



BRAINTREE

Infrastructure Delivery Plan Report

Draft Final Report

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1 Introduction

- 1.1 This Infrastructure Delivery Plan (IDP) has been undertaken by Troy Planning and Design to inform Braintree District Council's ('the Council') emerging Local Plan.
- 1.2 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 Braintree IDP covers the following infrastructure areas:
- Schools and other educational facilities
 - Health and social wellbeing
 - Utilities
 - Transport, including pedestrian facilities
 - Flood defences
 - Managing the impact of unstable land
 - Emergency services
 - Waste
 - Social and community (including libraries, allotments and community halls)
 - Leisure and recreational facilities (including children's play, youth and sports facilities)
 - Open space/green infrastructure
- 1.3 The requirement is to create an infrastructure plan which will show the following:

- What infrastructure is required and how it will be provided (e.g. co-location, etc).
- Who is to provide the infrastructure.
- How will the infrastructure would be funded.
- When the infrastructure could be provided.

1.4 Discussions have taken place with a variety of infrastructure providers both within the Council and external organisations in order to ensure a comprehensive understanding of what 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. 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 possibly infrastructure.

1.5 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, 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. Where funding sources are known to be secured, this has been indicated. Other possible funding sources are identified but, at this stage, these are only possible sources and no funding has been secured from them. The funding gap therefore identifies the extent of funding required that has not been secured and made available.

Status and purpose of IDP

1.6 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 annually 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.

1.7 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.

Approach

- 1.8 There are certain important principles regarding the approach and issues that the IDP has to recognise.
- 1.9 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. Central Braintree, north-west Braintree, Feering, etc. Where possible, a consistent approach has been adopted to assigning sites to particular areas. However, certain infrastructure providers, such as the Essex County Council Education Authority has a well-established approach to grouping together different areas of the District that need to be reflected in the IDP but which may differ from the approach to other infrastructure uses. The IDP has sought to be clear, in each case, about which sites sit within which area being referred to for a particular infrastructure type. Appendix A shows the list of sites by area and their relevant Local Plan reference.
- 1.10 Additionally, this reflects the planned trajectory for sites, which is shown for housing sites in Appendix B.
- 1.11 The main exceptions are the Garden Communities which largely, if not exclusively, create infrastructure needs which are most appropriately addressed on their own.
- 1.12 Related to this is the fact that 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 the latter will become a growing trend which recognises the limited amount of funding available and, in many more urban locations such as central Braintree, a lack of land to provide all the requirements individually.
- 1.13 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 use. This is highlighted in the case studies below.

- 1.14 Co-location is likely to be most comprehensive and effective where new development occurs and significant new infrastructure needs are required. In particular, the Garden Communities and the largest other strategic locations have needs that could most efficiently and effectively be provided through a 'hub' approach.



Case Study 1: EcoHub, Gamlingay, Cambridgeshire

One of the most successful modern community spaces that collocates a number of community uses is the EcoHub in Gamlingay, Cambridgeshire. Designed by Dan Smith of Civic Architects, it is an excellent example of blending space but in a way that the community has been able to shape and govern for its practical needs. The building was opened in 2014.

The EcoHub also provides a good example of how space needs to be configured to maximise the potential to generate revenue from its hire.

This bespoke building is designed to a high energy efficient standard. It creates an energy surplus to the tune of £5,000 per year from photovoltaic cells on the roof. It has won several build and design awards. Internally a suite of halls of varying sizes, together with commercial catering facilities provides 1,000m² of community floorspace.

Two large halls, one with sprung floors (for up to 250 people standing) and another (up to 500 people standing) can be sub-divided into two smaller spaces. A demountable stage caters for wide range of events. The building provides a community room, IT suite, reception, nursery and offices for the Parish Council. The nursery has its own entrance and doubles as a dance studio in the evenings. The facility provides outdoor play space, a surfaced sports area and a skate park.

The total project cost was £2.3m including car park, changing rooms and external skate park. Running costs are circa £70,000 per annum. Space hire ensure that the buildings makes a financial surplus.



Case Study 2 – Frampton Park Baptist Church

Frampton Park Baptist Church is a multifunctional building. Recently constructed this building provides a community hub, providing a community crèche café and events space to its ground floor, hireable meeting rooms to its first floor and an indoor sports hall and worship space to its second floor.

The site was developed privately by Frampton Park Baptist Church in 2015. An existing single storey 1930's era church and church hall has now been replaced with this new purpose built facility.

The design has successfully incorporated 45 individual apartments which helped to fund the delivery of the facility.

Although privately run by the Baptist Church the building provides a good example of how building can co-locate community facilities in a flexible and accessible manner. In this instance the facility provides space for the wider community, sports playing space, social meeting space and hireable event space in the heart of an existing residential estate.

- 1.15 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 Garden Communities where new health hubs and schools are to be provided, should be recognised as the way such infrastructure needs will be provided over the plan period.
- 1.16 The infrastructure detailed within the IDP has been categorised as either:
- **critical** to the delivery of the emerging Local Plan (i.e. must happen to enable growth);
 - **essential** and necessary to mitigate the impacts arising from development;
 - **policy high priority** as it is required to support wider strategic or site-specific objectives which are set out in planning policy or are subject to a statutory duty but would not necessarily prevent development from occurring; and
 - **important** for infrastructure that is unlikely to prevent development in the short to medium term but is vital as a part of effective place-making.



2 Relevant planning policy and context for growth

National Policy

National Planning Policy Framework

- 2.1 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.”*

- 2.2 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.”*

Local plan context and strategy for growth

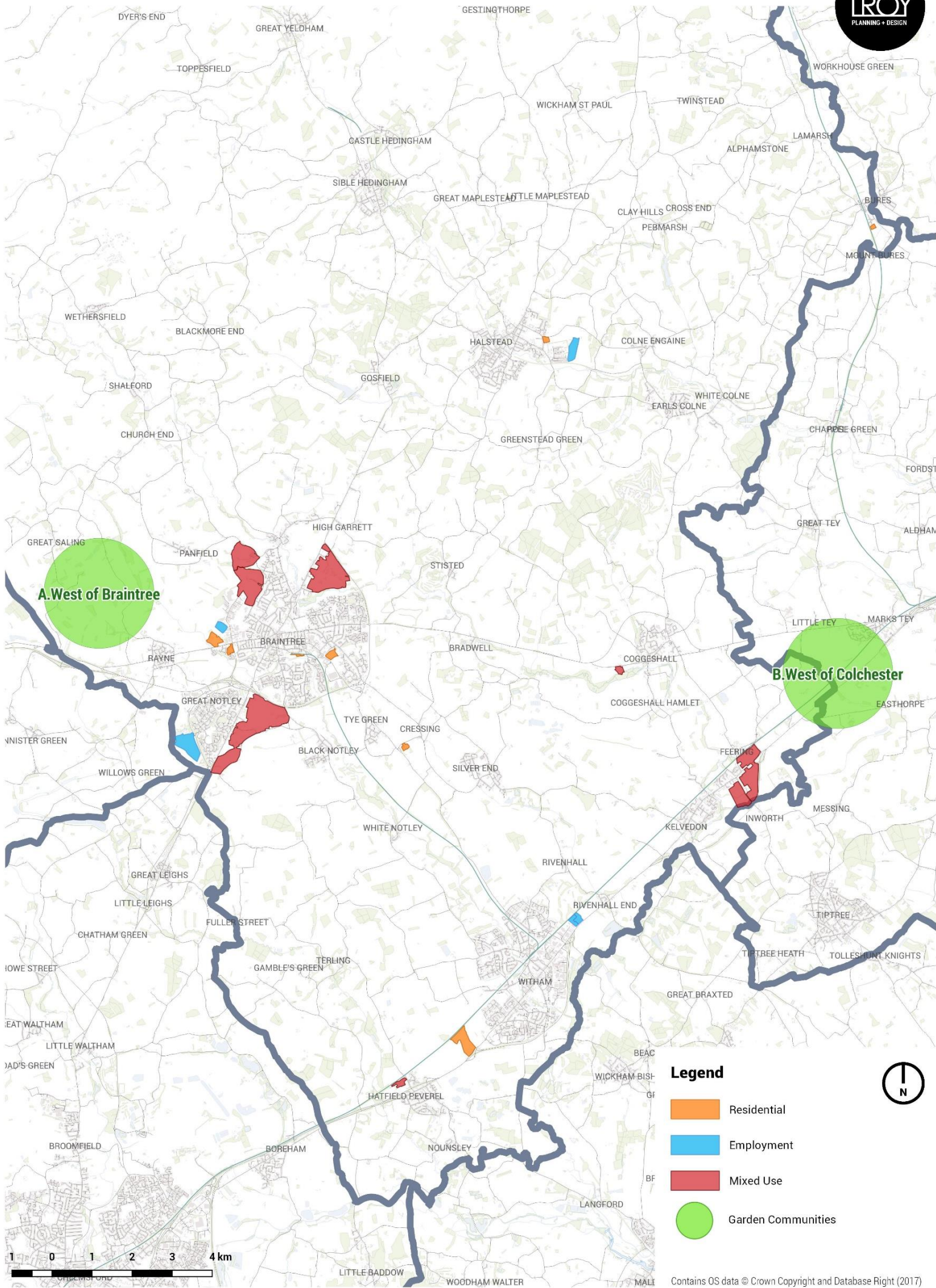
- 2.3 Braintree District Council is currently preparing its Local Plan Review - the Braintree Preferred Options Part 1 Local Plan. Part 1 of the Local Plan covers strategic matters and has been jointly prepared by Braintree, Colchester, Essex and Tendring Councils 2016-2033. Part 2 of the Local Plan contains policies relating solely to Braintree district for the same period.
- 2.4 Braintree's Local Development Scheme (LDS) is currently in the process of being revised. The latest information on the Local Plan timetable is that Examination in Public is planned for late-2017 to mid-2018, with adoption expected around August 2018¹.
- 2.5 Braintree's emerging Local Plan will address the future housing and employment requirements for growth. Braintree District Council Objectively Assessed Need (OAN) 2016² sets out the target for 716 dwellings per annum over the period 2013 – 2037. The main focus for growth is the new garden community west of Braintree. On the border with Uttlesford district, this will deliver up to 2,500 homes within the plan period (as part of an overall total of between 10,000-13,000 homes).
- 2.6 The Braintree District Council assessment of future employment need calculates an additional net requirement of between 53,400m² and 66,800m² of employment floorspace up to 2033. Much of this need is proposed to be delivered as part of the new garden settlement West of Braintree.
- 2.7 In December 2016, the three North Essex authorities of Braintree, Tendring and Colchester, along with Essex County Council, formally agreed to establish an overarching body (currently known as 'North Essex Garden Communities Limited') to take forward consideration of three New Settlement Options including Land West of Braintree.
- 2.8 Braintree is currently in the process of developing its Preferred Options strategy for housing and employment growth. This will focus on the New Garden Settlement at West of Braintree. The strategic approach is to deliver housing and employment growth is shown in the maps later in this section.
- 2.9 The individual sites – residential and commercial – that have been assessed as part of this IDP are shown in Appendix A.

¹ https://www.braintree.gov.uk/info/200230/planning_policy/701/new_local_plan/3

² Braintree, Chelmsford, Colchester, Tendring Objectively Assessed Housing Need Study Update (2016)

- 2.10 Due to the long term nature of the delivery of the Garden Communities, the housing growth of these developments beyond the plan period, i.e. post-2033, has been reflected where this has been possible. However, it is not possible or appropriate to identify a trajectory for this growth.

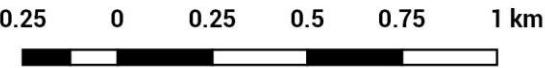
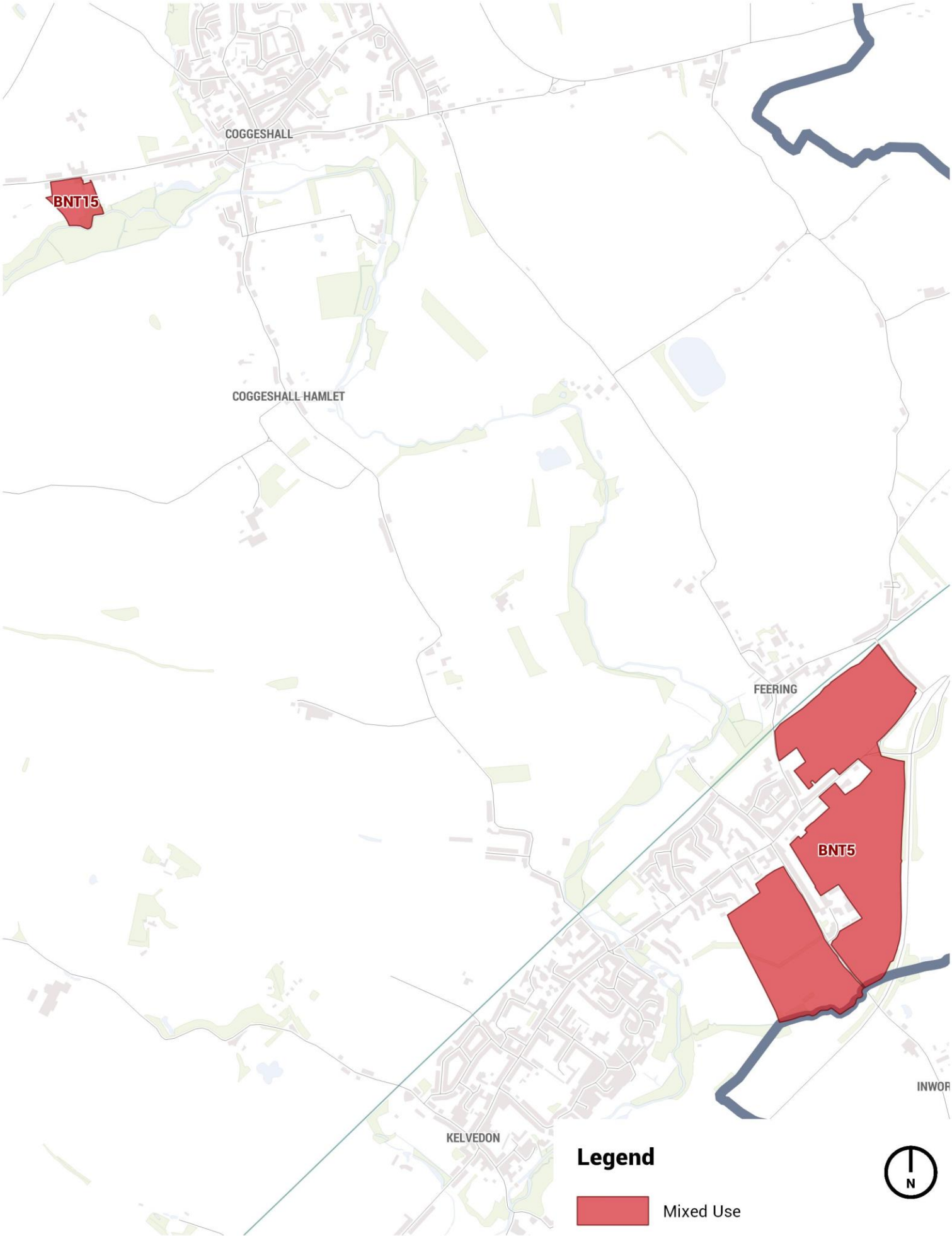
BRAINTREE - GROWTH LOCATIONS



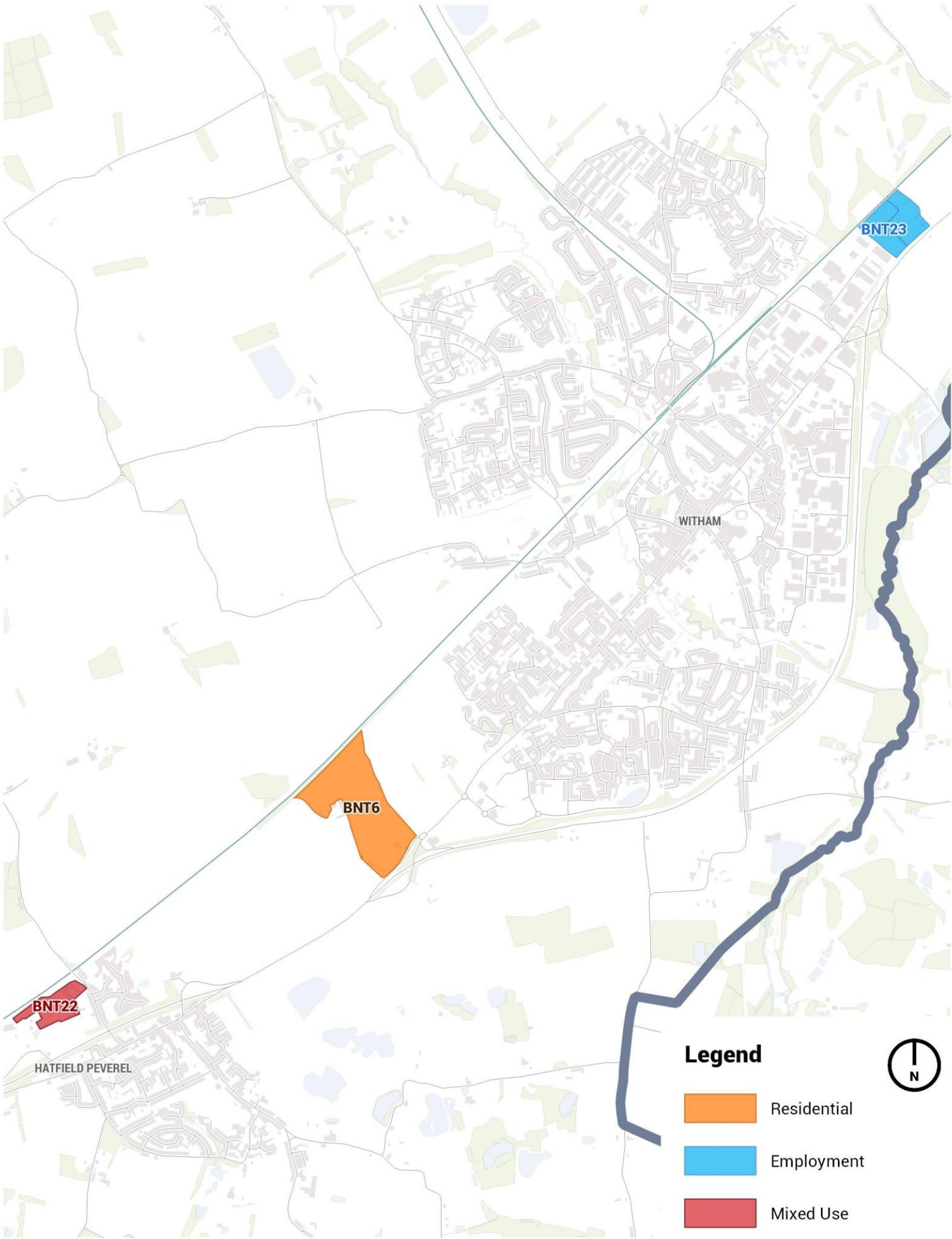
Legend

- Residential
- Employment
- Mixed Use
- Garden Communities

BRAINTREE EAST - GROWTH LOCATIONS



BRAINTREE SOUTH - Hatfield Peverel and Witham



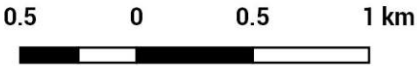
BRAINTREE NORTH



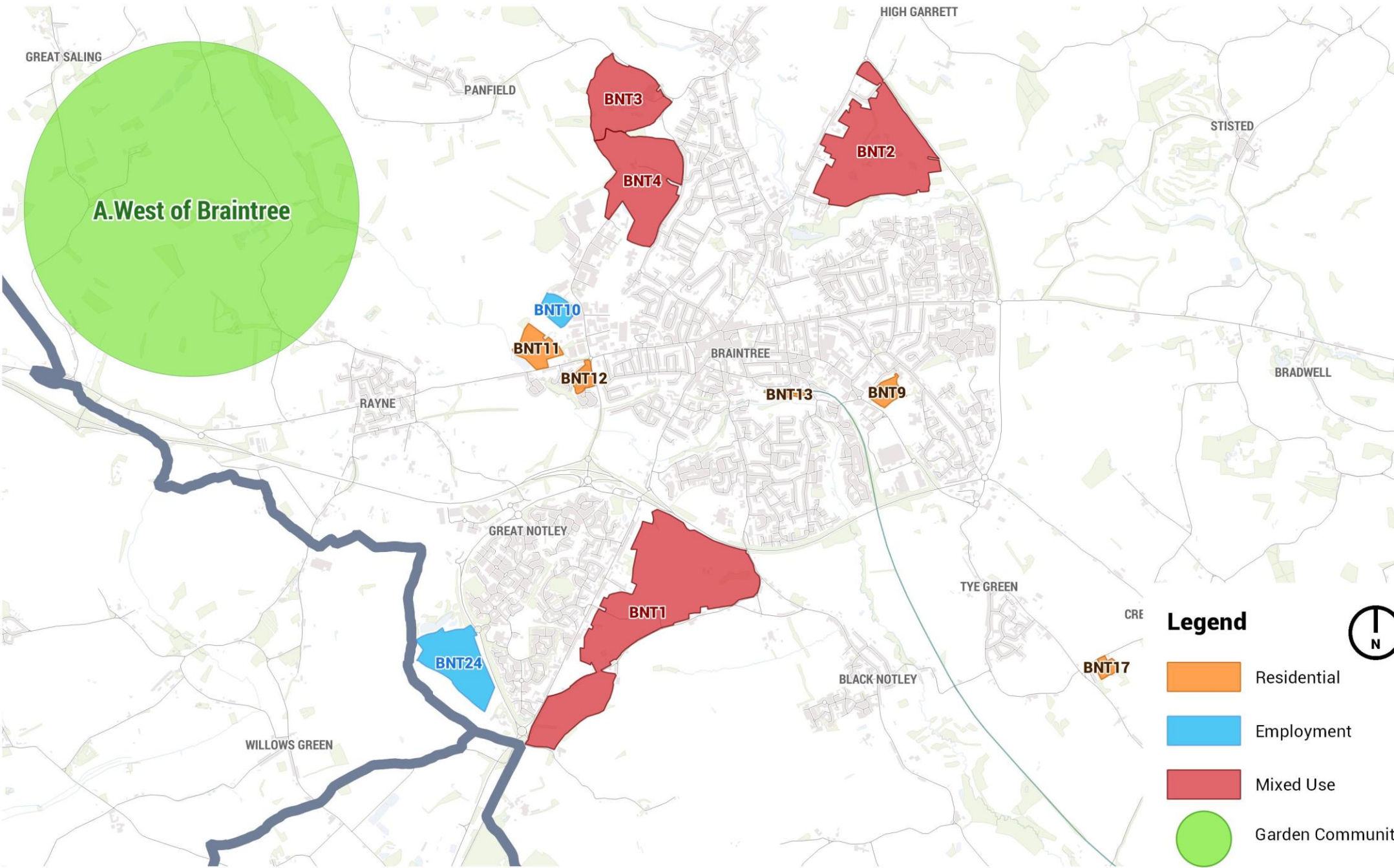
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Residential

Employment



BRAINTREE WEST - Braintree and Great Notley



Legend

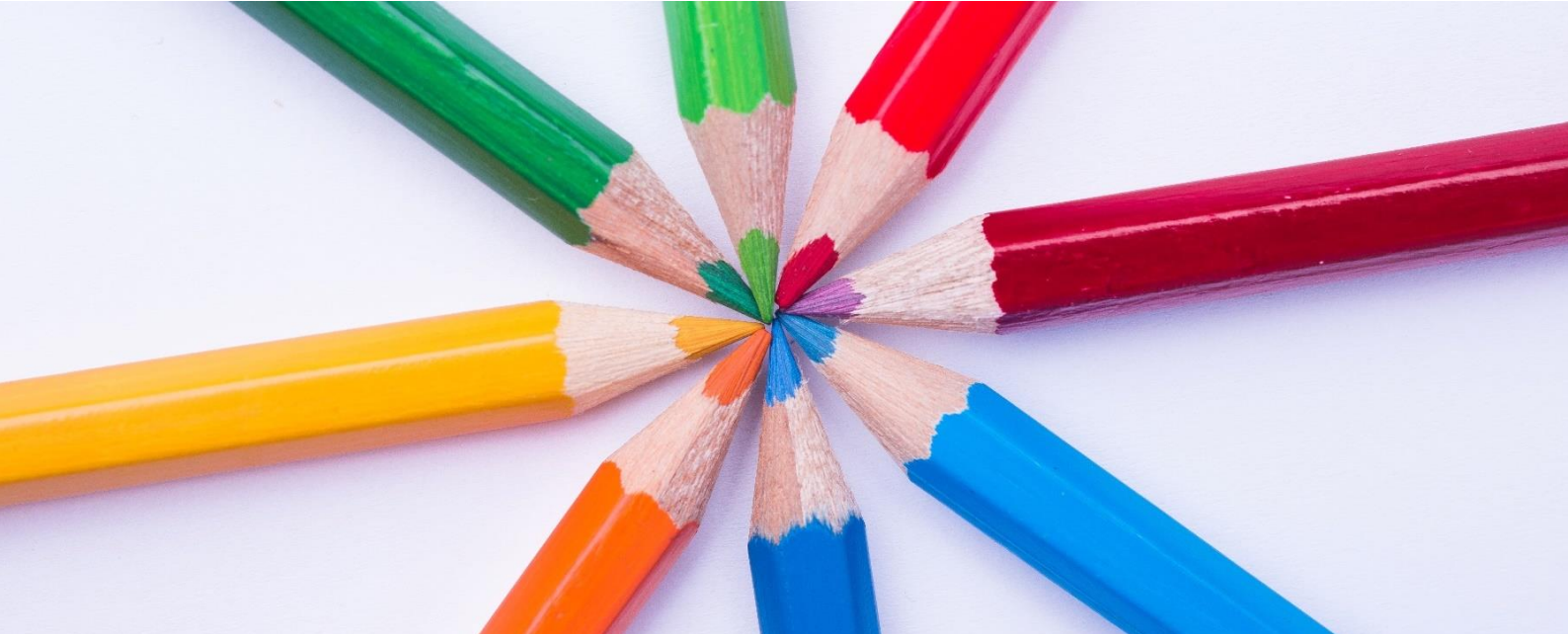
Residential

Employment

Mixed Use

Garden Communities





3 Education

- 3.1 Essex County Council (ECC) has statutory duties to facilitate Early Years and Childcare (EY&C) provision within the area and ensure sufficient primary and secondary school places are available. This section seeks to simplify what is a very complicated subject, based on information provided by ECC and our own research.
- 3.2 We have included the following education services within our assessment:
- Early Years and Childcare (EY&C);
 - Primary education;
 - Secondary education;
 - Sixth form education; and
 - Further education.
- 3.3 ECC delivers EY&C through a commissioning approach, with a responsibility for providing targeted support and Government funded Free Early Education Entitlement (FEEE) for vulnerable 2-year olds and FEEE for all 3- and 4-year olds, which are commissioned from the private, voluntary and independent sectors. ECC advises on the requirement for new facilities based on the places generated by the new development.
- 3.4 Current legislation dictates that whilst the local authority can build the school an Academy or Free School will be selected to run it.
- 3.5 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 still has a duty to ensure sufficient places

but is not able to force Free Schools or Academies to take additional children without the prior approval of these schools or intervention by the Department for Education.

- 3.6 All dwellings, irrespective of size or type (e.g. retirement homes), are assumed to be qualifying houses thereby providing a 'worst case' scenario. It is likely that the numbers of pupils generated by individual developments may be lower than indicated.
- 3.7 As part of the provision of new schools and associated sports 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.
- 3.8 It is important to note that the assessment of education needs by location does not necessarily mean that, where additional education infrastructure is identified, it is required solely to address the needs of that area. Particularly in a borough such as Colchester with a large urban area, education needs are best met in a range of ways. This may therefore mean that new or expanded school provision, depending on the precise location and nature of that provision, could address a proportion of the needs of neighbouring areas. This is particularly relevant for the Garden Communities and it is important to be clear therefore that any specific outputs which the IDP assigns to the Garden Communities may be addressing wider needs and are not necessarily required to solely address the needs of that Garden Community.

Early Years and Childcare

- 3.9 The section on Primary Education identifies where new primary schools are required. In such circumstances, this provision will also include a 56-place nursery unless otherwise stated.
- 3.10 In summary, new primary schools will provide new nursery provision in the following locations:
- West Braintree – two nurseries.
 - East of Great Notley – one nursery.
- 3.11 The cost of providing each nursery would be included in the overall £7.3m cost of providing the new primary school. It would be misleading to separate out this cost. ECC currently seeks contributions of approximately £13,000 per place to provide additional or expanded facilities.
- 3.12 On the West of Braintree Garden Community, new provision will likely be a mixture of provision as part of new primary schools and stand alone facilities. Two new 56-place stand alone facilities will

be required costing £1.18m each, along with a further two facilities of the same size as part of the new primary schools that are required during the plan period. The requirement beyond the plan period is for a further seven or eight primary schools, so all of these would also provide 56-place facilities.

- 3.13 In west Braintree, development of land East of Broad Road (BNT2) will require a new 56-place stand alone facility. This will cost £1.18m and the additional capacity it will provide will allow flexibility for any needs arising from planned employment growth in the area.
- 3.14 In north Braintree, development of the former Towerlands Park site (BNT3) will require a new 56-place stand alone facility. This will cost £1.18m and the additional capacity it will provide will allow flexibility for any needs arising from planned employment growth in the area.
- 3.15 Other large sites in Braintree – including development at the Broomhills Estate (BNT12) and land adjacent to Braintree Railway Station (BNT13) - will be expected to contribute towards expanding existing provision.
- 3.16 At land east of Great Notley (BNT1), two new 56-place stand alone facilities are required. These will cost £1.18m each.
- 3.17 On land at Feering (BNT5), two new 56-place stand alone facilities and 30-place stand alone facility are required. The two 56-place facilities will cost £1.18m each and the 30-place facility will cost £730,000.
- 3.18 Development at the former Arla Dairy Site in Hatfield Peverel (BNT22) will be expected to contribute towards expanding existing provision.
- 3.19 Where expansion of existing provision is required, ECC has reported that many existing settings are not capable of expansion in their existing location. As such, alternative solutions for provision will need to be found and 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.

Primary Education

- 3.20 The following principles have been used by ECC to determine the overall needs and costs:
 - New primary schools are assumed to be two forms of entry (2fe) 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 in this section are quoted 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 Contributions³, 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 through 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 both land and build 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 additional costs and fees would apply to their use.
- 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 attributing residential land values.

West of Braintree Garden Community

- 3.21 Development on this scale will require two 2fe schools, each requiring a 2.1ha site and each costing £7.3m during the plan period. The first of these schools will be required early on in the lifetime of the development. A further seven or eight similar schools will need to be added post-2033.

Braintree

- 3.22 In North Braintree, local schools may have some capacity to take early occupations in respect of BNT2. However, this will depend on demand from other sites and completion of a new school on the Panfield Lane site (BNT4). A 2.1ha site should be reserved with the development of BNT2, contributing approximately £5.2m towards the cost of a £7.3m new school.
- 3.23 In West Braintree, John Bunyan School is now operating as a 3fe school and may have capacity to take some pupils from the development of approximately 200 dwellings in this area. The provision of a new 2fe primary school on the Panfield Lane site (BNT4) is in the adopted Local Plan. Contributions from development of sites BNT3, 4 and 11 should be secured to meet the £7.3m cost. The new school will be required relatively early on in the lifetime of development of this area.

³ <http://www.essex.gov.uk/Environment%20Planning/Development-in-Essex/Documents/Developers-guide.pdf>

Great Notley

- 3.24 In Great Notley, White Courts School may have capacity to accommodate approximately the first 150 new dwellings in this location. A new 2.7ha school site is required to support development of BNT1. This should be sufficient to accommodate up to 3fe. The cost will be approximately £9.9m which should be secured from this development. The new school will be required relatively early on in the lifetime of this development.

Witham

- 3.25 Capacity at Chipping Hill School will be required to accommodate early occupations at the Lodge Farm development which is coming forward. As part of that development, a new school is planned in phase two which will also address the additional growth proposed at BNT6. Sufficient land has been reserved on Lodge Farm to allow expansion to accommodate this growth.
- 3.26 A contribution, pro rata to the Lodge Farm section 106 (approximately £2.2m including the land purchase cost but excluding EY&C) should be secured from development at BNT6.

Kelvedon and Feering

- 3.27 Feering Primary School leases the majority of its site from Feering Parish Council. It is assumed that this arrangement will remain securely in place, in which case the school can, with the Parish Council's support, be expanded to accommodate the proposed growth.
- 3.28 Feering School could thereby be expanded from 174 to 420 places at a cost of approximately £3.7m.
- 3.29 Kelvedon School would, with the replacement of temporary accommodation and some minor works, have sufficient capacity to take the majority of this additional demand. Some 'push back' of out of catchment children to other schools may be necessary.
- 3.30 To achieve this, it will be necessary to replace two relocatable classrooms and undertake other minor works in order to provide 2fe in permanent accommodation. This will cost approximately £820,000.
- 3.31 Development of BNT5 would provide land for a primary school if needed. This could accommodate expansion of St Mary's Academy in Kelvedon on a split-site basis. However, engagement with ECC will be important to determine the optimum solution.

Halstead

- 3.32 St Andrew's School is full but the group has capacity if existing temporary accommodation is replaced. It is therefore necessary to replace the relocatable classrooms at Richard de Clare School at cost of approximately £370,000.

Secondary Education

3.33 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. This is index linked to April 2016 prices.
- Sufficient land has been allowed at proposed secondary schools for sixth forms but build costs for post-16 provision are excluded.

West of Braintree Garden Community and west Braintree

3.34 Tabor School will not have capacity to take growth from these developments, as the remaining spare capacity will be taken up by development of BNT4. The school does not have further significant expansion potential, with a large section of its site being owned by Braintree District Council and under joint use with the leisure centre.

3.35 Therefore two new 11ha secondary schools sites will be required for 9-10fe each. The first could be needed early in the plan period, depending on the timing of expansion east of Great Notley (BNT1) and demand placed on it. This new school would cost £34m.

3.36 The second school will not be required until post-2033 and would also cost £34m.

Rest of Braintree

3.37 Notley High School has sufficient site area to expand to add a further 4fe. Demand from development sites in central Braintree and Great Notley, along with approximately 1.3fe from Chelmsford, could just be accommodated.

3.38 Contributions from development in central Braintree and at Great Notley should be secured totalling approximately £7.5m.

Kelvedon and Feering

3.39 Honeywood Community Science School is forecast to have space for around 100 additional pupils and has the site area to expand by 1fe to accommodate the remaining demand.

3.40 Contributions from development should be secured totalling £2.8m to address these needs.

Funding of Early Years and Childcare, primary and secondary education

3.41 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.

- 3.42 Some limited funding will also come from Central Government Basic Need funding. Although this funding is only expected to address population growth rather than new development, in many cases where existing schools are expanded a combination of needs will be met, and funding sources used, to achieve best value.

Timing and delivery of Early Years and Childcare, primary and secondary education

- 3.43 All items are seen as critical to the sustainability of the developments proposed.
- 3.44 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.
- 3.45 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 are required the developer will be responsible for delivery of suitable land.
- 3.46 ECC has indicated that its requirements would need to be kept under review if these developments did not come forward in the first 10 years of the plan period. This is particularly relevant for the major strategic sites where longer timescales are expected to be the case.

Post-16 Education

Sixth Form Education

- 3.47 Sixth form education is distinct from Further Education (FE) which is mainly provided by the private sector.
- 3.48 There is currently plenty of capacity in school sixth forms in the Braintree district. The two Witham secondary schools have merged their Post-16 provision and have plenty of room for increasing the number of students, particularly as many students travel to Colchester or Chelmsford for their Post-16 studies.
- 3.49 A new school sixth form has recently opened in Braintree adding to the capacity that is already in place so there will be no foreseeable need for additional capacity in the district over the plan period.

Further Education

- 3.50 Further Education (FE) addresses vocational post-16 education needs, i.e. people being educated in a setting other than a sixth form. It is provided by the private sector.

- 3.51 Colchester Institute serves the populations of the towns of Colchester and Braintree and the wider area of North Essex. It does this at its campuses in Colchester (Colchester Institute, Stanway Engineer Training Centre and Minories Gallery), Braintree, Clacton and Harwich Energy Skills Centre. Other providers include the Workers Educational Association and the Lightbulb Limited.
- 3.52 Presently the number of school leavers is projected to be stable in Braintree district.
- 3.53 Colchester Institute has recently made improvements to its Colchester campus to better focus on growth and priority areas and resources to support Engineering, Construction and Digital Media. £20m has been spent at the Colchester campus in the past four years to improve the learning experience and support skills priorities, and this work will continue in accordance with estates masterplans.
- 3.54 Key future plans include:
- Introduction of Advanced Manufacturing and Engineering provision to the Braintree Campus opening in Spring 2017 (part of a £6 million investment which will provide the first engineering skills provision in the district).
 - Introduction of Digital Media facilities and curriculum to the Braintree Campus from Spring 2017.
- 3.55 In addition, it is proposed that there will be expansion of apprenticeship provision to include Degree and Higher Level Apprenticeships, in particular in:
- Pharmacy Services
 - Software Technician
 - Cyber Security
 - Care and Leadership Management
 - Pharmaceutical Science / Lab Technician
 - Network Engineer
 - Advanced Manufacturing Technologies
 - Engineering Management
 - Engineering Design
 - Manufacturing Quality Control and Process
 - Dental Practice Manager
 - Day Care Manager

- 3.56 No specific other infrastructure needs were identified.

Costs and funding

- 3.57 It is important to be cautious in estimating needs over the plan period. One of the main reasons is that, over the plan period, there are likely to be significant changes in post-16 education provision and demands. In particular there is likely to be increased rigour in academic and vocational Level 3 programmes and the Apprenticeship Levy which is expected to have an impact on the number of young people in post-16 education and the split between sixth form and further education. In addition, it is forecast that students will travel increasing distances to learn, making predictions about demand for places very difficult.
- 3.58 The same applies to costing provision, as this depends on the types of courses sought and the setting. It is assumed however that any costs associated with further education will be met by private sector sources.



4 Health and Social Wellbeing

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

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

4.2 This analysis also does not take into account wider primary care service such as dentists, pharmacies, opticians, community health (health visiting, school nursing, midwifery, district nursing, etc) which will all be impacted by demand from growth.

4.3 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), with Braintree covered by the Mid Essex CCG. The CCG is responsible for planning and buying ('commissioning') local health services.

4.4 Separately, Sustainability and Transformation Plans (STPs), are being prepared for wider areas that incorporate some or all of the CCG areas. The Mid Essex CCG area is covered by the Mid and South Essex STP. The draft STP, published in October 2016, summarises the work to date and outlines how the system-wide plan can be delivered across organisations, how the known and emerging risks can be managed, and how by working together the quality and safety of care provision can be improved. The document is currently out for public consultation with a view to finalising it later in 2017.

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

Primary Care Services

- 4.6 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.
- 4.7 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.
- 4.8 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.
- 4.9 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.

- 4.10 In addition the CCGs have set out in the STPs to review where they may need to increase estate, or invest in buildings and infrastructure to make them fit for purpose in order to support the scaling up of primary care services identified above and also the provision of care closer to home.
- 4.11 The approach taken by the two national property arms of the NHS (NHS Property Services and Community Health Partnerships), which advise the CCGs, is that they would not generally build a GP surgery just for the residents of a new development. They are seeking much larger practices that follow the 'hub' model and such provision can rarely be justified through Section 106 contributions or in terms of the large amount of land that would be sought to develop a hub from a single development. In order to develop hubs, the preferred approach would be to relocate an existing practice or practices into a new facility that, with the wider growth planned, will eventually become a hub facility.
- 4.12 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.
- 4.13 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.
- 4.14 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.

Hospitals

- 4.15 The Mid Essex Hospital Services NHS Trust provides local elective and emergency services to the Braintree district area. It is also a specialist in the provision of plastics, head and neck and upper

gastrointestinal surgery and burns treatment. These services are provided at Broomfield Hospital in Chelmsford, St Michael's Hospital and Birthing Centre in Braintree, Braintree Community Hospital in Braintree and also at St Peter's Hospital in Maldon. Community hospital services are also provided at Halstead Hospital.

- 4.16 The STPs envisage that, over the next five years, hospitals will provide less simple care which will allow them to focus on more complex and specialist care whilst working with other partners in the community. They are exploring ways of saving money by sharing management and support services and also by combining their specialist expertise.
- 4.17 At present, three different models of hospital provision are being considered within the context of retaining the three physical hospital units:
- Type 1: Specialist Emergency Hospital - A designated specialist emergency hospital would have a local role to provide walk-in A&E and some planned treatments such as day surgery and appointment clinics, but its main job would be to treat serious and "blue light" emergencies.
 - Type 2: Emergency Hospital with elective care - This hospital would have a local role providing A&E for walk-in patients and by ambulance, day surgery, outpatients and other services. It would also offer a mix of specialist emergency surgery and specialist planned operations (elective).
 - Type 3: Elective centre with A&E - This hospital would have a local role providing A&E for walk-in patients and some by ambulance, day surgery, outpatients and other services. It would also offer a centre of excellence for planned and specialist surgery.
- 4.18 With the need to retain the respective centres of excellence, a certain number of combinations of the three types of hospital provision could be taken forward.

Social care

- 4.19 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. In the ECC Capital Budget is monies 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.
- 4.20 Essex County Council can make specific provision of built infrastructure for care services, e.g. extra care.

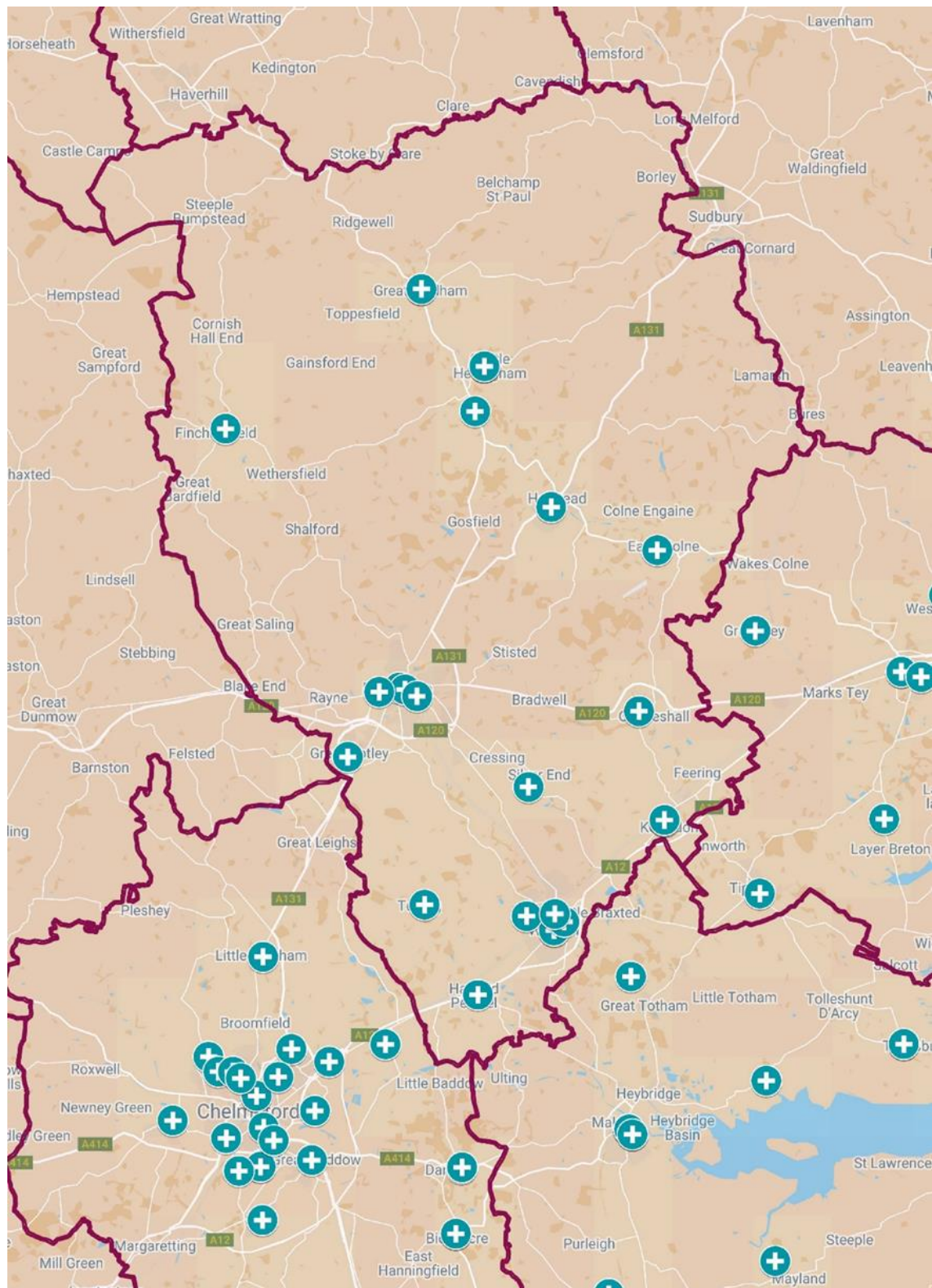
Public health

- 4.21 Responsibility for public health was moved out of the NHS into local government in April 2013. Health and Wellbeing Boards (HWBs) promote co-operation from leaders in the health and social care system to improve the health and wellbeing of their local population and reduce health inequalities.
- 4.22 HWBs are responsible for producing a Joint Health & Wellbeing Strategies (JHWS), Joint Strategic Needs Assessments (JSNA) and Pharmaceutical Needs Assessments (PNA) for the Braintree district area.

Existing provision

- 4.23 Figure 4.1 shows the location of existing General Practitioner (GP) surgeries.
- 4.24 Braintree District Council is itself bringing forward two health hub schemes on Council-owned land. In Braintree Town Centre a 0.7ha site is to be developed to provide a 1,400m² GP surgery and pharmacy with capacity to serve approximately 18,000 patients. This will be provided alongside other uses which are expected to include retail and restaurant units. This is expected to be opened in early 2020.
- 4.25 A similar project in Witham has not reached the project development stage yet but is expected to be broadly the same size.
- 4.26 These schemes will help to address some of the needs arising from growth in these locations.

Figure 4.1: Location of existing GP surgeries in Braintree district



Needs

- 4.27 The West of Braintree Garden Community will add significantly to the number of patients within the catchment of the Blandford Medical Centre and Braintree Community Hospital and require nearly 400m² GIA of additional medical space. The location of these existing facilities mean that it is unlikely that their expansion would address the needs over the plan period. Therefore a new surgery would be the best approach, particularly given that growth beyond the plan period will require nearly 1,600m² GIA of additional medical space.
- 4.28 Growth at Great Notley (BNT1) is likely to require additional GP premises totalling nearly 300m² GIA in order to accommodate growth. However, this needs to be seen within the context of growth along the whole of the A134 corridor towards Chelmsford, where growth is also planned at Ford End, Great Waltham and Little Waltham.
- 4.29 Growth in north Braintree (BNT2, 3, 4) and in the existing Braintree built up area (BNT8, 9, 11, 12, 13) is intended, at this stage, to be addressed through the new medical centre being provided in Braintree town centre.
- 4.30 Development at Feering (BNT5) is unlikely to best be served through new provision. Instead this will be accommodated within the existing surgery serving this area which is located two kilometres away at the Brimpton House, Kelvedon and Feering Health Centre.
- 4.31 Development at Witham (BNT6) and Cressing (BNT17) is intended, at this stage, to be addressed through the new medical centre being provided in Witham.
- 4.32 Development in Kelvedon will, in the short term, be accommodated within the existing Brimpton House, Kelvedon and Feering Health Centre. However, when coupled with the additional pressure on these premises from growth in Feering, and given the fact that it is not suitable to expand these premises, new provision will be required. The total requirement is approximately 300m².
- 4.33 All other development can be accommodated within existing surgeries.

Costs

- 4.34 Mid Essex CCG is not able to state at this stage whether any of the additional needs would be best be served by the provision of a new health hub. If provision is made at new health hubs then it is not possible to accurately determine the build cost or size of these 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. Certainly it will not be the case that each health hub would be a fixed size or would have a fixed list of services.

- 4.35 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'.

Funding

- 4.36 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 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.
- 4.37 Any gaps in funding would therefore need to be bridged through developer contributions.
- 4.38 For the provision of new Health Hubs, there are various funding options which are likely to be required to replace Government capital funding after April 2017. One option is third party investment funding which is a partnership between the public and private sector. In such circumstances, a specialist developer will fund the capital cost of construction of the new premises and the GPs that occupy those premises enter into a lease with the developer. The GPs are able to receive reimbursement of the rent from NHS England.
- 4.39 Where such centres are designed as larger multi-use hubs, the developer will separately then rent out the other space which is not used by the GP services.
- 4.40 There may be other models available to bring forward such developments, usually involving some variation on the public-private sector partnership. For this type of development and also for expansion of existing surgeries, any gaps in funding will need to be bridged through developer contributions.

Timing and nature of future provision

- 4.41 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.
- 4.42 If any on-site provision is required as part of strategic sites then this would need to be provided in a timely manner once a patient-orientated critical mass has been achieved.
- 4.43 The IDP identifies a series of infrastructure requirements, either in the form of expansion of existing built facilities or new facilities in the form of health hubs. However, exactly what this provision will

ultimately be 'on the ground' is extremely difficult to determine at this stage. This is why it is not possible to determine the exact quantum of space or the cost of providing it.

- 4.44 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.
- 4.45 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.
- 4.46 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 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.
- 4.47 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.



5 Utilities

Water – Used water

- 5.1 The provider of waste water services to Braintree district is Anglian Water Services (AWS).
- 5.2 The requirements for used water provision relate to the network for delivering used water (i.e. the sewerage pipes) and the facility at which it is treated, i.e. the Water Recycling Centre (WRC).
- 5.3 For used water treatment, two of the key facets to consider are flow consent and process treatment capacity.
- 5.4 The assessment by AWS has identified needs using a 'RAG' (Red-Amber-Green) approach:
- 'Red' sites have major constraints to provision of infrastructure and/or treatment to serve proposed growth.
 - 'Amber' sites require infrastructure and/or treatment upgrades to serve the proposed growth; alternatively, diversion of assets may be required.
 - 'Green' sites have capacity available to serve the proposed growth.
- 5.5 The information and RAG status for each proposed site has been assessed considering existing commitments but on an individual site basis. The cumulative impact from all the proposed sites on the allocated treatment or network resource is not indicated by the RAG status. It should be noted therefore that the cumulative effect of all the proposed sites may require enhancement to capacity.
- Needs
- 5.6 Significant reinforcement of the WRC network is required to provide for the additional growth at the West of Colchester Garden Community and may be required for the West of Braintree Garden Community. Beyond the plan period, further upgrades will be required.

- 5.7 The WRCs at Coggeshall and White Notley have been identified as 'red' and will require enhancement to treatment capacity. This will impact on development of sites at Great Notley (BNT1) and Cressing (BNT17).
- 5.8 The Braintree Water Cycle Study⁴ identifies that water recycling centres (WRCs) at Braintree, Bocking, Coggeshall and White Notley will require improvements to ensure that the increased waste water flow discharged does not impact on the quality of the receiving watercourses and their associated ecological sites. These improvements will require revised permits. Upgrades to the WRCs in question may also be required.
- 5.9 In terms of foul sewerage, AWS makes the assumption that all developments of greater than 10 properties will require some form of network enhancement. Therefore all sites are considered to be 'amber' and improvements will be needed. Ultimately the available capacity in the foul water network will need to be determined by more detailed analysis.
- 5.10 For all sites, the surface water network capacity is a constraint to provision (i.e. is listed as having 'red' status). 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.
- 5.11 Only as a last resort, if a SUDS solution is not possible, should surface water be planned to enter the used water network.
- 5.12 All sites will therefore need to address surface water matters appropriately but this will need to be done on a site-by-site basis. Surface water flooding is considered in more detail in Section 7.
- Costs
- 5.13 AWS has stated that it is not possible to provide costs for the additional used water infrastructure to serve growth. This will need to be determined when particular schemes are assessed.

⁴ AECOM (2017) *Braintree District Council Water Cycle Study*, for Braintree District Council

Funding

- 5.14 In general, used water treatment infrastructure upgrades to provide for residential growth are wholly funded by AWS through its Asset Management Plan (AMP). AWS is currently within the five-year AMP period 2015 to 2020. This does include schemes to address growth capacity at some of the key WRCs in the Braintree district area, but this is not sufficient to fully accommodate the needs arising from growth. Therefore in order for AWS to fund specific upgrades, it will be necessary to put forward growth schemes for inclusion within the next AMP (post-2021) and for these to be approved, planned and funded, as well as signed off by the regulator, OFWAT. The only other alternative is that developers forward fund this work; however, given the potential costs involved, this is unlikely for all but the largest schemes.

Delivery and timing

- 5.15 For the Garden Communities, the need to upgrade WRC provision and to provide strategic sewer solutions means that it will be difficult for any significant growth to come forward before 2022/23 without a commitment to deliver the necessary upgrades in the next AMP period (2021-2025). This is therefore a critical item. The alternative is that it will be developer funded but this is substantially less likely given the costs involved and the uncertainty over the likelihood of recouping this funding.

Water – Potable supply

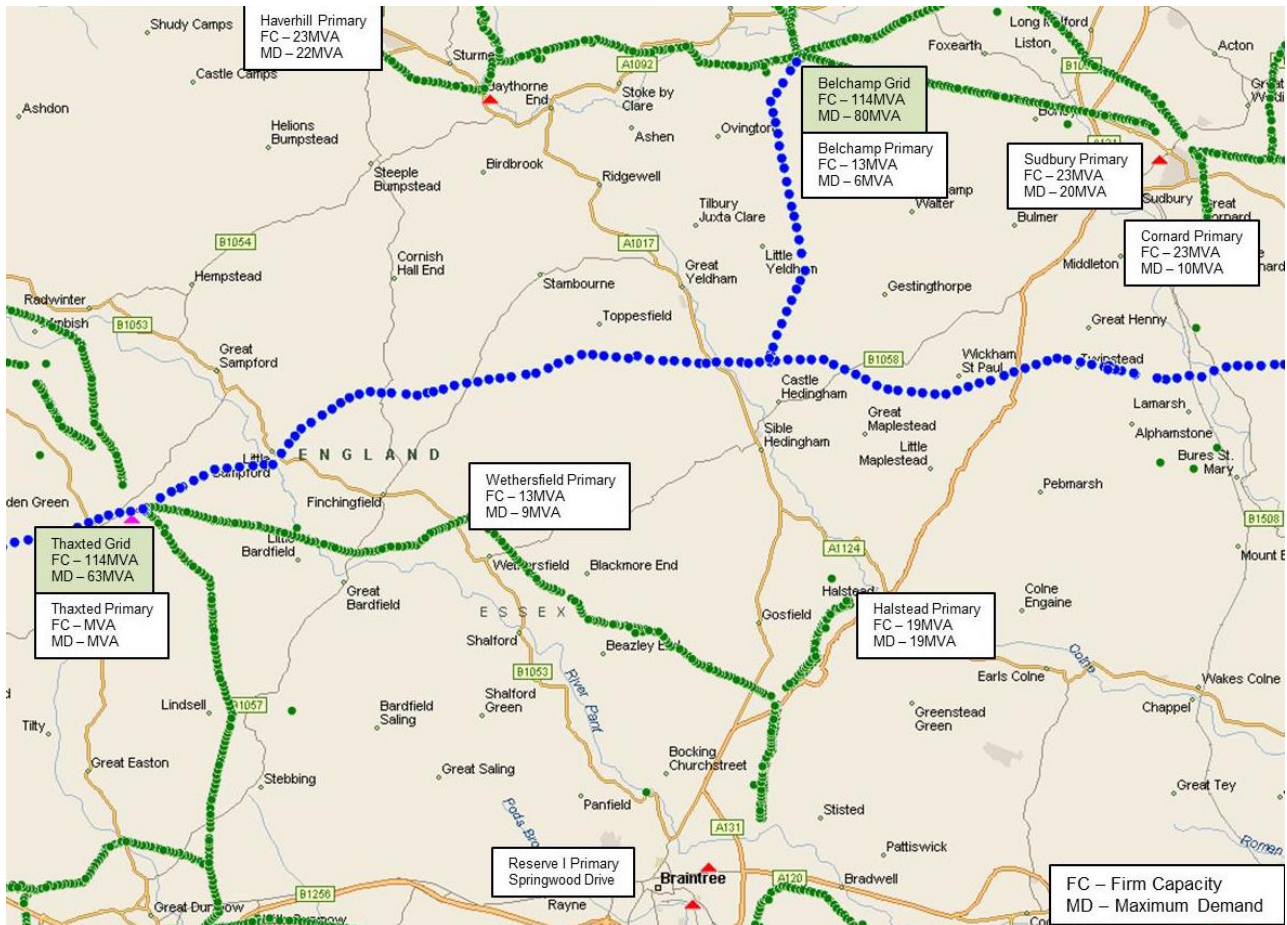
- 5.16 For Braintree district, there are two providers of potable water services. The southern part of the district is provided by Essex and Suffolk Water (ESW). The remainder of the district is served by Anglian Water Services (AWS).
- 5.17 The southern part of Braintree district that is covered forms part of the Essex Water Resource Zone (WRZ). This WRZ has sufficient surplus supply over forecast demand until at least 2040, accounting for growth defined in 2013. Therefore water resource development is not required as a result of the growth forecast within these areas. There may need to be some local infrastructure enhancement (new or enlarged pipes) but this is unlikely to be significant and is within the expected activities of ESW or AWS.
- 5.18 Water companies have a funding mechanism whereby the developer pays directly to the water company for enhancement needed for a development, and an infrastructure charge for each new dwelling. Therefore no other funding is required.

Gas

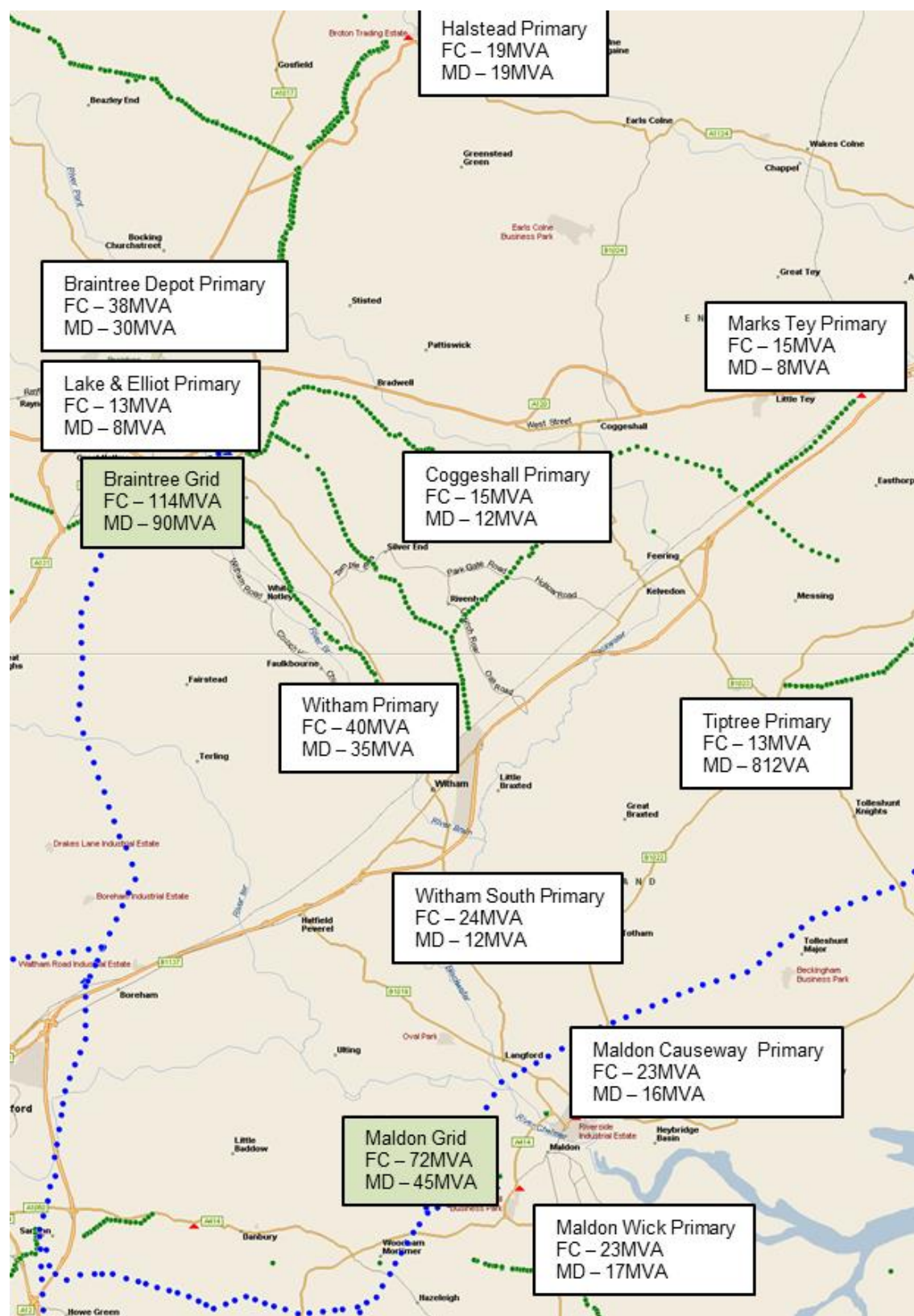
- 5.19 Gas is delivered through seven reception points into the United Kingdom and distributed through a National Transmission System (NTS). National Grid is responsible for the NTS which covers the whole of Great Britain.
- 5.20 National Grid has reported that, at present, there are no areas of Braintree district that are likely to require additional gas infrastructure to accommodate the proposed levels of growth. However, as the National Grid connections process works on a first-come, first-served basis, there is no guarantee that this capacity will still be available at the time an official connections request is sent in.
- 5.21 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 are 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.

Electricity

- 5.22 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 Braintree district.
- 5.23 Electricity in Braintree 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.
- 5.24 The area is served by four 132/33kV (Grid) substations:
- Belchamp, supplying the areas in the north of the district
 - Thaxted, supplying the areas in the west
 - Braintree, serving the Braintree urban area and surrounding areas
 - Maldon, serving Witham and the areas in the south east of the district
- 5.25 Each Grid substation supplies several 33/11kV substations that finally provide the 11kV distribution network to meet the local requirements.

Figure 5.1a: Existing electricity substations serving Braintree north

Source: UK Power Networks

Figure 5.1b: Existing electricity substations serving Braintree east

Source: UK Power Networks

Needs

- 5.26 For growth during the plan period, the West of Braintree Garden Community will not require any significant new infrastructure. However, beyond the plan period, the additional growth would possibly require reinforcement of the 132kV network at Braintree Grid 132/33kV substation, extension of the 33kV network (approximately seven kilometres) from the Braintree Grid to a new Primary 33/11kV substation close to the development. This would involve an extended cable route and crossing of the A120 trunk road and Network Rail line. A reserve Primary substation may be available for use subject to third party constraints. A reserve Primary substation site nearby may be available for use subject to third party constraints.
- 5.27 The West of Colchester Garden Community would not require any significant new infrastructure during the plan period. However, beyond the plan period it would require extension of the 33kV network (approximately 10km) to Abberton Grid 132/33kV substation and a new Primary 33/11kV substation close to the development.
- 5.28 For development in the Halstead area, there may need to be reinforcement at the Halstead Primary substation.
- 5.29 None of the residential sites in the other locations will create any issues.
- 5.30 For all larger sites - over 50 dwellings - there is likely to be a need for a new secondary sub-station provided on site. This would be on a 5m x 4m plot and would contain an 11,000/400 volt transformer plus a switch or switches. Such sub-stations are required where an existing sub-station is either too far from the new development or does not have sufficient capacity to supply it. The new sub-station would normally just supply the new development but could also connect to the surrounding electricity network to provide an alternative means of supply in the event of a fault on the network.
- 5.31 For the employment land, 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 within the network.

Costs and funding

- 5.32 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.
- 5.33 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.

5.34 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 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.

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

Delivery and timing

5.36 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.



6 Transport

- 6.1 The transport network in the urban areas of Braintree District is heavily used in the peak hour weekdays and at certain other periods. The two strategic trunk roads (A12 and A120) operate at capacity in the peaks and, as a result, can provide an unreliable level of service. The Great Eastern Mainline railway operates at capacity on trains to and from London in the peak hours, with the Braintree branch line providing a service to Witham and London.
- 6.2 The rural areas are reliant on the car, and in the main have higher levels of car ownership. The road network is a series of local A and B class route roads radiating out of the urban areas with connections to the higher level trunk and strategic A-roads.
- 6.3 Traffic modelling for the emerging Local Plan has been undertaken which has shown a large number of links and junctions operating over capacity at peak times. Development will add pressure to the transport network and measures will be required to help mitigate the impact.
- 6.4 With much of the road network in the urban areas of the district over capacity in the peak periods and leading to queuing and unreliable journey times, significant increases in road capacity in the urban areas to accommodate current and future levels of traffic is not necessarily desirable, possible or viable. Better use of the existing road network and improvements to public transport, walking and cycle links will be essential to address the issues arising from transport. To support growth and to make better use of the road network, the 'packages' of projects being developed for transport will include:
- Walking and cycling - linked to the Essex Cycle Strategy and Braintree Local Cycle Strategy.
 - Streetscape and improving the public realm.
 - Environmental package including provision for electric vehicles.

- Public transport - ensuring viable public transport routes that operate smoothly, station improvements and development of rapid transit associated with the new Garden Communities.
- Travel change behaviour programme in order to make best use of the investment.
- Traffic management - various junction and link improvements.
- Technology and innovation package - improvements to traffic signals to be more demand responsive to the changing flows, car park guidance systems, and links to the A12 technology package.
- Investment in the strategic road and rail network.

Walking and cycling

- 6.5 The basic walking network is provided by footways parallel to the road network. However in the rural areas this network can be fragmented. In the urban areas a number of public open spaces provide traffic free routes which are shared with cyclists. Both Braintree and Witham have existing cycle infrastructure, however there are few clearly defined routes. The existing situation does not encourage or support short local trips by bicycle, while cycle access to the rail stations within the District is limited with only Braintree having a clearly defined route from the west along Flitch Way. None of the other main settlements within the District have any cycling infrastructure, although the National Cycle Network runs through the rural areas using a series of quieter C-class and unclassified roads and a number of bridleways.
- 6.6 Cycling levels in the District are around the mid-point for Essex, and the propensity to cycle within the District is reasonable, thus suggesting that it is possible that improved cycling facilities and encouragement of cycling will lead to a great uptake in the number of people cycling.
- 6.7 The key issues of the walking cycle network, which affects the level of use include:
- Inconsistency and quality of route
 - Attractiveness and directness of route
 - Perceived safety either through high traffic volumes and the sharing of routes
 - Dominance of traffic especially through high volumes in the urban area
 - Crossings of major roads and railway
 - Lack of priority over other road users in key locations
 - Lack of continuity in the rural areas.

- 6.8 In line with the Essex Cycling Strategy, a Braintree Cycling Action Plan is being produced which will ultimately provide a strategy to progress a range of cycling proposals. This can then be used to incorporate into planning agreements, provide the Local Highways Panel with cycling schemes and provide schemes for future funding bids.
- 6.9 The aims of the Cycling Action Plan are to:
- Identify the current level of cycle demand within the district and how cycling levels can be increased;
 - Identify any cycle safety issues within the District;
 - Identify gaps in existing cycle provision, particularly relating to key routes;
 - Identify ways of closing the gaps in cycle provision and proposed cycle enhancements;
 - Create better cycle connectivity to Flitch Way, key employment areas, development zones and schools; and
 - Investigate ways of marketing existing and proposed cycle routes.
- 6.10 The provision of continuous cycle routes and a coherent cycle network will encourage people to make short trips by bicycle rather than by car. Potential Local Plan developments can then add to the cycle network, thus providing an even wider cycle network, encouraging both existing and future short trips to be made by bicycle.

Public transport

Buses and coaches

- 6.11 There are seven bus operators who run services in Braintree District. Days of operation and service frequency vary greatly between these services. Bus infrastructure varies in design and quality, which is a result of management by different parties, with no single authority responsible for all bus infrastructure in the District.
- 6.12 Rural public transport is in the main served by inter-urban routes, e.g. Braintree to Marks Tey, Colchester, Great Dunmow, Halstead, Chelmsford, Sudbury, etc, with routes following the main roads, at hourly frequencies. If evening and weekend rural services are provided they are commonly supported by Essex County Council. Inter-urban coach services also serve Braintree heading for London and the airports.
- 6.13 Around 85% of bus services in Essex are commercially operated. It is however lower in Braintree District with Essex County Council funding the majority of evening and weekend services. National

Express provides the coach services. Most recently many of the rural services have been replaced by Demand Responsive Services with the aim of increasing the number of passengers using public transport and giving residents more transport opportunities, which in turn will allow older rural residents to remain in their homes for longer and more employment and education opportunities for all.

- 6.14 Whilst there are existing issues regarding the bus network key improvements could be made on the network to make better use of resources to integrate all services into one in order to reduce the costs of running / supporting the existing services; and to reduce congestion in order to improve the reliability of bus services. To achieve a reduction in congestion/modal shift, emphasis needs to be placed on improving sustainable travel modes, i.e. making viable public transport routes that operate smoothly, potentially having priority over private car travel, thus making public transport/sustainable travel a more appealing method of travel. The transport modelling undertaken for the emerging Local Plan identified potential sites for development in the Draft Plan and considered some were more suitable for providing uplift in the provision of sustainable modes.

Rail services

- 6.15 The Great Eastern Mainline (GEML) provides the main spine for train services through Braintree District, with the Braintree Branch Line providing a service from Witham to Braintree. The latter is an hourly service and the quality and access to all stations vary and need improvement.
- 6.16 There is currently an ongoing study looking at options for improving the Braintree branch line. What has become clear through local plan transport modelling is that many car trips could potentially be made by rail. However, due to the current nature of the Braintree branch line (single track from Witham to Braintree), rail is not the most popular or feasible method of travel within the District due to the infrequency of the trains. With the exception of Witham, this is a problem at all the stations within the District. Halstead has no rail links.
- 6.17 All the passenger services are operated and stations managed by Abellio as the Greater Anglia franchise, which runs until 2025. The train operating company is making a substantial investment in rolling stock to provide new faster, higher capacity trains with more operational flexibility than the current trains. The new trains will be introduced from 2019/20. There will be changes to timetable and service patterns with the introduction of new trains.
- 6.18 Freight operating companies operate container trains from Felixstowe to the north, south and the west. Sand is transported from Marks Tey to London. Network Rail manage and maintain the infrastructure and have identified projects in the Anglia Rail Study to support growth, capacity and speed improvements to make best use of the new rolling stock and allow for the growth in freight traffic.

6.19 The infrastructure upgrades for the GEML include:

- Bow Junction improvement (in East London)
- Digital signalling -increasing track capacity
- Loops between Witham and Colchester - allows for fast trains to pass slower ones
- Trowse Bridge doubling (Norwich) - improves journey times and performance
- Haughley junction upgrade - (north of Ipswich) - improves journey times and performance

Braintree Branch Line

6.20 Capacity improvements on the Braintree branch line, specifically the construction of a passing loop, were identified as an infrastructure requirement in the adopted Braintree Core Strategy (2011) to support growth in the whole District. Work is being undertaken to develop options for improving the line. It is expected, if improvements that facilitate a higher frequency of trains can be made, that this will help encourage more trips by train, which is of significance given the high number of car trips in, to and out of Braintree town. This would likely alleviate congestion at road junctions on routes into Braintree from the south, particularly given the large number of people travelling between Witham/Chelmsford and Braintree. Therefore, demand at key junctions carrying traffic in and out of the town, such as the junctions on Pods Brook Road (Springwood Drive), Pierrefitte Way (London Road - Clare Road, Aetheric Road - Pierrefitte Way), Notley Road (Notley Road - South Street) and the A120 (Panners Interchange, Galleys Corner), may reduce. The timescale for completion of work on the branch line is unknown.

6.21 Greater Anglia has identified a list of ten key infrastructure projects, including the provision of passing loops on the mainline north of Witham, that are necessary to deliver the increased capacity needed along the Great Eastern mainline. Essex County Council is fully supportive of these proposals. In particular, the provision of additional capacity between Colchester and Shenfield is key to accommodating future growth.

6.22 The Witham loops proposal is still in the early stages of development. It is essential that the proposed loops are long enough to allow trains to pass each other dynamically, without requiring either train to stop, and that capacity is provided in a way that is effective for both directions of travel.

6.23 It is understood from discussions with Network Rail that the Witham passing loop project has been identified as a 'choice for funders' as part of their route study process and that the proposals have been submitted to the Department for Transport for initial consideration.

6.24 The provision of an improved rail service from Braintree would also likely reduce the number of car trips to Witham rail station and potentially at the proposed new Beaulieu Park station near

Chelmsford. However, it should be noted that any expansion in the car park at Witham or a car park of significant size at the proposed Beaulieu Park station will only encourage car trips and will likely detract from the provision of bus services or cycle infrastructure.

Road network

- 6.25 Much of the road urban road network in Braintree District is over capacity in the morning and evening peaks. Although, the Local Plan will be used to guide decisions on matters such as the location of new housing and employment, along with the infrastructure to support them, it is important to remember that, whilst existing issues such as traffic congestion will need to be taken into account, the Local Plan's primary role is not to provide solutions to current problems on the network. Equally, new development cannot be used to fund infrastructure to address existing deficits or problems, only those that mitigate their own impact.

Strategic road network

Existing and planned provision

- 6.26 The two main strategic routes in Braintree District are the A12 and the A120 and are managed by Highways England. These key strategic routes support the economy of Braintree, North Essex and the Haven Gateway. There are a number of ongoing studies that will improve the transport network and transport provision in Braintree District and its wider connectivity. It is important to note that some of these studies, in particular those relating to strategic routes such as the A12, A120, would be likely to overall have a significant positive effect on traffic and transport across the District in the plan period.
- 6.27 The A12 provides access from Felixstowe, Britain's largest container port, with markets in London and southern England. Highways England published the East of England Route Strategy in April 2015, which outlines the priorities for the strategic road network and informed the Government's Road Investment Strategy (December 2015). The Roads Investment Strategy (RIS1) set out the following route investment priorities:
- A12 (Chelmsford to A120 junction) - phased improvement of the road to a consistent dual 3 lane standard to start by March 2020.
 - A12 whole route technology upgrade - including detection loops, CCTV cameras and variable message signs to start by March 2020.
 - A12 Colchester bypass - widening of the A12 between junction 25 and 29 to three lanes and improvements to local junction layout to start in the second roads investment period by March 2025.

- 6.28 Highways England consulted on options for widening the A12 between Chelmsford (junction 19) and the A120 (junction 25) in January to March 2017, and are now developing a preferred option to take forward to development consent order process.
- 6.29 The A120 improvement has been led by Essex County Council to look at potential options for improving the A120 between Braintree and the A12. A public consultation on route options was carried out in January to March 2017. Essex County Council will make recommendations to the Department of Transport on the preferred option for their consideration for inclusion in RIS2, which will run from 2020 to 2025.
- 6.30 In addition, Highways England is currently investigating the potential for junction improvements to the A120 between Braintree and Marks Tey. Initial options for the Marks Farm roundabout and A120 - Colne Road junction have been produced. Two options have been taken forward for Marks Farm, which, in conjunction with the Millennium Way slips, should provide a significant reduction in journey time and queue length in 2031 from the projected figures with the junction remaining as it currently is.
- 6.31 An option to alleviate some of the resulting congestion at the Galleys Corner junction on the A120 is to implement either one or two slip roads onto Millennium Way. This is considered to be a partial solution in the short term and is being developed by Highways England with the support of Braintree District Council and Essex County Council. Transport modelling has indicated that in the short term these slips would provide significant relief to the Galleys Corner junction, in particular in the PM peak for eastbound traffic. The implementation of slip roads would separate local traffic movements from the A120 strategic corridor and significantly reduce traffic levels and delay at Galleys Corner roundabout which currently experiences severe peak time delays. Essex County Council has committed to finding the funding for this key congestion relieving scheme, in consultation with Highways England and Braintree District Council.

Key issues

- 6.32 The A12 carries heavy traffic flows, is often congested, and is vulnerable to accidents and incidents that often disrupt traffic over a wide area. The A12 performs poorly in terms of reliability and delay compared to other trunk roads. There are also issues with the lack of alternative routes, variability in the standard of the road and the sub-standard junction arrangements.
- 6.33 The A120 from Braintree to the A12 (at Marks Tey) is part of the strategic trunk road network but is single carriageway passing through villages and rural communities. The road is very narrow near Marks Tey with direct frontage access for houses and businesses, mini roundabouts providing access to residential areas and junctions that serve the nearby rural areas. There are safety issues junctions

along its length. The A120 carries 24,500 vehicles per day through Marks Tey. There are morning and evening peak hour flow issues in both directions. The route has to act as an alternative route for the A12 when the latter is blocked. However, it is currently unsuitable for this purpose.

Local road network

Existing and planned provision

- 6.34 Essex County Council is the Local Highway Authority for the local road network. The network is made up of dual carriageways A-Roads (such as the A131 (Chelmsford-Braintree)), single carriageway urban and rural A- and B-routes, class C and unclassified urban estate roads, narrow rural and quiet lanes.
- 6.35 Essex County Council has commissioned a number of Route Based Strategies including the A131 Braintree to Sudbury and the A130/A131 Chelmsford to Braintree. The strategies seek to identify options that will support economic growth through the introduction of measures focused on improving safety, reducing congestion, improving journey time reliability and increasing sustainable travel patterns. The options proposed in these Route Based Strategies are now being taken forward to an advanced design stage (Stage 3) and this work is expected to be completed later in 2017.
- 6.36 The A131 Braintree to Sudbury Route Based Strategy proposes a number of options covering improved signing, improved road surfacing at collision clusters along the route, improved bus provision and better crossing facilities within Halstead. Work is ongoing to refine these into specific options.
- 6.37 The A130/A131 Chelmsford to Braintree Route Based Strategy proposes to deliver a package of schemes to provide safety, vehicular and bus improvements to the Chelmsford to Braintree corridor. These include infrastructure improvements to three junctions (Broad Road, High Garrett, A131 - Head Street) to provide additional capacity, extension of the existing bus lanes to improve bus journey times and safety improvements. The business case for this scheme was approved in February 2017, with construction of improvements scheduled to start in late 2017.
- 6.38 The Braintree Integrated Transport package establishes a range of transport measures in Braintree town to be progressed through workshops, option identification, prioritisation and business case development. The key requirement of this integrated, multi-modal study was to ensure that a comprehensive evidence base was assembled to provide an understanding of the transport issues and opportunities in Braintree town.
- 6.39 One of the key elements of the study is to identify suitable schemes to prioritise for implementation in the short to medium term. A range of options, including new cycle routes, junction improvements

and access improvements to Braintree rail station, have undergone early investigation. Improvements to Springwood Drive, Town Centre Traffic Management measures and improving access to the rail station have been prioritised from this study and may form part of a potential ECC funding bid in future. The likely impact of these options will be assessed prior to a funding bid. It is the intention that those schemes that are taken forward will be funded through either the Essex County Council capital budget, the Local Highways Panels (LHP) funding, the Local Growth Funding through the SELEP and/or through developer funding. These schemes have been identified by Essex County Council on a longer list of schemes to be considered by SELEP when the next round of funding becomes available.

Key issues

- 6.40 As previously mentioned, there are significant traffic flow problems in the peak hours at certain locations. Many have capacity issues in both the morning and evening peaks. In the main it is the operation of junctions where most of the issues arise. Some links are over-capacity but generally result in the associated junction being over-capacity. It is recognised that there are other times when traffic demands are high, e.g. Saturday morning, but these are not modelled.
- 6.41 Transport modelling work has been undertaken to assess the likely transport impact of the Local Plan proposals across Braintree District and identify possible mitigation measures (Braintree Local Plan Preferred Option Assessment, Highways/Transport Planning, March 2017). This included housing growth and associated employment at the Garden Communities.
- 6.42 The modelling used census journey to work trips, education trips (AM only) and other trip types separately. The development trip matrices created from these were then run through VISUM software, which assigned development traffic onto the road network. The traffic flows at each of the key junctions were extracted for each scenario from VISUM and added to the base flows at the key junctions also taking into account the forecast background growth. The modelling identified the key junctions that are forecast to be over capacity and, where possible, the infrastructure mitigation measures at those key junctions. This included the likely public transport and sustainable transport required and the potential for modal shift (increased walking, cycling and public transport use).
- 6.43 The key junctions modelled were:
- A131 Head St/A1124 Hedingham Road/A1124 Colchester Road - Halstead
 - B1024 Colne Road/A120/Colne Road - Coggeshall
 - Rye Mill Lane/B1024/B1023 - Kelvedon
 - B1018 Cressing Road/Rickstones Road/B1018 Braintree Road - Witham
 - Chipping Hill/Avenue Road/The Avenue/Collingwood Road - Witham
 - Collingwood Road/B1389/Maldon Road - Witham

- B1389/Gershwin Blvd/B1389 Hatfield Road - Witham
- B1137 The Street/B1019 Maldon Road/The Street - Hatfield Peverel
- A131/London Road/B1053 London Road/A131 - Great Notley
- A131/Cuckoo Way - Great Notley
- A131/A120 / Pods Brook Road/A120 - Great Notley/Braintree
- Rayne Road/Springwood Drive/B1256 Rayne Road/Pods Brook Road - Braintree
- Rayne Road/Aetheric Road/Pierrefitte Way - Braintree
- B1053 Church Street/Bradford Street/B1053 Bradford Street - Braintree
- Panfield Road/Panfield Lane/Deanery Hill - Braintree
- A131/Broad Road/A131 - Braintree
- B1256 Coggeshall Road/A131/A120/A131 - Braintree
- Deanery Hill/Panfield Lane - Braintree
- B1256 Coggeshall Road/Cressing Road - Braintree

6.44 The report came to a number of recommendations with regards potential for mitigation for the junctions above. Potential mitigation options were identified at the following locations:

- A131 - London Road, Great Notley
- A1124 - Church Hill, Earls Colne
- Broad Road, Braintree
- Cuckoo Way, Great Notley
- Deanery Hill, Braintree
- Feering Hill, Kelvedon (subject to A12 mitigation)
- Newland Street, Witham
- Rye Mill Lane, Kelvedon (subject to A12 mitigation)
- Springwood Drive, Braintree
- Panners Interchange, Great Notley (including modal shift measures)
- Mitigation option involving modal shift measures were identified at the following locations:
- Aetheric Road, Braintree (subject to ongoing study)
- Chipping Hill, Witham
- Church Lane, Braintree
- Courtauld Road/Coggeshall Road, Braintree
- Cressing Road/Coggeshall Road, Braintree
- Head Street, Halstead
- Rickstones Road, Witham
- Maldon Road - The Street, Hatfield Peverel

- 6.45 Other key junctions subject to assessment are either being considered as part of ongoing highway modelling by Highways England in terms of short term improvements in advance of any new A120 route, or have improvements already implemented through s106 contributions. There is also ongoing work to refine trip generation characteristics of the proposed Garden Communities.
- 6.46 There are several other studies and planning underway and plans being developed that if it they comes to fruition will bring about capacity improvements to the network. This includes the A12 widening project, the A120 route study, proposals for additional slip roads on the A120 and an Integrated Transport Plan for Braintree (as mentioned above).

Potential Mitigation Measures

- 6.47 It is clear that using conventional and accepted analysis of forecast trips, it will not be possible to accommodate the forecast vehicle trips on the network, despite even with significant junction improvements. In addition to infrastructure improvements, there will have to be significant interventions to reduce the demand for private car travel and improve public transport, cycling and walking provision and uptake.
- 6.48 Many of the junctions have limited opportunity for specific mitigation measures, and are more suited to being supported by a range of improved sustainable transport connections. The transport modelling analysed trip rates and found that if there are increased levels of public transport provision, then car trip generation is likely to be reduced, thus lessening the impact of growth on the road network. Alongside this, strategic infrastructure projects such as the A120 between Braintree and the A12, are seeking to address key transport issues within the District.

Impact of site location

- 6.49 Sites in Witham and Braintree have a high potential for encouraging use of sustainable transport, while the Garden Communities would have a high future potential for encouraging use of sustainable transport.
- 6.50 With regard to the Garden Communities, careful consideration will need to be given as to how sustainable transport can be encouraged in the early stages of their development, and this is considered within the North Essex Garden Communities Transport and Access Study. Sites around the smaller villages, Silver End, Rayne, Kelvedon and/ Halstead, would have a low existing and low future potential for sustainable transport provision, unless the development is substantial enough to support a bus service. Particularly relative small employment sites away from existing larger communities make public transport provision challenging.

- 6.51 It is expected that the larger Local Plan allocations (+1,000 homes) should be served by bus services, particularly in areas that are extensions of existing urban areas, to reduce the number of car trips generated. Essex County Council will collaborate with developers and bus operators to ensure new or enhanced services are incorporated into any discussions for new infrastructure and developer contributions on larger development sites, and agreed at the planning application stage.

Links from existing settlements

- 6.52 From the transport modelling results, many of the trips from Braintree were found to be heading towards the M11 / Stansted, Witham, Chelmsford and Colchester. As Witham and Chelmsford are both on the existing rail line, emphasis should be placed on improving the rail link and access to / from the rail stations. The area would benefit from improved bus services to the rail stations. Braintree rail station is currently the focus of a separate station access study that is likely to provide recommendations for improving access.
- 6.53 Developments around Great Notley would also be expected to generate a number of short trips near the developments and into Braintree. There is currently a good level of cycle infrastructure provision and there are regular bus services to and from Great Notley. Further infrastructure and services would support the developments and encourage sustainable travel in the area.
- 6.54 Likewise in Hatfield Peverel, the assumed trip distribution suggests that the majority of trips will head northbound on the A12. Widening of the A12 will help support these trips, however links to the rail station should be explored. Options to improve accessibility to the rail station have been assessed in the Hatfield Peverel Station Access report (March 2016). This found that utilising bus services to the station is currently not an attractive option due to the distance from the nearest bus stop to the station.
- 6.55 It is noted that the closure of the Arla Foods factory (and now proposed development site) may provide an opportunity to expand the station car park. This could free up space in the existing car park to allow buses to serve the station from the south. Although the railway bridge would likely restrict services from the north, this is less of an issue as there are few settlements or proposed developments north of Hatfield Peverel that would require bus access via this route.
- 6.56 The transport modelling suggests that trips from Halstead will likely be distributed towards Braintree and Colchester. There are no rail services and there are congestion issues along the routes to both towns. The route between Braintree and Halstead is being assessed as part of the A131 Braintree to Sudbury Route Based Strategy. Bus services between these locations will help provide an alternative for existing car trips and also reduce the potential for increased congestion from the development

trips. However, the Route Based Strategy, although under review, has found limited options for improvement without significant cost attached.

- 6.57 The majority of trips to / from Halstead are likely to be generated as a result of the industrial estate in the east and any extension of this. It was found that there would likely be some trips from this area to Witham via Coggeshall and the A120 / Colne Road junction. The limited capacity at this junction of the minor arms would probably not make it a feasible bus route due to the likely delay and so if demand develops for such a route, consideration will need to be given to improvements at the A120 / Colne Road junction to facilitate bus services or an alternative route between the two settlements.
- 6.58 Modelling indicates that trips to/from Kelvedon have wide trip distributions with many heading towards Braintree, the A12 south (Witham, Chelmsford), and some on the A12 north (Marks Tey/Colchester). The majority of these destinations are on the rail line and so access to the rail station can be improved with the introduction of a local circular bus service in order to encourage sustainable travel to the station. It is known that there are issues with station users parking on the High Street; in order to mitigate this, parking restrictions could be considered and enforced and alternative measures, such as a bus service provided. Expanding the car park at the station would likely further worsen congestion problems in the area, by attracting more car trips and reduce the likelihood of a bus service being well used.

Impact of improved bus services

- 6.59 Improving bus services will likely reduce the number of car trips and bring economic benefits, however this will be dependent on journey times, journey time reliability and fares. Studies into the effect of soft measures to improve bus usage show positive impacts. In terms of the most cost-effective soft bus improvements, the best measure is service simplification, followed by effective promotion and high quality signage and information. There is a need to implement sustained multiple strategies.

Cycling

- 6.60 As with the potential for bus services within the development sites, there is the potential to connect with existing cycle infrastructure / proposed cycle infrastructure in order to develop a coherent and consistent cycle network within the towns and the District. All development sites would be expected to include cycle infrastructure, whilst larger development sites would likely have a number of internal short trips that can be made by bicycle.

- 6.61 A targeted and integrated approach to improving levels of cycling leads to a positive result and modal shift. The Essex Cycle Strategy and the subsequent District Cycling Action Plans aim to provide this kind of approach to help to boost cycling levels in the District.
- 6.62 The transport modelling suggests that many of the development trips are between locations with existing rail links and therefore improving access to/from the stations for sustainable transport modes could help to reduce the number of car trips. As a result, cycle access to all stations within the District should be improved.

Cycling to school

- 6.63 Some schools have a very low modal share for car trips; others have a significant number of car trips. A way to change this, alongside improving public transport links, would be to improve cycle links, to both primary and secondary schools.
- 6.64 The Pupil Level Annual School Census (PLASC) collects data from over 550 schools, primary and secondary, in Essex. This data showed that Braintree had a below average percentage share for public transport, car/taxi, car share and cycling. Braintree was above average for walking, and other methods of travel. A case study of measures to encourage sustainable travel within a school can be seen in Long Crendon School. Using multiple initiatives, including the election of a Junior Road Safety Office, footsteps training for Year 1 and promotion of 'Park Away Days', car use decreased from 33.3% in the academic year 2011/2012 to 15.3% in the academic year 2013/2014. 'Park and 'Stride' is now used by 13% students.

Travel Planning

- 6.65 Essex County Council published a Sustainable Modes of Travel Strategy, which outlines the steps being taken to enable accessibility to places of employment and education, and other neighbourhood services such as retail and leisure. The Strategy promotes the implementation of travel planning covering workplaces, residential developments, schools, hospitals, airports; and personalised travel planning. Such measures will be implemented through Local Plan which requires Travel Plans to be prepared on all new residential developments of 250 dwellings or more and non-residential proposals with 50 employees or more.

Garden Communities

- 6.66 The Braintree Local Plan is proposing two new Garden Communities, which will deliver housing during the latter part of the plan period and provide for future growth beyond 2033. The areas of search include:
- Colchester Braintree Borders - to deliver up to 2,500 within the Plan period (as part of an overall total of between 15,000 and 24,000 homes); and
 - West of Braintree - to deliver up to 2,500 homes within the Plan period (as part of an overall total of between 7,000 and 10,000 homes).
 - Another new Garden Community is being proposed at the Tendring Colchester Border for between 7,000 and 9,000 homes.
- 6.67 A Transport and Movement Study has been undertaken to support the work undertaken to consider new Garden Communities in North Essex. This seeks to identify a range of potential highway interventions, prioritising sustainable modes, along the key corridors of movement, which would link the new community to the surrounding and wider network. These interventions are based on seeking to maximise the internalisation of trips within the new community, but acknowledge that a range of interventions will be required to serve the initial phases of development, the Local Plan Period up to 2033, and beyond the plan period. As Concept Frameworks and subsequent Development Plan Documents are prepared specific interventions will be identified and costed.

Future funding and delivery of transportation

- 6.68 Transport infrastructure funding and delivery comes from a range of sources depending on the nature of the asset and its strategic status.

Strategic highway projects

- 6.69 Capital funding for strategic roads is the responsibility of Highways England, a publicly owned corporation since April 2015. Within north Essex, Highways England is responsible for the A12 and the A120. Highways England reports to the Department for Transport and has responsibility for managing the Strategic Road Network in England. Highways England's responsibilities most relevant to the IDP include undertaking large scale improvements through a programme of major schemes, carrying out routine maintenance of roads, structures and technology to make the network safe, serviceable and reliable and making sure traffic can flow easily on major roads and motorways. Investment decisions are prioritised through Highways England's cyclical Road Investment Strategy (RIS) which sets out a long-term programme for UK motorways and major roads. Between 2015 and

2020, the RIS will see up to £310million invested in the widening the A12 and the technology upgrade. The widening of the A12 north of Colchester was identified in the RIS to be started before 2024, with a further £250 million allocated. Essex County Council will recommend to the Secretary of State a preferred route for the A120 for inclusion in the RIS2 programme.

Local highway and transportation projects

- 6.70 Local roads are the responsibility of the Essex County Council. It is responsible for planning and delivering the majority of the transport-related infrastructure to support development proposals in each local authority within Essex. It is expected that development will continue to have to contribute or deliver measures which mitigate the impact of their development either through section 106, Community Infrastructure Levy (CIL), section 278 agreements or direct delivery by the developer. Measures directly related to the Garden Communities will be expected to be based on funding through land value capture mechanisms and delivered through the local delivery vehicle. Funding will be sought through national infrastructure funds allocated by Central Government to housing deliver growth in housing and productivity. P 68/155 May 2017
- 6.71 Other local transportation projects (including public transport, walking and cycling) to support economic growth and development have less well defined funding and delivery processes. Aside from local authority capital investment budgets, Local Enterprise Partnerships are the main public source of capital grant funding through the Local Growth Deals and Large Local Major Schemes Fund. Schemes currently allocated funding as part of the SELEP Growth Deal with Central Government include the Braintree Integrated Transport Packages. Essex County Council also allocates capital funding through its Local Highway Panel, allocating £407,000 for 2017/18. This fund is allocated to small scale local projects in Braintree including road safety, walking, cycling, public transport, traffic and speed management, local environmental projects and public rights of way.
- 6.72 Department of Transport also allocates funding via competitive bid processes to specific types of project; for example the recent Pinch Point Fund. The Department of Environment and Rural Affairs allocates funding for Air Quality projects. The main source of capital funding for local roads is through local authorities' borrowing although other instruments are available to local authorities to finance transport investment, e.g. the Public Works Loan Board. In addition, funding can be secured through business rate retention and municipal bonds.

Investment in rail projects

- 6.73 The rail network is the responsibility of Network Rail which owns the infrastructure, including the railway tracks, signals, overhead wires, tunnels, bridges, level crossings and most stations, but not the passenger or commercial freight rolling stock. Through the franchise arrangements stations are

managed by the train operating companies. Projects for capital investment in the local rail network need to meet the Governance for Railway Investment Projects (GRIP) process to be planned/funded within a 5-year 'Control Period'. Similarly to the strategic road network, a sound business case needs to be presented for projects to be included in a Control Period. The current delivery plan period covers 2014 to 2019. Network Rail has commenced the development of the programme for Control Period 6 (2019 to 2024) but has indicated that funding will be concentrated on operation, maintenance and renewals.

- 6.74 Investment in the rolling stock will be made directly by the franchisee of the Greater Anglia franchise. They will also invest in stations as part of the franchise commitment.



7 Flooding

- 7.1 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, Anglian Water is responsible for managing sewer flooding and highway flooding is the responsibility of Essex Highways.
- 7.2 Furthermore, as the Lead Local Flood Authority, Essex County Council is a statutory consultee on surface water for major developments (SuDS). 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. Unlike many other infrastructure items, the need for new or improved defences against water intrusion is not necessarily directly related to development. The development strategy in Braintree deliberately seeks to avoid development in areas which are prone to flooding. Equally however, additional activity – particularly related to tourism - brings more people and activity to these areas, which therefore increases the need to ensure that defences are adequate.
- 7.3 Essex County Council is responsible for the management of surface water flooding. The Braintree Surface Water Management Plan (SWMP) is due to be signed off shortly and will establish any specific mitigation schemes required.

Needs

- 7.4 The Environment Agency has stated that all flood risk infrastructure (such as flood defences) has an operational lifetime and so improvements to this infrastructure will be needed in the future. Braintree District Council needs to consider how to address these needs which are considerable given the potential impact of flooding in the district.
- 7.5 A number of potential flood alleviation schemes at Great Yeldham, Halstead Townsford Mill, Great Bardfield and Braintree town are being considered, although these are subject to further scoping and funding before they are delivered.
- 7.6 The Braintree Level 2 Strategic Flood Risk Assessment (SFRA)⁵ identifies two sites in the emerging Local Plan where additional modelling information for fluvial watercourses is required as part of site specific flood risk assessments in order to more accurately determine the flood risk to the site. These sites are:
- BNT15 – Dutch Nursery, Coggeshall
 - BNT5 – Land at Feering
- 7.7 Although site-specific, these sites could require additional investment in flood mitigation measures.

Funding

- 7.8 The level of funding that the Environment Agency can allocate towards flood defence improvements is currently evaluated though the requirements of the EA Outcome Measures, schemes that do not meet the Raw Partnership Funding threshold of 100% would require contributions from external partners. Any identified shortfalls in scheme funding would require partnership funding contributions from other sources such as S106 developer contributions or CIL, EA Local Levy and contributions from Anglian Water. Therefore when determining the safety of proposed developments, the local authority must take this uncertainty over the future flood management and level of flood protection into account. This may require consideration of whether obtaining the funds necessary to enable flood management to be raised in line with climate change is achievable.

Timing of provision

Delivery of infrastructure for flood defence is ongoing, with projects falling within the short, medium and long term.

⁵ AECOM (2017) *Level 2 Strategic Flood Risk Assessment*, for Braintree District Council



8 Emergency services

Police

- 8.1 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').
- 8.2 The delivery of growth and planned new development in the district 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.
- 8.3 Essex Police has confirmed that it does not require any site-specific new infrastructure to address the needs arising from growth. Rather, it requires the replacement of the existing police estate from which police staff can operate. The specific nature of any requirements will need to be assessed on a case-by-case basis.
- 8.4 The cost of provision is estimated at £24.5m. An element of this is County-specific provision, therefore is required to address strategic needs for the whole of Essex as opposed to just Braintree district.
- 8.5 Essex Police has reported 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.

- 8.6 Some funding will therefore have to come from capital reserves, with the remainder coming from developer contributions.
- 8.7 The infrastructure would be needed by approximately 2020.

Fire Service

- 8.8 Essex Fire and Rescue Service has not stated that it has any needs arising from growth.

Ambulance

- 8.9 The East of England Ambulance Service NHS Trust operates ambulance services in Braintree district.
- 8.10 It has confirmed that it has no specific infrastructure needs to support growth. Its services are funded from the Mid Essex Clinical Commissioning Group based on historic emergency call data. This data is reviewed annually and changes in provision are made accordingly.



9 Waste

- 9.1 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.
- 9.2 Essex County Council is the Waste Disposal Authority (WDA) covering Braintree district and provides waste disposal infrastructure to ensure waste generated by households, and other wastes collected by Councils in Essex, is effectively managed. Braintree District Council is the Waste Collection Authority and is responsible for the collection of this municipal waste. Municipal waste includes household waste and any other wastes collected by, or on behalf, of councils.
- 9.3 The delivery of local plans which increase residential development, through both infilling and major developments, 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.
- 9.4 The Essex Waste Partnership (consisting of Essex County Council, the twelve district and borough councils and the unitary authority of Southend-on-Sea Borough Council) has adopted the Joint Municipal Waste Management Strategy⁶ (JMWMS) which sets out how the Partnership will tackle municipal waste. Within the JMWMS there is the identification of an integrated network of new waste facilities needed to manage waste over the next 25 years. This includes provision of a small number of large processing and treatment facilities across the County. In order to minimise the transportation distances and its associated costs and environmental impacts a network of Waste Transfer Stations (WTS) was also identified in the JMWMS.

⁶ Essex Waste Partnership, Joint Municipal Waste Management Strategy for Essex (2007 to 2032) adopted July 2008

Needs

- 9.5 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.
- 9.6 The Municipal Waste Strategy is in the process of being updated and ECC is in consultation with the Essex districts, including Braintree. The Strategy will review current sites (smaller waste facilities and recycling centres for household waste) and may result in changes to their location, rationalisation, and/or increased capacity.
- 9.7 A review of existing and potential facilities will be taking place during the first five-year Local Plan period to determine requirements in the 10-15 year period. This is likely to result in a need to extend or expand this infrastructure offer to meet local needs. However, at this stage it is not possible to determine what these needs are.



10 Social and Community

- 10.1 Social and community infrastructure helps to create, sustain and enliven communities. It ranges from purpose built community facilities such as libraries, to allotments and community centres. 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.

Libraries

- 10.2 Library services are provided by Essex County Council.
- 10.3 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.
- 10.4 A 2013 report by the Arts Council and Local Government Association⁷ 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.
- 10.5 In Braintree district there are libraries in Braintree, Coggeshall, Earls Colne, Halstead, Hatfield Peverel, Kelvedon, Sible Hedingham, Silver End and Witham.

⁷ Locality (2013) *Community libraries: learning from experience: guiding principles for local authorities*, for Arts Council England and the Local Government Association

- 10.6 Given that the libraries are based within settlements, they are less accessible to more rural areas of the district. However, there are no distance standards relating to libraries. For this reason, it has to be assumed that there is no existing deficit library provision.
- 10.7 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 form of community infrastructure, such as libraries and community spaces.
- 10.8 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. It is not possible to identify specific needs or costs at this stage. Co-location may be something that should be encouraged but this would be more of a policy focus, possibly through a masterplanning approach, for the new development.
- 10.9 Funding will need to come from developer contributions and will be delivered through the masterplanning of new development sites.

Allotments

Existing provision

- 10.10 There are 135.32 hectares of allotment space in Braintree district. The Braintree Open Spaces Study 2016 sets out the current provision by ward. It identifies that the Braintree West Ward, Witham Central Ward, Witham South Ward and Witham West Ward have no levels of current supply. There is also an under-supply in all the remaining wards.

Needs and costs

- 10.11 The Braintree Open Space Study 2016 recommends provision of 0.25 hectares of allotment space per 1,000 people.
- 10.12 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 20-plot allotment. Such an allotment would require approximately 0.25 hectares, meaning that the overall cost of provision would be £100,000 per hectare.
- 10.13 Table 10.1 summarises the needs and costs. Table 10.2 does the same for the Garden Communities beyond the plan period.

Table 10.1: Need for allotment space arising from growth

	Dwellings	Population	Allotment needs (ha)	Allotment costs
West of Braintree GC	2,500	5,600	1.40	£140,000
West of Colchester GC	2,500	5,600	1.40	£140,000
North Braintree (BNT2)	1,000	2,240	0.56	£56,000
NW Braintree (BNT3,4)	1,200	2,688	0.67	£67,200
West Braintree (BNT10-12)	206	461	0.12	£11,536
Central Braintree (BNT8,9,13)	270	605	0.15	£15,120
Great Notley (BNT1)	2,090	4,682	1.17	£117,040
Feering (BNT5,7)	1,300	2,912	0.73	£72,800
Witham (BNT6)	450	1,008	0.25	£25,200
Hatfield Peverel (BNT22)	170	381	0.10	£9,520
TOTAL	11,686	26,177	6.54	£654,416

10.14 In total, there is a need for just over 6.5 hectares of allotment space, with a total cost of £654,400.

Table 10.2: Need for allotment space arising from growth in the Garden Communities beyond the plan period

	Dwellings	Population	Allotment needs (ha)	Allotment costs
West of Braintree GC	10,500	23,520	5.88	£588,000
West of Colchester GC	17,500	39,200	9.80	£980,000

Population figures have been derived from DCLG 2014 household projections

10.15 The need for allotment space following the plan period is set out in Table 10.2 for the Garden Communities. This totals at 15.7 hectares of allotments costing £1.57m.

Funding

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

Delivery and timing

- 10.17 Provision of allotment 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 Braintree District Council and the developer. Ultimately it could be the developer that delivers such facilities or the land could simply be provided by the developer. Commonly this is to the parish/town council in question.
- 10.18 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 preferably particularly in built-up areas.

Community Centres

Existing provision

- 10.19 Historically, community halls were established as the community expanded to serve an identified community need - identified by the local authority or by the local community - or as an act of altruism by local landowners. Recently, such facilities have been managed by local authorities.
- 10.20 The Braintree, Halstead and Witham Halls Consultation Report (March 2016) undertaken for Braintree District Council identifies the provision and use of community halls in the areas of Braintree, Halstead and Witham. This notes that the ten community halls were all in far/good condition but all had areas in need of repair.
- 10.21 In the report, the following gaps were identified in the provision of community halls:
- day time clash of rooms sizes for regular hirers;
 - room sizes either too large or too small;
 - heating costs too prohibitive for small groups using the main hall; and
 - high evening demand.
- 10.22 The report identifies that the existing facilities serve the community well, however some facilities in Braintree accommodate privately run pre-school childcare businesses which serve no wider community purpose. Therefore there is a shortage of public community halls is identified to the south and east of Braintree.

10.23 The report identifies that a new community hall in Halstead should meet the present day need for community hall provision. The hall will provide performance, dance, music and wider community activities.

10.24 A gap in provision is identified in community hall provision to the south of Witham. However, land has already been allocated within the Maltings Lane development to the south of Witham for the provision of a new community facility.

Needs and costs

10.25 There is no clear and accepted standard for the provision of community halls. Other districts have adopted a range of standards, such as:

- Horsham District Council - 0.15 sq m per person;
- Taunton & Deane Borough Council - 0.2 sq m per person for village halls;
- Reigate & Banstead Borough Council 0.2 sq m per person (0.5 sq m per dwelling, based on an average of 2.4 people per dwelling);
- Bracknell Forest Council - 0.13 sq m per person for a community centre (0.33 sq m per dwelling based on 2.4 people per dwelling).
- Wycombe District Council and Basingstoke & Deane Borough Council - 0.3 sq m per person.
- Broxbourne - 0.55 community facilities per 1,000 people (within 15-minute walk time).

10.26 It is therefore considered that a reasonable standard to adopt would be approximately 0.2m² per person, or 0.48m² per dwelling. Based on a reasonable assumption of 500m² for a large community centre and 200m² for a small meeting hall, provision could be made in a number of ways, mixing large and small centres as appropriate.

10.27 However, it is too simplistic to say that this is exactly what is required in terms of the number of facilities. It may be preferable to provide community facilities as part of one large, multi-use facility. Community centres are often used for sporting activities. However, if such sporting facilities are already to be provided (either as a stand-alone facility or through use, for example, of secondary school facilities) then it is not necessary for such a large centre to be provided.

10.28 The capital cost of constructing a typical community centre ranges from £1,200/m² to £1,800/m². This covers construction and fees, with the higher end of the range allowing for equipment used for sports activities. Assuming that sports facilities are not required, then a figure of £1,300/m² is reasonable.

10.29 Figure 10.3 summarises the needs and costs.

Figure 10.3: Need for community halls arising from growth

	Dwellings	No. of facilities	Community centre needs - facilities	New community centre costs
West of Braintree GC	2,500	1,100	2 large centres	£1,430,000
West of Colchester GC	2,500	1,100	2 large centres	£1,430,000
North Braintree (BNT2)	1,000	440	1 large centre	£572,000
NW Braintree (BNT3,4)	1,200	528	1 large centre	£686,400
West Braintree (BNT10-12)	206	91	None	£0
Central Braintree (BNT8,9,13)	270	119	None	£0
Great Notley (BNT1)	2,090	920	2 large centres	£1,195,480
Feering (BNT5,7)	1,300	572	1 large centre	£743,600
Witham (BNT6)	450	198	1 small centre	£257,400
Hatfield Peverel (BNT22)	170	75	None	£0
TOTAL	9,186	5,142		£6,314,880

This would create a total cost of £6.31m for providing new community centre space.

Table 10.4: Need for community halls arising from growth at the Garden Communities beyond the plan period

	Dwellings	Population	Community centre needs (sqm)	Community centre needs - facilities	New community centre costs
West of Braintree GC	10,500	23,520	7,875	9 large centres	£6,006,000
West of Colchester GC	17,500	39,200	13,125	15 large centres	£10,010,000

Population figures have been derived from DCLG 2014 household projections

- 10.30 The need for community centres following the plan period is set out in Table 10.4 for the Garden Communities. There is a need for 24 large community centres costing £16m.

Funding

- 10.31 New community facilities 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 at this time to be secured through a CIL charge.
- 10.32 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.

Timing of provision

- 10.33 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.



11 Leisure and Recreation

- 11.1 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.
- 11.2 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 Chelmsford will therefore have to continue to accommodate for current day needs whilst also supporting and encouraging activity amongst a higher proportion of older persons.
- 11.3 In addition, indicators suggest levels of participation in leisure and recreation have increased between 2006 and 2011. Adult (16+) participation in at least 30 minutes of moderate intensity sport (at least one session a week) has increased from 34.8% in 2006 to 40.3% in 2012⁸.
- 11.4 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.

⁸ Active Places Power <https://www.activeplacespower.com/areaprofiles>

- 11.5 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.
- 11.6 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.

Children's Play Facilities and Youth Facilities

- 11.7 Children's play space is provided on Local Areas for Play (LAPs), Local Equipped Areas for Play (LEAPs) and Neighbourhood Areas for Play (NEAPs). LAPs are small play areas and are normally provided as on-site infrastructure on most larger residential developments. The need for such facilities is therefore not included in this assessment.

Existing capacity

- 11.8 There are 7.96 ha of children's play areas and 1.77 ha of youth play areas (MUGAs) in Braintree district.
- 11.9 Based on the required standards in the Braintree emerging Local Plan, There is currently adequate provision for children's play space however there is an undersupply of space for youth activity.

Needs and costs

- 11.10 Based on guidance provided by Fields in Trust (FIT)⁹, the operating name of the National Playing Fields Association, a standard of 0.25 hectares per 1,000 population is applied to all play provision and 0.30 hectares per 1,000 population for youth provision. The FIT guidance also provides recommendations on the minimum size of provision of LEAPs, NEAPs and MUGAs, allowing a buffer area around a facility to reflect possible boundaries with residential properties.
- 11.11 Table 11.1 shows the needs by location.

⁹ Fields in Trust (2015) *Guidance for Outdoor Sport and Play: Beyond the Six Acre Standard*

Table 11.1: Need for play and youth facilities arising from growth

	Dwellings	Population	Play space needs (ha)	LEAPs needed	NEAPs needed	Youth needs (ha)	MUGAs needed	Play space and youth needs - costs
West of Braintree GC	2,500	5,600	1.40	2	1	1.68	2	£390,000
West of Colchester GC	2,500	5,600	1.40	2	1	1.68	2	£390,000
North Braintree (BNT2)	1,000	2,240	0.56	2	0	0.67	1	£195,000
NW Braintree (BNT3,4)	1,200	2,688	0.67	2	0	0.81	1	£195,000
West Braintree (BNT10-12)	206	461	0.12	0	0	0.14	0	£0
Central Braintree (BNT8,9,13)	270	605	0.15	0	0	0.18	0	£0
Great Notley (BNT1)	2,090	4,682	1.17	1	1	1.40	2	£350,000
Feering (BNT5,7)	1,300	2,912	0.73	2	0	0.87	1	£195,000
Witham (BNT6)	450	1,008	0.25	1	0	0.30	0	£40,000
Hatfield Peverel (BNT22)	170	381	0.10	0	0	0.11	0	£0
Total				12	3		9	£1,755,000

Population figures have been derived from DCLG 2014 household projections

- 11.12 Where an area creates a need significantly less than one LEAP, NEAP or MUGA, it is excluded. Table 11.1 shows that there is a need for approximately 12 LEAPs and three NEAPs, as well as nine MUGAs or equivalent youth provision.
- 11.13 Based on an assessment of developments elsewhere, the typical cost of a LEAP is £40,000, a NEAP is £80,000 and a MUGA is £115,000. This includes all fees but excludes the ongoing maintenance of such facilities, as this would be a revenue cost. It will be important for the District Council to be confident that the additional burden of maintaining these sites can be absorbed by its future revenue budgets.
- 11.14 The total cost of provision to address the needs arising from growth for children's play and youth facilities is £1.76m.

Table 11.2: Need for play and youth facilities arising from growth for the Garden Communities beyond the plan period

	Dwellings post plan	Population	Play space needs (ha)	LEAPs needed	NEAPs needed	Youth needs (ha)	MUGAs needed	Play space and youth needs - costs
West of Braintree GC	10, 500	23,520	5.88	2	5	7.0	9	£1,035,000
West of Colchester GC	17,500	39,200	9.80	4	10	11.8	15	£1,725,000

Population figures have been derived from DCLG 2014 household projections

- 11.15 The need for play space and youth facilities following the plan period is set out in Table 11.2 for the Garden Communities. This totals 6 LEAPs, 15 NEAPs and 24 MUGAs costing £2.76m.

Funding

- 11.16 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.

Delivery and timing

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

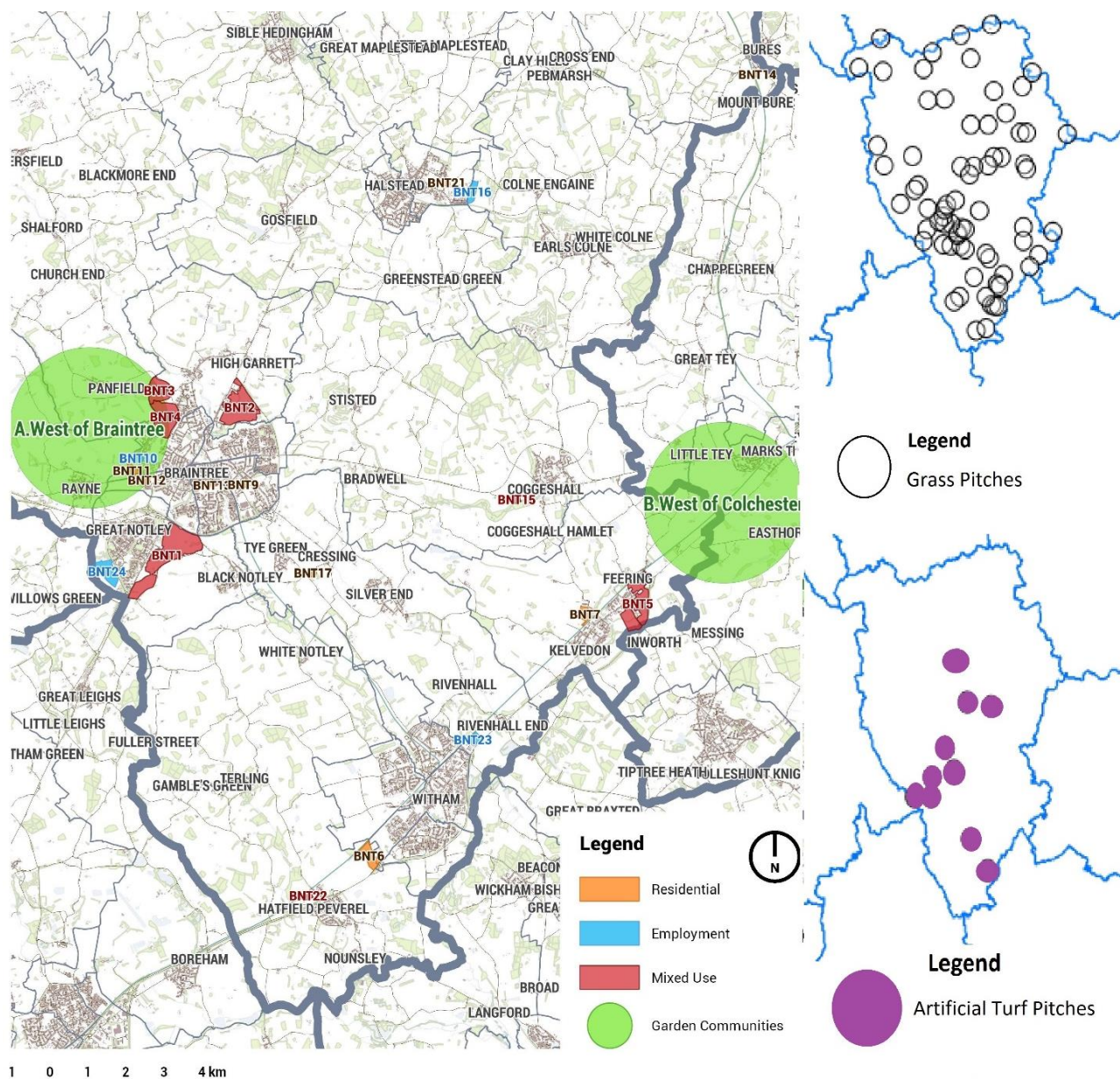
Outdoor grass pitches

- 11.19 Outdoor sports facilities range from sports pitches and courts, purpose built track and field (athletic) facilities including running tracks and other purpose built facilities such as skate parks. Facilities can include associated infrastructure to support outdoor sports including changing facilities, flood lighting, sport club buildings etc.
- 11.20 Pitches for football and rugby are required for both adults and children. Junior football pitches are generally half the size of adult pitches, although in the case of mini-football, they are smaller than this. This assessment provides an overall assessment of the needs arising from growth for adult pitches, assuming that all needs are for adult provision; clearly this will not be the case and there

will be a need for a mix of adult, junior and mini provision. The detailed breakdown of these needs is most appropriately considered at the masterplanning or pre-application stage.

Existing provision

- 11.21 This section looks at the current provision of grass sports pitches for adult and youth football, mini soccer, rugby and cricket. It identifies their condition and shortfalls in supply at present.
- 11.22 The Braintree, Open Space, Sports and Recreational Facilities Study (2016) sets out that there are 141 grass football and mini soccer pitches in Braintree district for both adult and youth usage. Outdoor pitch provision is centred in the areas of highest population, primarily in and around the urban areas. Their location is shown in Figure 11.1.

Figure 11.1: Location of sports pitches in Braintree

11.23 Braintree District Council manages the largest single share of pitches, followed by education establishments with private clubs and other private facilities. Table 11.3 below sets out that the availability of pitches in the district. This shows that there are no unused pitches for youth football and mini soccer although there are other pitches not available to the community for 9v9 youth football and mini soccer which could potentially become available for use in the future.

Table 11.3: Availability of grass pitches in Braintree district

Pitch Provision Available to the Community (Type)	Pitches Adult Football Grass	Pitches Youth Football Grass (11v11)	Pitches Youth Football Grass (9v9)	Pitches Mini Soccer Grass (7v7)	Pitches Mini soccer Grass (5v5)
'A' Total-Pitch Provision Available to the Community (Used)	64	6	9	14	8
'B' Total – Pitch Provision Available to the Community (Not used)	5	-	-	-	5
'C' Total – Pitch Provision Not Available to the Community	1		3	9	17

Source: BDC, Draft Playing Pitch and Outdoor Sports Report, 2016, p.37

- 11.24 There is sufficient supply of adult football pitches. However, there was an identified undersupply of youth/junior 11v11 pitches at peak times (-6 pitch capacity) and male/female youth football (-1.5 pitch capacity).
- 11.25 The playing pitch assessment sets out pitch quality scores based on the amalgamation of the results for tests on playing pitch surfaces (including criteria for grass length/cover, size/slope/evenness of pitch and any problem areas) and maintenance (including criteria for frequency and adequacy of grass cutting, seeding and application of remedial dressings). The assessment established that 78% of grass football and mini soccer pitches were deemed 'standard', 19% were deemed 'good' and 3% were considered 'poor'. Whilst the standard of pitch supply was good, a key constraint identified a lack of access to pitches at times of very wet weather, when pitches can be waterlogged.
- 11.26 There are 11 cricket pitches in Braintree. The quality assessment demonstrated that they all achieved a 'standard' overall quality score. However, one of the two pitches at the River View Playing Fields (Sauls Bridge) needs upgrading.
- 11.27 There are nine rugby pitches in Braintree. Of these the facilities, Braintree RUFC was identified as being over capacity, facilitating 1.13 more matches a week than considered appropriate given the upkeep and maintenance requirements. Furthermore, pitch drainage improvements were also noted as being required. Under supply was not identified in other locations.
- 11.28 In addition to grass pitch provision, there are 13 artificial turf sports pitches (AGPs) of varying size in Braintree. The BDC Draft Playing Pitch and Outdoor Sports Assessment considers that these are of

adequate quality and capacity. However, the cost of hiring such spaces was considered a key constraint¹⁰.

Needs and costs

- 11.29 Based on guidance provided by FIT, a standard of 1.2 hectares per 1,000 population is applied to all grass pitch provision.
- 11.30 Table 11.4 shows the needs by location. This applies Sport England's recommended space standards of 7,420m² per adult football pitch. The space requirement for adult rugby pitches is 10,400m² which means that the overall need is likely to be lower, albeit that the FIT recommended standard is a minimum standard to be applied.
- 11.31 Where an area creates a need for at least four pitches, it is assumed that changing facilities are also required. The table 11.4 shows that there is a need for approximately 35 adult pitches and five sets of changing facilities.
- 11.32 Guidance on costs from Sport England¹¹, shows that the cost of providing grass pitches are as follows:
- Adult football pitches £80,000
 - Junior football pitches £70,000
 - Mini football pitches £20,000
 - Adult rugby pitches £105,000
- 11.33 Given that the assessment is solely based on football pitches, the overall cost of provision is likely to be higher, depending on the mix of football and rugby pitches.

¹⁰ Braintree District Council (2016) *Draft Playing Pitch and Outdoor Sports Report*, p.37

¹¹ <https://www.sportengland.org/media/10289/facility-costs-2q16.pdf>

Table 11.4: Need for grass sports pitches arising from growth

	Dwellings	Population	Sports facility needs (ha)	No. of adult football pitches	Sports pitch needs - costs	Changing facilities required?
West of Braintree GC	2,500	5,600	6.72	9	£720,000	Yes
West of Colchester GC	2,500	5,600	6.72	9	£720,000	Yes
North Braintree (BNT2)	1,000	2,240	2.69	4	£320,000	Yes
NW Braintree (BNT3,4)	1,200	2,688	3.23	4	£320,000	Yes
West Braintree (BNT10-12)	206	461	0.55	1	£80,000	
Central Braintree (BNT8,9,13)	270	605	0.73	1	£80,000	
Great Notley (BNT1)	2,090	4,682	5.62	8	£640,000	Yes
Feering (BNT5,7)	1,300	2,912	3.49	5	£400,000	Yes
Witham (BNT6)	450	1,008	1.21	2	£160,000	
Hatfield Peverel (BNT22)	170	381	0.46	1	£80,000	
Total				44	£3,520,000	

Population figures have been derived from DCLG 2014 household projections

- 11.34 As shown in Table 11.4, the total cost of provision of the pitches is approximately £3.5m. In addition will be the cost of the changing facilities but this will depend on the specification which will be established on a case-by-case basis.

Table 11.5: Need for grass sports pitches arising from growth for the Garden Communities beyond the plan period

	Dwellings	Population	Sports facility needs (ha)	No. of adult football pitches	Sports pitch needs - costs
West of Braintree	10,500	23,520	28.2	38	£3,040,000
West of Colchester	17,500	39,200	47.0	63	£5,044,000

Population figures have been derived from DCLG 2014 household projections

- 11.35 The need for grass sports pitches following the plan period is set out in Table 11.5 for the Garden Communities. This totals 101 pitches costing £8.1m.

Funding

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

Delivery and timing

- 11.37 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, so this should be agreed between Braintree 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.
- 11.38 Provision of facilities in other locations could be the responsibility of either the District Council or the parish/town council in question. Figures 11.1 set out the spatial locations of existing sports and recreation facilities. Off-site only be resolved at a planning application level. Evidence that would support the justification for off-site provision may include high levels of existing provision of facilities in accessible locations. 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. Whilst certain needs and standards of provision have been identified in the Open Space, Sports and Recreational Facilities Report, they 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.
- 11.39 Some pitches may not be capable of being provided on specific sites because of physical constraints. It will be important to identify the specific sites where this is the case and ensure that provision can be made appropriately off-site.

Indoor Sports Halls

- 11.40 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.
- 11.41 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.

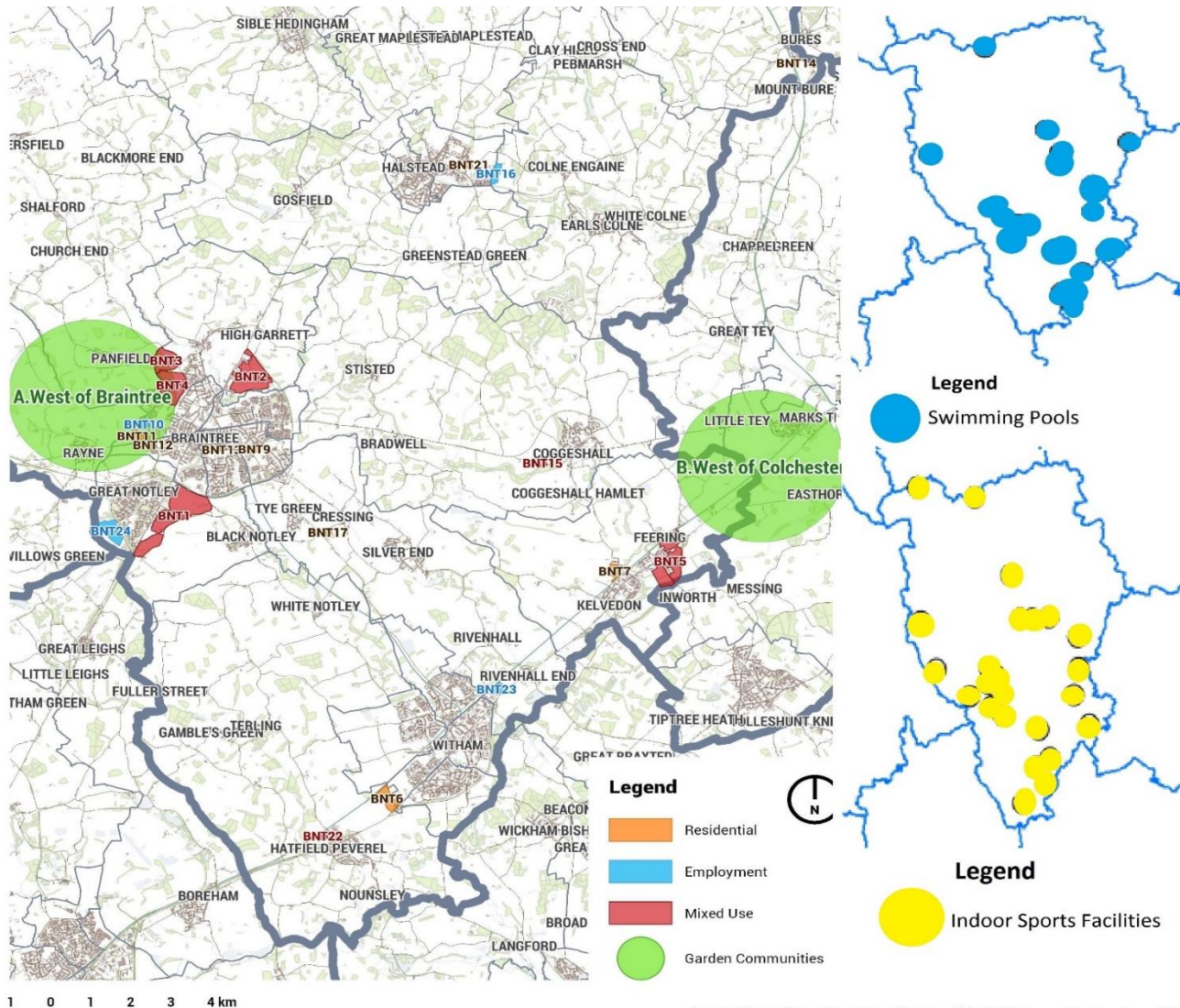
11.42 The Draft Braintree Open Space, Sports and Recreational Facilities Study (2016) identifies that the existing supply of community sports halls is not sufficient to meet demand when the Sport England Facilities Planning Model is applied. It also acknowledges that given the rural nature of much of the local authority this unmet demand is not focussed to any one particular geographical area.

11.43 Population growth through development east and west of Braintree will generate additional demand, where new facilities or the expansion of existing facilities will need to accommodate to ensure that demand is met. 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.

Existing provision

11.44 Indoor sports facilities can accommodate a diverse range of 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.

11.45 There are 31 indoor sports facilities in Braintree. Their location is shown in Figure 11.2.

Figure 11.2: Location of indoor sports facilities/swimming pools in Braintree

- 11.46 The total used capacity of Braintree's sports halls is 7,482 (visits per week per population) and this represents an average usage of 84% of overall capacity of halls used across the local authority. There is a shortfall in current indoor sports facilities capacity. Overall the sports halls are operating at quite a high level - 4% above the 'Sports Hall full' Sport England comfort level of 80% of used total capacity.
- 11.47 The estimated population within the local authority falling outside a 15-minute travel time to an indoor sports hall is calculated to be approximately 32,000. This shows that there are also areas of restricted access by public transport or car to sports halls.

- 11.48 The Draft Braintree Open Space, Sports and Recreational Facilities Study (2016) identifies that the existing supply of community sports halls is not sufficient to meet demand when the Sport England Facilities Planning Model is applied.

Needs and costs

- 11.49 The Braintree Built Sports and Recreational Facilities Report recommends a standard for sports halls of one court for every 3,448 people. Applying this standard to the population that would arise from the planned growth creates a need for the following:

Table 11.6: Need for sports courts arising from growth

	Dwellings	Population	No. of courts	Sports centre costs
West of Braintree GC	2,500	5,600	2	£760,000
West of Colchester GC	2,500	5,600	2	£760,000
North Braintree (BNT2)	1,000	2,240	1	£670,000
NW Braintree (BNT3,4)	1,200	2,688	1	£670,000
West Braintree (BNT10-12)	206	461	0	£0
Central Braintree (BNT8,9,13)	270	605	0	£0
Great Notley (BNT1)	2,090	4,682	1	£670,000
Feering (BNT5,7)	1,300	2,912	1	£670,000
Witham (BNT6)	450	1,008	0	£0
Hatfield Peverel (BNT22)	170	381	0	£0
TOTAL			8	£4,200,000

- 11.50 This shows that West of Braintree Garden Community would require a two-court facility and North Braintree, North west Braintree, Great Notley and Feering would each require one-court facilities. Based on costs from the Sport England facilities costs, Q2 2016, the total cost would be £4.2m.
- 11.51 The need arising for future indoor sports halls post the plan period is set out in Table 11.7 for the Garden Communities. This totals 18 indoor sports courts costing £7.4m.

Table 11.7: Need for indoor sports courts arising from growth for the Garden Communities beyond the plan period

	Dwellings	Population	Indoor sports courts	Sports centre costs
West of Braintree	10,500	23,520	7	£2,950,000
West of Colchester	17,500	39,200	11	£4,470,000

- 11.52 There may be other needs for health and fitness stations (mainly in the form of gymnasias) 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. Whilst certain needs and standards of provision have been identified in the Built Sports and Recreational Facilities Report, they are not included as part of this assessment.

Funding

- 11.53 Outside of local authority budgets, there is no known source of funding available for the provision of additional facilities as would be required by the development options. It is assumed that these would be funded solely through developer contributions.
- 11.54 It should also be noted that some of these needs may be addressed through private facilities which would be funded by the developer.

Delivery and timing

- 11.55 Provision of indoor sports facilities would mostly be through improvements to existing facilities. Therefore, this would be the responsibility of Braintree District Council. The main locations of growth especially West of Colchester GC, West of Braintree GC, North Braintree, Great Notley and Feering require the expansions to existing schools and new education provision, and new sports facilities as set out in Table 13.1. Synergies between the provision of this new infrastructure to ensure that it is delivered efficiently can be investigated in these locations. Private facilities coming forward will clearly be the responsibility of the developer in question.

Indoor Swimming Pools

- 11.56 The Draft Braintree Built Sports Facility Study (2016) identifies that the total amount of usable water space yielded by the pools is estimated to be 1,993m². This is across 17 facilities (their location is shown in Figure 11.2). The biggest contributions in this regard are made by the three local authority-controlled facilities - between them they account for approximately 1,431m², or around 72% of usable water space by the community.

- 11.57 The study findings identified that indoor swimming pool provision is generally met across the district. The population of the local authority creates a demand for 9,600 visits per week in the peak period. The water space equivalent of this demand is 1,593m² (including the comfort factor). This figure ensures that any 'target' figure includes additional space, thus making sure that the new facilities are not going to be at 100% of their theoretical capacity. The overall used capacity of facilities is estimated to be 64.5%, below the Sport England recommended 'comfort level' of 70% used by Sport England in the Facilities Planning Model (FPM). However, this used capacity varies across the sites. The public facilities at Braintree and Halsted (Braintree Swimming and Fitness and Halsted Leisure Centre) are operating at 83% and 96% respectively, according to the FPM calculations (Table 11.7).

Table 11.7: Estimated use of swimming pools in Braintree compared with capacity

Name	Estimated Capacity Use of Key Pools (%)
Benton Hall and Country Club	39%
Braintree Swimming and Fitness (x3 pools)	83%
Halstead Leisure Centre (x2 pools)	96%
Prested Hall Hotel and Sports Club	43%
Witham Leisure Centre (x2 pools)	63%
Xpect Health and Fitness (Braintree)	92%

Source: Braintree Built Sports Facilities Study, 2016

- 11.58 Public access by public transport to swimming facilities needs be improved. The Draft Braintree Open Space, Sports and Recreation Facilities Study (2016) identifies that an estimated 25,000 of the local authority's population do not live within 15 minutes' drive of at least one of the local authority pools, which can discourage use of these residents.
- 11.59 The proposed focus of planned new development on the two new Garden Communities (West of Braintree and West of Colchester) will therefore generate demand for swimming that is not easily met either by existing community pools in Braintree district or potentially in neighbouring districts. Individually the proposed growth of the two Garden Communities during the plan period is insufficient to justify dedicated new provision, although if growth beyond the plan period is taken into account, then such provision could potentially be justified. If it were possible to expand the existing community facility in Braintree then this could address needs over the plan period, however such a scenario is unlikely to be feasible or cost-effective.



12 Green Infrastructure and Open Space

12.1 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 – mainly country parks
- Parks, recreation grounds and amenity space

Overview of the area

12.2 There are two Country Parks in or close to Braintree district, at Great Notley and along the Flitch Way. The latter, principally revolving around a disused former railway line that provides a traffic-free environment for walkers, cyclists and horse riders. As such, it is very different to the traditional view of what a country park would provide.

12.3 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 1.2km of home - the District Level
- 60ha+ of ANG within 3.2km of home - the Sub-regional Level

- 500ha+ of ANG within 10km of home - the Regional Level

12.4 An assessment of the provision of ANG against these standards (referred to as 'ANGSt') in Braintree was undertaken by Natural England in 2009. This showed that the district had a total of 842ha of ANG, or 8% of the total area of the district. Table 12.1 summarises the accessibility to different levels of provision.

Table 12.1: ANGSt analysis of provision

Location	% of households					
	Within 300m of 2ha+ site	Within 2km of 20ha+ site	Within 5km of 100ha+ site	Within 10km of 500ha+ site	Meeting all of the ANGSt requirements	Meeting none of the ANGSt requirements
Braintree	39	46	4	<1	0	35
Essex	29	68	72	19	7	14

Source: Essex Wildlife Trust & Natural England (2009) Analysis of Accessible Natural Greenspace Provision for Essex, including Southend-on-Sea and Thurrock Unitary Authorities

12.5 Less than 1% of the households in the district have access to a 500-hectare accessible natural greenspace and it is below average for access to 20-hectare and 100-hectare sites. However, there is above Essex-average provision of 2-hectare site access.

Needs

12.6 The Braintree Open Space Study 2016 (draft)¹², proposes the following standards for provision of green space:

- Parks and recreation grounds – 1.4 hectares per 1,000 population
- Natural and semi-natural green spaces and amenity green spaces – 1.0 hectare per 1,000 population

12.7 Table 12.2 applies these standards to the growth proposed across the district. In total, 108 hectares of green space is required to address the needs arising from growth.

¹² Ethos (2016) *Braintree Open Space Study 2016-2033*, for Braintree District Council

Table 12.2: Green space requirements to support growth

	Dwellings	Population	Parks and recreation grounds and amenity green space (ha)	Natural and semi-natural green space (ha)
West of Braintree GC	2,500	5,600	7.84	11.20
West of Colchester GC	2,500	5,600	7.84	11.20
North Braintree (BNT2)	1,000	2,240	3.14	4.48
NW Braintree (BNT3,4)	1,200	2,688	3.76	5.38
West Braintree (BNT10-12)	206	461	0.65	0.92
Central Braintree (BNT8,9,13)	270	605	0.85	1.21
Great Notley (BNT1)	2,090	4,682	6.55	9.36
Feering (BNT5,7)	1,300	2,912	4.08	5.82
Witham (BNT6)	450	1,008	1.41	2.02
Hatfield Peverel (BNT22)	170	381	0.53	0.76
Total			38.66	69.15

Population derived from DCLG 2014 household projections

12.8 Table 12.3 shows that beyond the plan period, the Garden Communities will need a further 213 hectares of green space.

Table 12.3 Need for green space arising from growth in the Garden Communities beyond the plan period

	Dwellings	Population	Parks and recreation grounds and amenity green space (ha)	Natural and semi-natural green space (ha)
West of Braintree	10,500	23,520	33	47
West of Colchester	17,500	39,200	55	78

Population figures have been derived from DCLG 2014 household projections

- 12.9 Not all developments will necessarily be expected to provide green space at these standards, particularly higher density development within the urban areas, e.g. Central Braintree.
- 12.10 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'. As such, this would exceed the theoretical requirements listed in Table 12.2 but would help to address existing deficits in a more efficient manner.

Costs and funding

- 12.11 It is not possible to assign costs the provision. This will depend on a number of factors, not least the availability of greenfield land to make such provision. It will certainly be envisaged that larger scale provision of green space could be made at the Garden Communities – on the West of Braintree Garden Community, the existing mineral works could potentially be developed as a country park or equivalent. At the west of Colchester Garden Community this scale of provision may be more challenging but there is certainly the capacity to make wider-than-local provision.
- 12.12 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 maintain 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.

Timing of provision





























- 12.13 Provision will come forward as part of the comprehensive masterplanning of development sites.

















































































13 Summary of Key Findings































- 13.1 A summary of the infrastructure needs, costs, funding and timing is shown in Table 13.1.
- 13.2 As noted in Section 1, these needs are only those arising from the growth on the strategic sites. It does not take account of the needs of smaller sites which will also have an impact. These will need to be addressed on a case-by-case basis through planning applications and use of S106 contributions or Community Infrastructure Levy, if such a charge is put in place. Early engagement between developers and infrastructure providers is key to effective planning for such needs.
- 13.3 As noted in the education section, any specific education outputs which the IDP assigns to the Garden Communities may be addressing wider needs and are not necessarily required to solely address the needs of that Garden Community.
- 13.4 Transport is not included in either Table 13.1 or 13.2. This is because, as explained in Section 6, the packages of measures required to address the needs arising from growth have yet to be finalised. It is therefore considered prudent to leave this out of the assessment in the following tables.

Table 13.1: Infrastructure summary table – by Infrastructure Theme

Infrastructure theme	Type of infrastructure	Infrastructure item	Location	Cost	Known funding	Timing of completed provision			Priority
						2016-2021	2022-2027	2028-2033	
Education	Early Years & Childcare	1 no. 56-place EY&C facility as part of primary school provision	Great Notley	Incl. in cost of primary					Critical
Education	Early Years & Childcare	1 no. stand alone 30-place EY&C facility	Feering	£730,000					Critical
Education	Early Years & Childcare	1 no. stand alone 56-place EY&C facility	West Braintree	£1,180,000					Critical
Education	Early Years & Childcare	1 no. stand alone 56-place EY&C facility	North Braintree	£1,180,000					Critical
Education	Early Years & Childcare	2 no. 56-place EY&C facilities as part of primary school provision	West of Braintree GC	Incl. in cost of primary					Critical
Education	Early Years & Childcare	2 no. stand alone 56-place EY&C facilities	West of Braintree GC	£2,360,000					Critical
Education	Early Years & Childcare	2 no. stand alone 56-place EY&C facilities	Great Notley	£2,360,000					Critical
Education	Early Years & Childcare	2 no. stand alone 56-place EY&C facilities	Feering	£2,360,000					Critical
Education	Early Years & Childcare	4 no. 56-place EY&C facilities, with some as part of primary school provision	West of Colchester GC	£2,900,000					Critical
Education	Primary education	1 no. 2fe primary school	North Braintree	£7,300,000					Critical
Education	Primary education	1 no. 3fe primary school	Great Notley	£9,900,000					Critical
Education	Primary education	1 no. 2fe primary schools	West Braintree	£7,300,000					Critical
Education	Primary education	2 no. 2fe primary schools	West of Braintree GC	£14,600,000					Critical
Education	Primary education	2 no. 2fe primary schools	West of Colchester GC	£14,600,000					Critical
Education	Primary education	Expansion of Feering School by 246 places	Feering	£3,700,000					Critical
Education	Primary education	Replace 2 relocatable classrooms at Kelvedon School	Feering	£820,000					Critical
Education	Primary education	Replace relocatable classrooms at Richard de Clare School	Halstead	£370,000					Critical
Education	Secondary education	1 no. 8fe secondary school	West of Colchester GC	£30,000,000					Critical
Education	Secondary education	1 no. 9-10fe secondary school	West of Braintree GC and West Braintree	£34,000,000					Critical
Education	Secondary education	Expansion of Honywood Community Science School by 1fe	Feering	£2,800,000					Critical














Timing of completed provision									
Infrastructure theme	Type of infrastructure	Infrastructure item	Location	Cost	Known funding	2016-2021	2022-2027	2028-2033	Priority
Education	Secondary education	Expansion of Notley High School by 4fe	Great Notley and Central Braintree	£7,500,000					Critical
Emergency services	Police	Replacement of existing police estate	All locations	£24,500,000					Important
Flooding	Flood defences	Site specific flood mitigation measures	All locations	Site specific	Environment Agency				Policy high priority
Green i'structure and open space	Amenity greenspace	Amenity greenspace provision	All locations	Not known					Important
Green i'structure and open space	Natural and semi-natural greenspace	Natural and semi-natural greenspace provision	All locations	Not known					Important
Green i'structure and open space	Parks and gardens	Parks and gardens provision	All locations	Not known					Important
Health and social wellbeing	Primary healthcare	Additional GP surgery space	Great Notley	Not known					Critical
Health and social wellbeing	Primary healthcare	Additional GP surgery space	Feering	Not known					Critical
Health and social wellbeing	Primary healthcare	Additional GP surgery space, potentially through a new health hub	West of Braintree GC	Not known					Critical
Leisure and recreation	Children's play and youth facilities	1 LEAP	Witham	£40,000					Important
Leisure and recreation	Children's play and youth facilities	1 LEAPs, 1 NEAP, 2 MUGAs	Great Notley	£350,000					Important
Leisure and recreation	Children's play and youth facilities	2 LEAPs, 1 MUGA	Feering	£195,000					Important
Leisure and recreation	Children's play and youth facilities	2 LEAPs, 1 NEAP, 2 MUGAs	West of Braintree GC	£390,000					Important
Leisure and recreation	Children's play and youth facilities	2 LEAPs, 1 NEAP, 2 MUGAs	West of Colchester GC	£390,000					Important
Leisure and recreation	Children's play and youth facilities	2 LEAPs, 2 MUGAs	North Braintree	£195,000					Important
Leisure and recreation	Children's play and youth facilities	2 LEAPs, 2 MUGAs	NW Braintree	£195,000					Important
Leisure and recreation	Indoor sports halls	1-court provision	North Braintree	£670,000					Important
Leisure and recreation	Indoor sports halls	1-court provision	NW Braintree	£670,000					Important
Leisure and recreation	Indoor sports halls	1-court provision	Great Notley	£670,000					Important

Timing of completed provision									
Infrastructure theme	Type of infrastructure	Infrastructure item	Location	Cost	Known funding	2016-2021	2022-2027	2028-2033	Priority
Leisure and recreation	Indoor sports halls	1-court provision	Feering	£670,000					Important
Leisure and recreation	Indoor sports halls	2-court provision	West of Braintree GC	£760,000					Important
Leisure and recreation	Indoor sports halls	2-court provision	West of Colchester GC	£760,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 1 adult pitch	West Braintree	£80,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 1 adult pitch	Central Braintree	£80,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 1 adult pitch	Hatfield Peverel	£80,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 2 adult pitches	Witham	£160,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 4 adult pitches	North Braintree	£320,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 4 adult pitches	NW Braintree	£320,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 5 adult pitches	Feering	£400,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 8 adult pitches	Great Notley	£640,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 9 adult pitches	West of Braintree GC	£720,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 9 adult pitches	West of Colchester GC	£720,000					Important
Social and community	Allotments	New allotment provision	West of Braintree GC	£140,000					Important
Social and community	Allotments	New allotment provision	North Braintree	£56,000					Important
Social and community	Allotments	New allotment provision	NW Braintree	£67,200					Important
Social and community	Allotments	New allotment provision	West Braintree	£11,536					Important
Social and community	Allotments	New allotment provision	Central Braintree	£15,120					Important
Social and community	Allotments	New allotment provision	Great Notley	£117,040					Important
Social and community	Allotments	New allotment provision	Feering	£72,800					Important









































Timing of completed provision									
Infrastructure theme	Type of infrastructure	Infrastructure item	Location	Cost	Known funding	2016-2021	2022-2027	2028-2033	Priority
Social and community	Allotments	New allotment provision	Witham	£25,200					Important
Social and community	Allotments	New allotment provision	Hatfield Peverel	£9,520					Important
Social and community	Allotments	New allotment provision	West of Colchester GC	£112,000					Important
Social and community	Community centres	1 no. large community centre	North Braintree	£572,000					Important
Social and community	Community centres	1 no. large community centre	NW Braintree	£686,400					Important
Social and community	Community centres	1 no. large community centre	Feering	£743,600					Important
Social and community	Community centres	1 no. small community centre	Witham	£257,400					Important
Social and community	Community centres	2 no. large community centres	West of Braintree GC	£1,430,000					Important
Social and community	Community centres	2 no. large community centres	Great Notley	£1,195,480					Important
Social and community	Community centres	3 no. large community centres 1 no. small centre	West of Colchester GC	£3,800,000					Important
Social and community	Library provision	Co-located community hub/library	Dependent on growth levels	Not known					Important
Utilities	Electricity	Provision of new secondary substations for all development over 50 dwellings	All locations	Site specific	All funded by provider/developer				Critical
Utilities	Electricity	Reinforcement at Halstead Primary substation	Halstead	Not known	All funded by provider				Critical
Utilities	Gas	Local infrastructure enhancement	All locations	Site specific	All funded by developer				Critical
Utilities	Waste water	Enhancement to Water Recycling Centre capacity	Great Notley	Not known	Likely by Anglian Water Services				Critical
Utilities	Waste water	Enhancement to Water Recycling Centre capacity	Feering	Not known	Likely by Anglian Water Services				Critical
Utilities	Waste water	Enhancement to Water Recycling Centre capacity	West of Colchester GC	Not known	Likely by Anglian Water Services				Critical
Utilities	Waste water	Foul sewerage network enhancement	All locations	Site specific	All funded by developer				Critical































Timing of completed provision									
Infrastructure theme	Type of infrastructure	Infrastructure item	Location	Cost	Known funding	2016-2021	2022-2027	2028-2033	Priority
Utilities	Water - potable supply	Local infrastructure enhancement	All locations	Site specific	All funded by developer				Critical
Utilities	Potable water	Local infrastructure enhancement	West of Braintree GC	Not known	Likely by Anglian Water Services				Critical
Utilities	Waste water	Enhancement to Water Recycling Centre capacity	West of Braintree GC	Not known	Likely by Anglian Water Services				Critical
Utilities	Potable water	Local infrastructure enhancement	West of Colchester GC	Not known	Likely by Anglian Water Services				Critical
Utilities	Waste water	Enhancement to Water Recycling Centre capacity	West of Colchester GC	Not known	Likely by Anglian Water Services				Critical

Table 13.2: Infrastructure summary table – by Settlement

						Timing of completed provision			Priority
Infrastructure theme	Type of infrastructure	Infrastructure item	Location	Cost	Known funding	2016-2021	2022-2027	2028-2033	
Utilities	Water - potable supply	Local infrastructure enhancement	All locations	Site specific	All funded by developer				Critical
Utilities	Gas	Local infrastructure enhancement	All locations	Site specific	All funded by developer				Critical
Utilities	Electricity	Provision of new secondary substations for all development over 50 dwellings	All locations	Site specific	All funded by provider/developer				Critical
Flooding	Flood defences	Site specific flood mitigation measures	All locations	Site specific	Environment Agency				Policy high priority
Emergency services	Police	Replacement of existing police estate	All locations	£24,500,000					Important
Green i'structure and open space	Parks and gardens	Parks and gardens provision	All locations	Not known					Important
Green i'structure and open space	Natural and semi-natural greenspace	Natural and semi-natural greenspace provision	All locations	Not known					Important
Green i'structure and open space	Amenity greenspace	Amenity greenspace provision	All locations	Not known					Important
Social and community	Allotments	New allotment provision	Central Braintree	£15,120					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 1 adult pitch	Central Braintree	£80,000					Important
Social and community	Library provision	Co-located community hub/library	Dependent on growth levels	Not known					Important
Education	Early Years & Childcare	2 no. stand alone 56-place EY&C facilities	Feering	£2,360,000					Critical
Education	Early Years & Childcare	1 no. stand alone 30-place EY&C facility	Feering	£730,000					Critical
Education	Primary education	Expansion of Feering School by 246 places	Feering	£3,700,000					Critical
Education	Primary education	Replace 2 relocatable classrooms at Kelvedon School	Feering	£820,000					Critical
Education	Secondary education	Expansion of Honywood Community Science School by 1fe	Feering	£2,800,000					Critical

						Timing of completed provision			
Infrastructure theme	Type of infrastructure	Infrastructure item	Location	Cost	Known funding	2016-2021	2022-2027	2028-2033	Priority
Health and social wellbeing	Primary healthcare	Additional GP surgery space	Feering	Not known					Critical
Social and community	Allotments	New allotment provision	Feering	£72,800					Important
Social and community	Community centres	1 no. large community centre	Feering	£743,600					Important
Leisure and recreation	Children's play and youth facilities	2 LEAPs, 1 MUGA	Feering	£195,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 5 adult pitches	Feering	£400,000					Important
Leisure and recreation	Indoor sports halls	1-court provision	Feering	£670,000					Important
Education	Early Years & Childcare	1 no. 56-place EY&C facility as part of primary school provision	Great Notley	Incl. in cost of primary school					Critical
Education	Early Years & Childcare	2 no. stand alone 56-place EY&C facilities	Great Notley	£2,360,000					Critical
Education	Primary education	1 no. 3fe primary school	Great Notley	£9,900,000					Critical
Health and social wellbeing	Primary healthcare	Additional GP surgery space	Great Notley	Not known					Critical
Social and community	Allotments	New allotment provision	Great Notley	£117,040					Important
Social and community	Community centres	2 no. large community centres	Great Notley	£1,195,480					Important
Leisure and recreation	Children's play and youth facilities	1 LEAPs, 1 NEAP, 2 MUGAs	Great Notley	£350,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 8 adult pitches	Great Notley	£640,000					Important
Leisure and recreation	Indoor sports halls	1-court provision	Great Notley	£670,000					Important
Education	Secondary education	Expansion of Notley High School by 4fe	Great Notley and Central Braintree	£7,500,000					Critical
Education	Primary education	Replace relocatable classrooms at Richard de Clare School	Halstead	£370,000					Critical
Utilities	Electricity	Reinforcement at Halstead Primary substation	Halstead	Not known	All funded by provider				Critical
Social and community	Allotments	New allotment provision	Hatfield Peverel	£9,520					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 1 adult pitch	Hatfield Peverel	£80,000					Important
Education	Early Years & Childcare	1 no. stand alone 56-place EY&C facility	North Braintree	£1,180,000					Critical
Education	Primary education	1 no. 2fe primary school	North Braintree	£7,300,000					Critical

						Timing of completed provision			
Infrastructure theme	Type of infrastructure	Infrastructure item	Location	Cost	Known funding	2016-2021	2022-2027	2028-2033	Priority
Social and community	Allotments	New allotment provision	North Braintree	£56,000					Important
Social and community	Community centres	1 no. large community centre	North Braintree	£572,000					Important
Leisure and recreation	Children's play and youth facilities	2 LEAPs, 2 MUGAs	North Braintree	£195,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 4 adult pitches	North Braintree	£320,000					Important
Leisure and recreation	Indoor sports halls	1-court provision	North Braintree	£670,000					Important
Social and community	Allotments	New allotment provision	NW Braintree	£67,200					Important
Social and community	Community centres	1 no. large community centre	NW Braintree	£686,400					Important
Leisure and recreation	Children's play and youth facilities	2 LEAPs, 2 MUGAs	NW Braintree	£195,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 4 adult pitches	NW Braintree	£320,000					Important
Leisure and recreation	Indoor sports halls	1-court provision	NW Braintree	£670,000					Important
Education	Early Years & Childcare	1 no. stand alone 56-place EY&C facility	West Braintree	£1,180,000					Critical
Education	Primary education	1 no. 2fe primary schools	West Braintree	£7,300,000					Critical
Social and community	Allotments	New allotment provision	West Braintree	£11,536					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 1 adult pitch	West Braintree	£80,000					Important
Education	Early Years & Childcare	2 no. stand alone 56-place EY&C facilities	West of Braintree GC	£2,360,000					Critical
Education	Early Years & Childcare	2 no. 56-place EY&C facilities as part of primary school provision	West of Braintree GC	Incl. in cost of primary school					Critical
Education	Primary education	2 no. 2fe primary schools	West of Braintree GC	£14,600,000					Critical
Health and social wellbeing	Primary healthcare	Additional GP surgery space, potentially through a new health hub	West of Braintree GC	Not known					Critical
Utilities	Potable water	Local infrastructure enhancement	West of Braintree GC	Not known	Likely by Anglian Water Services				Critical
Utilities	Waste water	Enhancement to Water Recycling Centre capacity	West of Braintree GC	Not known	Likely by Anglian Water Services				Critical
Social and community	Allotments	New allotment provision	West of Braintree GC	£140,000					Important
Social and community	Community centres	2 no. large community centres	West of Braintree GC	£1,430,000					Important

						Timing of completed provision			
Infrastructure theme	Type of infrastructure	Infrastructure item	Location	Cost	Known funding	2016-2021	2022-2027	2028-2033	Priority
Leisure and recreation	Children's play and youth facilities	2 LEAPs, 1 NEAP, 2 MUGAs	West of Braintree GC	£390,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 9 adult pitches	West of Braintree GC	£720,000					Important
Leisure and recreation	Indoor sports halls	2-court provision	West of Braintree GC	£760,000					Important
Education	Secondary education	1 no. 9-10fe secondary school	West of Braintree GC and West Braintree	£34,000,000					Critical
Social and community	Allotments	New allotment provision	Witham	£25,200					Important
Social and community	Community centres	1 no. small community centre	Witham	£257,400					Important
Leisure and recreation	Children's play and youth facilities	1 LEAP	Witham	£40,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 2 adult pitches	Witham	£160,000					Important
Education	Early Years & Childcare	4 no. 56-place EY&C facilities, with some as part of primary school provision	West of Colchester GC	£2,900,000					Critical
Education	Primary education	2 no. 2fe primary schools	West of Colchester GC	£14,600,000					Critical
Education	Secondary education	1 no. 8fe secondary school	West of Colchester GC	£30,000,000					Critical
Social and community	Allotments	New allotment provision	West of Colchester GC	£114,000					Important
Social and community	Community centres	2 no. large community centres	West of Colchester GC	£1,430,000					Important
Leisure and recreation	Children's play and youth facilities	2 LEAPs, 1 NEAP, 2 MUGAs	West of Colchester GC	£390,000					Important
Leisure and recreation	Outdoor grass pitches	Equivalent of 9 adult pitches	West of Colchester GC	£720,000					Important
Leisure and recreation	Indoor sports halls	2-court provision	West of Colchester GC	£760,000					Important
Utilities	Potable water	Local infrastructure enhancement	West of Colchester GC	Not known	Likely by Anglian Water Services				Critical
Utilities	Waste water	Enhancement to Water Recycling Centre capacity	West of Colchester GC	Not known	Likely by Anglian Water Services				Critical

Appendix A - Development sites and housing trajectories

Ref	Location	Residential (dwellings)	Employment (floorspace)			Convenience retail (floorspace)	Other
			B1 office	B1 light industrial	B2/B8 manufacturing/ warehousing		
	<u>Garden Communities</u>						
	West of Colchester	2,500					
	West of Braintree	2,500					
BNT1	East of Great Notley, Braintree	2,090				3,000	9,865
BNT2	Land East of Broad Road, Braintree	1,000	7,920		27,720	3,960	4,720
BNT3	Former Towerlands Park site, Braintree	600	3,000			2,000	
BNT4	Panfield Lane, Braintree	600					
BNT5	Land at Feering	300	4,800		7,200	1,499	4,720
BNT6	Wood End Farm, Witham	450					
BNT9	Braintree Tennis Club off Clockhouse Way	95					
BNT10	Springwood Industrial Estate		4,800		19,200		
BNT11	Site at Rayne Lodge Farm, north of Rayne Road	136					
BNT12	Broomhills Estate	70					
BNT13	Land adj Braintree Railway Station	100					
BNT14	Land south of Cambridge Way	108					
BNT15	Dutch Nursery West Street	30	1,505		6,019		
BNT16	Land east of Bluebridge Ind Est		6,600		16,400		
BNT17	Land at Appletree Farm Polecat Road	70					
BNT21	Land off corner of Fenn Road and Brook Street, Halstead	70					
BNT22	Former Arla Dairy Site	170	TBC				
BNT23	Eastways, Witham		2,160		8,640		
BNT24	Eastlink 120, Great Notley		42,000		30,800		1,200

Ref		2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34- 2035-36	Total in plan period	Beyond plan period
	GARDEN COMMUNITIES																				
	West of Colchester								50	200	250	250	250	300	300	300	300	300		2,500	17,500
	West of Braintree								250	250	250	250	250	250	250	250	250	250		2,500	10,500
	BRAINTREE																				
BNT1	East of Great Notley, Braintree						90	150	150	150	150	200	200	200	200	200	200	13		1,903	
BNT2	Land East of Broad Road, Braintree				50	150	150	150	150	150	150	50								1,000	
BNT3	Former Towerlands Park site, Braintree			50	100	100	100	100	100	50										600	
BNT4	Panfield Lane, Braintree		50	120	120	120	120	70												600	
BNT5	Land at Feering			50	50	50	100	50												300	
BNT6	Wood End Farm, Witham													50	100	100	100	100		450	
BNT9	Braintree Tennis Club off Clockhouse Way				35	30														65	
BNT11	Site at Rayne Lodge Farm, north of Rayne Road				50	50	36													136	
BNT12	Broomhills Estate				20	50														70	
BNT13	Land adj Braintree Railway Station														10	30	30	30		100	
BNT14	Land south of Cambridge Way							40	45											85	
BNT15	Dutch Nursery West Street				30															30	
BNT17	Land at Appletree Farm Polecat Road							35	35											70	
BNT21	Land off corner of Fenn Road and Brook Street, Halstead				20	50														70	
BNT22	Former Arla Dairy Site				50	60	60													170	



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