Country Park is currently operating at capacity. Current levels of usage are presently impacting on the existing surfaces of its primary access routes.

[52] https://www.gov.uk/guidance/get-accreditation-for-your-country-park. Accessed 2017
[53] ECC Correspondence, April 2017.

5.3.2 Need and cost

There are no set national standards for the provision of country parks. However, country parks are classified within the natural and semi-natural green space category and there are standards in respect to access to such spaces. As noted above, the Analysis of Accessible Natural Greenspace Provision for Essex shows that Uttlesford's population fell well below the ANG standard in regard to access to natural green spaces.

Joint working arrangements to increase the capacity of and connectivity to the existing country parks of Great Notley and the Flitch Way will assist in addressing the identified natural and semi-natural green spaces need.

Given the scale of the future natural and semi-natural green space requirements both within and post the plan period, the creation of a new country park may be a cost-efficient measure to provide future supply.

A new Country Park should be considered to take pressure off Hatfield Forest National Nature Reserve (and the Flitch Way Local Wildlife Site) which is suffering unsustainable damage as a result of hugely increased visitor numbers. The National Trust's 'every step counts' campaign has been launched to better understand the visitor pressures and to ensure Hatfield Forest is managed sustainably long term, whilst preserving the historic and ecological features for which it is designated.

5.3.3 Funding

Country parks can generate an income as visitor attractions. As such, they can, in many cases, be self -sustaining. They are a resource efficient option when planning how semi-natural and natural space need can be met. This approach is actively supported by Natural England and the Wildlife Trust.

5.3.4 Delivery and timing

The provision of natural and semi-natural green space will be delivered as part of the planned phased development of all sites. A comprehensive masterplanning process will look at both the most cost efficient and effective measures to meet identified need.

Case study:
Developing Great Notley Informal Green Space into a Country Park

Overview:
Great Notley Informal Green was first created as an informal green space for Braintree residents, linked to the development of Great Notley Garden Village. It served to address local natural green space need. It was funded through a Section 106 agreement.

The park was over 100 acres, the minimum size for a country park and ECC in partnership with Braintree District Council (BDC) redeveloped it to bring it up to a country park standard.

ECC designed visitor attractions in the park to generate revenue and to appeal to as wide a cross-section of the community as possible. Areas of ecological and biodiversity value were also retained within the plan for the park. Open water was incorporated into the design of the park due to both its biodiversity and recreational value.

Key visitor attractions that were created include: the development of a water play area; a large lake for fishing; a play trail; a 1.8km cycling & horse riding route; all weather car parking; and upgraded visitor centre facilities.

Open water was built into the design of the park due to both its biodiversity and recreational value. The visitor centre was designed to be a practical centre serving visitor needs. Its design was kept proportionate to avoid a large capital cost.

The Project Outcomes:
ECC has reported that the upgrade to Great Notley Informal Green Space to create a Country Park was successful in two ways. Firstly, the redevelopment increased peoples access and enjoyment of the outdoors. Visitor numbers increased from 30,000 to 150,000.

Secondly, the park became financially sustainable as a result of the upgrade. The visitor attractions generate an income which can cover management and maintenance costs.

Source: Essex County Council

5.4 Amenity green space and natural and semi-natural green space

5.4.1 Existing provision

Altogether 87 amenity green spaces have been identified within Uttlesford District[54]. These all ranked as being in 'good' to 'moderate' condition with the exception of Lukins Mead / Nursery Rise amenity space in Great Dunmow. Improvements to the appearance of this space were identified as needed.

Most of the settlements within the Uttlesford district are within 400m of their nearest amenity greenspace. Some deficiencies in accessibility are located in Barnston, Chrishall, Debden, Elmdon and Wenden Lofts, Great Chesterford, Hatfield Broad Oak, High Easter, Littlebury, Little Chesterord, Little Easton, Manuden, Newport, Radwinter, Stebbing, Wicken Bonhnt and Widdington.

There are 79 natural and semi-natural green spaces in Uttlesford. The character of the natural and semi-natural urban greenspaces varies and includes woodlands, grasslands, meadows, scrub, ponds, streams and river's. The following areas are identified as being deficient in access to semi-natural green spaces: Arkesden, Barnston, Chrishall, Debden, Elmdon and Wenden Lofts, Elsenham, Felsted, Flitch Green, Great Easton and Tilty, Hempstead, Henham, High Easter, High Roding, Leaden Roding, Littlebury, Little Easton, Newport, Quendon and Rickling, Radwinter, The Stapfords, Sewards End, Stansted, White Roding, Wicken Bonhunt and Wittington.

There are three parks and gardens in Uttlesford (Table 30), these are all located in Saffron Walden. All are rated as being in good to excellent quality.

Table 30: Quality of parks and gardens in Uttlesford

Park and garden	Quality rating
Bridge End Gardens	Excellent
Jubilee Gardens	Good
The Common	Good

Source: Open Space, Sports Facility, Playing Pitch Strategy, p. 36 2016.

[54] Uttlesford Open Space, Sport Facility and Playing Pitch Strategy, p41, (2012)

5.4.2 Needs and costs

The Uttlesford Open Space, Sport Facility and Playing Pitch Strategy (2012) establishes the following standards for provision of green space:

- Natural and semi-natural green spaces – 7 hectares per 1,000 population
- Amenity green spaces – 1 hectare per 1,000 population

There is no proposed standard for Parks and Gardens in Uttlesford due to the very small number of sites within this typology in Uttlesford District[55].

Analysis of Accessible Natural Greenspace Provision for Essex, including Southend-on-Sea and Thurrock Unitary Authorities, Natural England (2009) sets out that there was 994 ha of accessible Green Space in the District.

Table 31 sets out that there is a need for 44.54 hectares of natural and semi-natural green spaces and 2.6 hectares of amenity green spaces required to address the needs arising from commitments and allocations within the plan period. Table 32 shows the requirements arising from the proposed garden communities.

Not all developments will necessarily be expected to provide green space at these standards, particularly higher density development within urban areas.

In addition, ECC reports that that it will be more cost-efficient to provide local parks for more than local need, i.e. providing a wider visitor experience which can help to create a revenue stream that will otherwise address what are relatively high costs of provision. For country parks, the scale of provision is key; such provision should be at least 40 hectares in order to make it a 'destination'.

It is not possible to assign costs for the provision of green infrastructure and open space. This will depend on a number of factors, not least the availability of greenfield land to make such provision.

[55] Open Space, Sports Facility, Playing Pitch Strategy, p. 38, (2016).

Table 31: Green space requirements from growth through allocations at existing towns and settlements

Settlement	Dwellings	Natural and semi-natural green spaces (hectares)	Amenity green space (hectares)
Saffron Walden	309	5.30	0.31
Newport	13	0.22	0.01
Elsenham	170	2.92	0.17
Stansted Mountfitchet	40	0.69	0.04
Thaxted	20	0.34	0.02
Takeley	20	0.34	0.02
Great Dunmow	765	13.12	0.77
Great Chesterford	0	0.00	0.00
Other smaller villages	140	2.40	0.14
Windfall allowances	1,120	19.21	1.12
Total	2,597	44.54	2.60

Table 32: Green space requirements from garden community proposals

Garden Community	Total Dwellings	Total Population	Natural and Semi-Natural Amenity Space (hectares)	Amenity Green Space (hectares)
North Uttlesford	5,000	12,250	85	12.3
Easton Park	10,000	24,500	172	24.5
West of Braintree	10,000	24,500	172	24.5

5.4.3 Funding

It is expected that developers will make land available for green infrastructure provision as part of comprehensive masterplanning and the application / Section 106 process. ECC reports that ongoing revenue funding is the greatest challenge for maintaining green infrastructure. Larger scale provision, particularly country parks, is preferred because of the greater ability to create multiple revenue streams through, for example, car parking, visitor attractions, cafes and restaurants and corporate activities. Great Notley Country Park, for example, provides all of these facilities and attracts 150,000 visitors per year.

5.4.4 Delivery and timing

Provision will be delivered as part of the planned phased development of all sites. A comprehensive masterplanning process will help to ensure that new development provides necessary green infrastructure and public open space.

6 Summary of Key Findings

Given the ambitious scale of growth in the Local Plan, which will see commencement of three new Garden Communities in the Plan period, and extending well beyond this, the IDP purposely takes a strategic view of the infrastructure needs and requirements arising from the likely scale and distribution of future growth in the district.

The IDP is supported by a set of schedules that outline the infrastructure requirements for the District. These are very much seen as a 'living document', which can be updated and monitored over time, as more detail and information on site specific proposals emerges.

The IDP has been informed through workshops and discussions with infrastructure providers and the promoters of the Garden Communities, as well as desktop research.

The headline findings of the IDP are summarised below. As per the structure of the report these are ordered along the lines of physical, social and green infrastructure. The requirements have also been categorised, highlighting those pieces of infrastructure considered critical, necessary or important. Furthermore, and where flagged up by providers during the study, potential risks to delivery are identified.

6.1 Physical Infrastructure

There are some key challenges and risks to growth associated with the need for physical infrastructure in the district. These are summarised below:

6.1.1 M11 Junction 8

Junction 8 of the M11 is already under pressure. It has been identified as a problem junction with a severe level of congestion. Whilst interim solutions have been funded a longer-term solution is required for growth to be accommodated, particularly that associated with the garden communities, which extend beyond the Plan period, as well future expansion of Stansted Airport and growth in neighbouring authorities. Highways England is in the process of investigating potential interventions required to Junction 8 (and, indeed, that stretch of the M11 between Junction 8 and 13) to help determine investment within the Department for Transport's next Road Investment Strategy (RIS2).

6.1.2 Access to areas of growth from the strategic highway network

Access to areas of new growth and development from the strategic road network are considered critical pieces of infrastructure. In particular:

- Growth at North Uttlesford will likely exacerbate pressure on the A505 (in South Cambs). Improvements to the A505 are however required with or without North Uttlesford coming forward as a new garden community and so is not seen as a constraint to development. The Transport Study notes that preliminary improvement schemes have been identified that are considered to mitigate the impact of traffic flows associated with growth in the Uttlesford Local Plan.

- Although access from the A120 into the proposed garden settlement at Easton Park is considered achievable, the current scheme being promoted only shows a single point of access to serve a new settlement of 10,000 new homes. This will require further monitoring and testing to consider whether additional access arrangements are required, and which will help ensure network resilience. This may represent a risk to scheme delivery.

- Access to the A120 from the proposed West of Braintree new garden community is considered feasible.

- Various traffic options have been investigated for Saffron Walden, relating to different levels of growth, including a potential new link road, which has since been ruled out. Instead, improvements to existing traffic corridors have been identified which will provide opportunities for traffic to avoid travelling through the town centre. These will need to be developed further as part of emerging proposals and schemes for development sites.

- It is advised that access and junctions on the A120 at Great Dunmow are able to accommodate the scale of growth envisaged in the Local Plan. Delays currently experienced on the B184 and B1256 will be improved through implementation of conditions associated with committed development.

6.1.3 Sustainable access

Alongside the access arrangements outlined above, all major growth locations would be required to deliver a package of sustainable travel measures, including bus, walking and cycling routes. These are all considered necessary items of infrastructure. Essex County Council will seek contributions to enhanced walking and cycling routes from each of the proposed Garden Communities. These are necessary to increase permeability between places via a sustainable transport method. Often, the existing routes in place are inadequate. It is important that any passenger transport services provided or amended are deliverable and viable in the long-term.

6.1.4 Rail

Improvement to rail services are considered necessary. There are a series of projects being developed at the moment which will increase capacity and frequency over the longer-term, including new rolling stock and seating capacity on rail services. It is also noted that improved access to stations is required, particularly by foot and cycle. These should be delivered as part of the package of sustainable transport measures associated with growth across the district, particularly within the garden communities. This is not considered a risk to growth.

6.1.5 Water infrastructure

Provision of water infrastructure is critical and could be a risk to the spatial distribution of growth in the local plan period. Although it is considered that growth in the existing towns and settlements can be accommodated, upgrades will be required to the foul sewerage network. Growth at the proposed new garden communities will place additional burdens on foul water capacity over and above this and capacity will need enhancing.

Major upgrades and new water supply infrastructure will be required for the new garden communities. Thames Water have put forward 4 options (as part of the WCS study) that are workable solutions which could address the issues with capacity at Easton Park and these do not include a proposal for a new WRC.

The detail of what is required across the district will need feeding into future asset management periods for Anglian and Thames Water. Without a commitment to delivery in the next AMP period, growth in the garden communities will be delayed to later in the plan period.

The delivery of technical and feasible solutions also needs considering alongside environmental concerns. The EA has advised that the level of discharges into water courses is currently at its limit and that additional permits for increased discharges may not be granted. Therefore, growth without appropriate water infrastructure, particularly at the garden communities, is a major risk to delivery.

For all sites, the surface water network capacity is a constraint to provision. Urban run-off needs to be controlled on site to ensure no increase in run-off to the local river system. The use of sustainable drainage systems (SuDS) to provide water quality, amenity and ecological benefits in addition to the flood risk management benefits, will be expected

6.1.6 Electricity network

It is considered that in the short term sufficient capacity exists within the electricity network to accommodate growth. However, to support the total quantum of development proposed in the proposed garden communities, new network and or primary substations would be required at North Uttlesford, Easton Park and West of Braintree. This infrastructure is considered necessary but is not thought to be a risk to development.

6.1.7 Gas and broadband

Provision of gas and broadband services are considered necessary but do not pose risks to the scale and distribution of growth in the local plan period.

6.1.8 Waste

It should be noted that the waste facility at Saffron Walden is operating at or near capacity and therefore an ongoing review of service provision is required. Equally, the waste facilities located outside of Uttlesford and which are used regularly by residents of Uttlesford are also at or near capacity. These include facilities located in Braintree, Chelmsford, Mountnessing, and Harlow. Housing growth and the associated population/waste growth will at the least require existing infrastructure to be re-modelled and upgraded and may require the establishment of new infrastructure to serve this.

6.2 Social infrastructure

Social infrastructure in this IDP includes education (comprising early years and childcare, primary and secondary schools), healthcare, emergency services, libraries, community centres, allotments and open space / play and leisure provision.

6.2.1 Education

Education is considered to be necessary infrastructure. Where new development is to take place in existing towns and settlements existing facilities may need expanding. Equally, and where new development is of a certain size, then new facilities may be required.

Early years and childcare places are required at the Garden Communities as well as allocated development at the towns and villages. If the need for a new primary school is also identified in the area, it may be possible to deliver them at the same time.

Primary and secondary school provision is required at the Garden Communities as well as the allocated development at the towns and villages. This can either be in the form or a new school, expansion to an existing school or securing of permanent accommodation for temporary school buildings.

Education provision within the proposed garden communities could help provide for needs. School place provision in these has been determined in line with guidance established by Essex County Council: the package of infrastructure outlined by site promoters for the garden communities is broadly in accordance with this guidance. Provision in each of the garden communities would be linked to particular trigger points and require financial contributions and provision of land.

6.2.2 Health care

Health care provision is currently undergoing change and the CCG has prepared a Sustainability Transformation Plan (STP) for the area. It notes a £550million per year funding gap that will be in effect by 2021, unless action is taken now to improve our own personal health and the way healthcare providers can work together.

It is thought that a new hub facility would most likely be needed in Great Dunmow and that the proposed garden communities should include health centres. There is no official standard for when the need for new GP provision will be triggered. The exact size and type of provision will though be determined following more detailed understanding of the scale and type of growth to come forward in different locations across the district.

Hospital care provision is also likely to change in the coming years and therefore it is not currently possible to accurately determine the nature of any infrastructure requirements related to hospital based care.

6.2.3 Other social infrastructure items

Beyond these items there are no major risks to growth associated with the provision of social infrastructure. Contributions will be required to new community centres and youth facilities, which could comprise co-located buildings with libraries and health provision. Allotments, open space, play and leisure facilities should be masterplanned into new development areas in line with general standards for provision. However, and subject to future models, some of this could be provided alongside or within new school sites.

6.3 Green infrastructure

Existing research demonstrates that a high proportion of households in the district have limited access to natural greenspace. Furthermore, there is an identified need for a new Country Park in the district, which would both increase provision and access, but also relieve pressure on the Hatfield Forest.

The proposed new garden communities, by their very nature, include good levels of greenspace provision and some of these also allow for provision of a new Country Park.

A key outstanding question is how the Country Park(s) would be managed and maintained: that is whether they would be retained within the control of the landowners or whether they would be transferred to the County / District to run. The Great Notley Country Park in Braintree is a good example of a successful facility run by the County and which could be a model to be considered in Uttlesford.

The Flitch Way, which follows the route of the former railway between Braintree and Stansted, forms an important part of the network of green infrastructure in the district. It provides for cycling and walking connections. Access to this and improvements to the quality of the route would be sought, particularly from those areas of proposed growth close to the Flitch Way, including garden communities at Easton Park and West of Braintree.

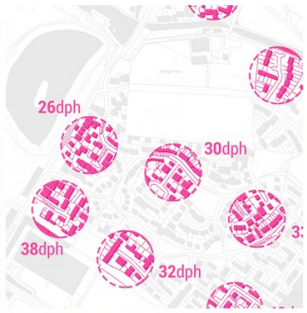
The green infrastructure items outlined above are considered necessary infrastructure. Their form and nature of delivery will be further considered through the preferred options process and the next level of detail that will emerge as the preferred new garden communities are identified. There are no major risks to growth in relation to Green Infrastructure. However, the quality and effective coordination of its planning and delivery will be a key determinate in realising quality place-making in the local plan period.

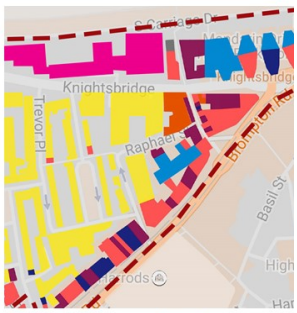
7 Appendix A – Housing Figures

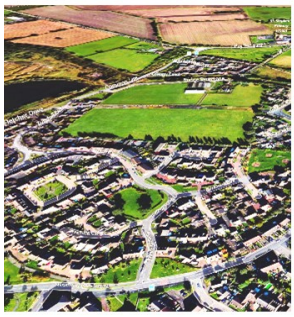
The table overleaf presents a breakdown of housing commitments and allocations, by location, over the Plan period.

Location	Built / Committed				Allocations			Totals			Settlement type	
	Years 11/12 - 17/18	Years 1-5 of Plan Period (18/19 - 22/23)	Years 6-15 of Plan Period (23/24 - 32/33)	Sub-total	Years 1-5 of Plan Period (18/19 - 22/23)	Years 6-15 of Plan Period (23/24 - 32/33)	Sub-total	Total in Plan Period	Post Plan period (Garden Communities)	Total (All)	TYPE A VILLAGE	TYPE B VILLAGE
Small Sites	535			535				535		535		
Windfall Allowance	70			70	350	700	1050	1120		1120		
Aythorpe Roding	11			11				11		11		Y
Birchanger	9			9				9		9	Y	
Clavering	37	13		50				50		50	Y	
Debden				0	25		25	25		25	Y	
Elsenham	268	212		480	135	35	170	650		650		
Felsted	53			53	40		40	93		93	Y	
Flitch Green	132			132				132		132	Y	
Great Canfield		7		7				7		7		Y
Great Chesterford	52	80		132				132		132		
Great Dunmow	467	987	1077	2531	95	670	765	3296		3296		
Great Easton	35			35	20		20	55		55	Y	
Hatfield Heath	20			20				20		20		
Henham	52			52	36		36	88		88	Y	
High Roding	19	20		39				39		39		Y
Leaden Roding	-10			-10				-10		-10	Y	
Little Canfield	88			88				88		88		Y
Little Dunmow	38			38				38		38		Y
Little Hallingbury	16			16				16		16	Y	
Littlebury	14			14				14		14		Y
Newport	52	338		390	13		13	403		403		
Manuden	14			14				14		14	Y	
Quendon	30			30	0	19	19	49		49	Y	
Saffron Walden	606	612	30	1248	274	35	309	1557		1557		
Stan Mountfitchet	359	217		576	40		40	616		616		
Stebbing		30		30				30		30	Y	
Takeley	588	7		595	20		20	615		615		
Thaxted	173	40		213	20		20	233		233		
Wendens Ambo	17			17				17		17		Y
Wimbish	11			11				11		11	Y	
Easton Park GC					50	1875	1925	1925	8075	10000		
North Uttlesford GC					50	1875	1925	1925	3075	5000		
WoB GC (in UDC)						970	970	970	2530	3500		
TOTAL	**3756**	**2563**	**1107**	**7426**	**1168**	**6179**	**7347**	**14773**	**13680**	**28453**		
WoB (in BDC)							1530	1530	4970	6500		
WoB (Total)							2500	2500	7500	10000		

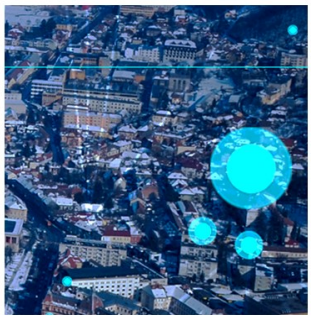








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