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NORTH ESSEX GARDEN COMMUNITIES

CONCEPT FEASIBILITY STUDY

VOLUME 1: **PART 1**
BASELINE COMPENDIUM

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CONCEPT FEASIBILITY STUDY BASELINE COMPENDIUM

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Introduction

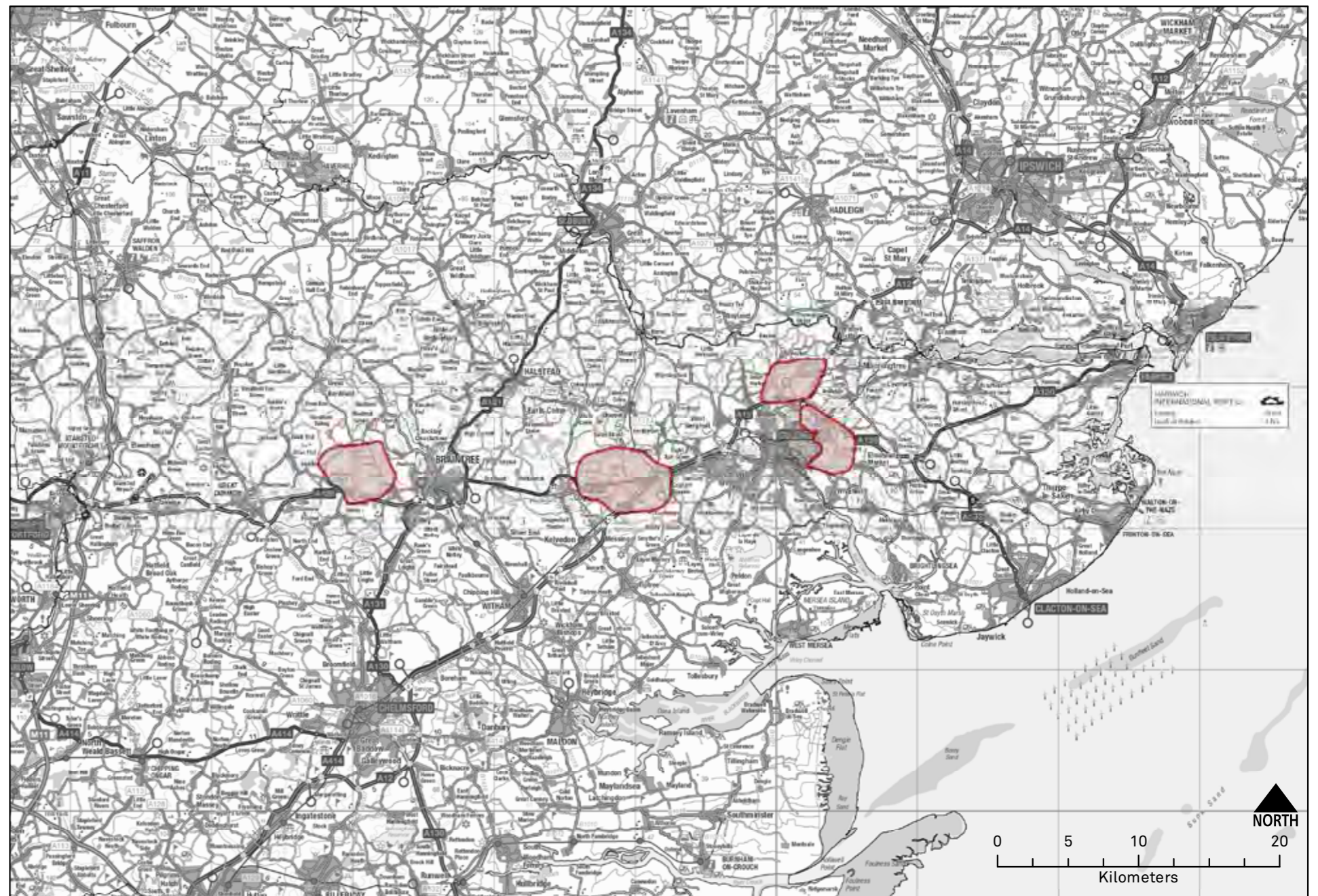
Colchester Borough Council, Braintree District Council and Tendring District Council are collaborating, alongside Essex County Council, to identify an agreed strategic approach to the allocation and distribution of large scale housing led mixed use development, including employment opportunities and infrastructure provision, in the form of potential "Garden Communities".

There has been a resurgence in the interest and attention being paid to the potential of Garden Communities and how they fit into the 21st Century Context. With the TCPA as strong advocates at the forefront of this movement, many places have sought to appreciate how a modern interpretation of the original Garden City Principles might address the urgent need to increase the level of housing development in the UK. The intention of the Garden Communities programme is to provide high quality homes, new transport improvements, good schools, jobs and community amenities to be delivered in a strategic and sustainable way. The four councils are in agreement that the Town and Country Planning Association's (TCPA) Garden City Principles provide a valuable initial framework for achieving new settlements that are inclusive and provide genuinely affordable, well designed homes, local jobs and schools, integrated transport systems, high standards of green infrastructure and promotion of health within and beyond the emerging local plan period for each authority of 2032/2033. In response the councils are exploring the potential to establish new settlements in the form of North Essex Garden Communities, for which four broad search areas have been identified by the councils for further consideration. This is in the context of the duty placed under the Localism Act 2011 on neighbouring authorities to cooperate on key strategic cross boundary issues in the preparation of their local plans.

As part of their investigation and analysis of the Garden Communities opportunity and its application and suitability to North Essex, the Councils commissioned AECOM to undertake a 'Garden Communities Concept Feasibility Study'. The outcome of this study is presented in four volumes:

1. Baseline Compendium
2. Opportunities and Constraints
3. Options and Evaluation
4. Garden Communities Charter

This report presents Volume 1 – Baseline Compendium - a collation of existing data covering a wide range of social, economic and environmental themes. This report provides a contextual oversight of the four broad search areas, flagging a series of attributes which will go on to inform the conclusions drawn out and assessed in the subsequent volumes.



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Figure 1: Study Area Context.

Definitions

Throughout this Baseline Compendium the following key terms and definitions are used when referring to the four potential locations for a Garden Community:

Site Study Area:

Potential Garden Community locations identified by the Councils and informed by the Local Plan call-for-sites process as shown on Figure 2.

5km Buffer Zone:

This study area has been defined as a 5km buffer around the outer boundary of each area of investigation and shown on Figure 2.



Figure 2: Study Area Definition

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This section sets out the key drivers and influencing factors affecting growth across North Essex. It provides a strategic overview across the three Local Authorities.

01 Key Influences of Growth

- 1.1 Demographics**
- 1.2 Housing Need**
- 1.3 Economy and Employment**
- 1.4 Transport**
- 1.5 Landscape Character, Sensitivity and Condition**
- 1.6 Ecological Designation**
- 1.7 Water Cycle**
- 1.8 Summary of Key Strategic Influences of Growth**

1.1 Demographics

Understanding the demographic setting of North Essex is perhaps the single most important element underpinning this study. It is imperative the study establishes a comprehensive understanding of the demographic context in order to ensure future recommendations are robust and of an appropriate type and scale. This section therefore seeks to analyse the future growth projections of the various districts within North Essex, exploring how this growth might alter the demographic composition and consequent housing and infrastructure needs of the region.

Key Findings

- Cumulative (Braintree, Colchester, Tendring) population growth of 16% or 17,663 persons by 2032.
- Further 4% cumulative growth between 2032 and 3037.
- By 2037 the working age population is forecast to increase by 6% (assuming a working age of 20-64 years old)
- However, there is a far more significant increase of 66% in the elderly population (aged over 65 years) forecast by 2037.
- The population is ageing: The greatest increase in age categories will be those over 60, with the biggest increase in 85+.
- Housing and economic strategy and future development will need to respond to ageing population requirements.

Responding to Population Growth

In the context of the wider local plan preparation being undertaken by the three councils, the following population growth projections have been identified for the period 2013-2037. These projections are taken from the ONS Sub-National Population Projections (SNPP), which following analysis undertaken by PBA on behalf of the councils was found to be robust data for determining housing need across the defined Housing Market Area of Braintree/Chelmsford/Colchester/ Tendring. Within the population growth projections, both migration (people moving in and out of the HMA) and natural change (births/deaths) are taken into account.

For the purposes of this report, the data for Chelmsford has not been included, with totals adjusted accordingly.



Figure 3: Population growth across Braintree, Colchester and Tendring. Source: ONS

Local Authority	Estimated Annual Population Growth 2013-2037	Total Population at 2013 (estimate)	Estimated Population at 2032	Percentage Increase 2013-2032	Estimated Population at 2037	Percentage Increase 2013-2037
Braintree	1,171	150,391	172,640	15%	178,495	19%
Colchester	1,638	179,158	210,280	17%	218,470	22%
Tendring	1,068	141,599	161,891	14%	167,231	18%
TOTAL	3,877	471,148	544,811	16%	564,196	20%

Table 1: Population Growth Projections

Source: based on: Edge Analytics Greater Essex Demographic Forecasts Phase 7 Report presented in the 'Objectively Assessed Housing Need Study' for Braintree District Council, Chelmsford City Council, Colchester Borough Council and Tendring District Council, January 2016 Update.

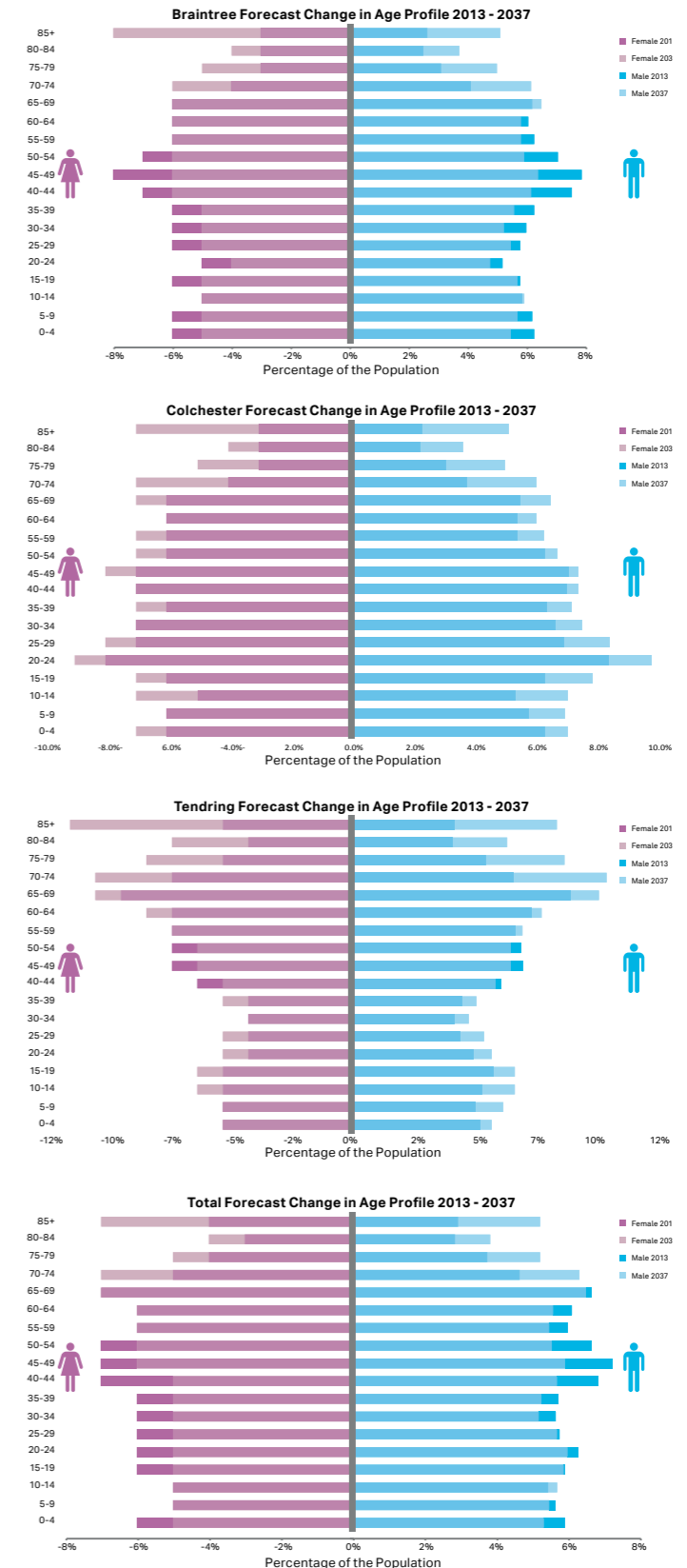


Figure 4: Age Profiles Source: ONS

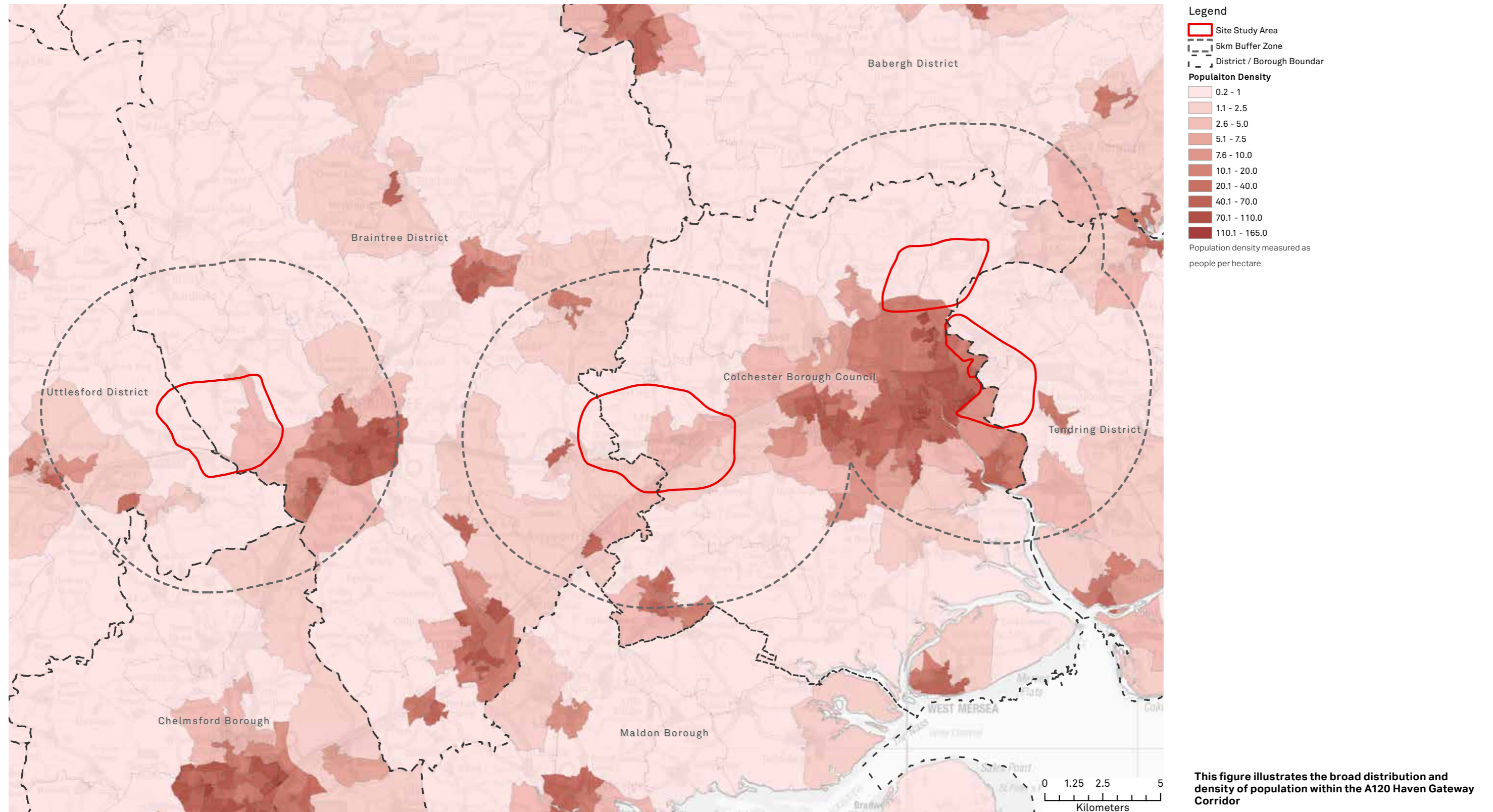


Figure 5: Population Density. Source: Nomis

1.2 Housing Need

The Objectively Assessed Housing Need Study (OAN) commissioned in joint collaboration between Braintree, Chelmsford, Colchester and Tendring Councils, and published in July 2015, and updated in February 2016, provides an objective assessment of housing need over the period 2013-2037. The assessment will help inform targets in future Local Plans, as required by national policy and guidance. For purposes of continuity, this Study will similarly implement 2013 as the base year when assessing the current context.

Key Findings

- The Objectively Assessed Housing Need (OAN) confirms that together each of these council administrative areas forms a single Housing Market Area (HMA).
- The underlying principle of the OAN work is that planning for housing, economic land uses and community facilities / services should be integrated, so that the demand for labour is fulfilled and there is no unsustainable commuting.
- Throughout the Housing Market Area, Braintree and Colchester councils should plan for housing at the higher end of the range, up to 845 and 920 dwelling units per annum respectively (as a maximum). (Table 3)
- Tendring should plan on the basis of 550 dwelling units per annum.
- Housing need reflects forecasted job growth /and labour requirement forecasted by the Eastern Planning Offices Association (EPOA) study based on:
 - Targets are baseline and policy neutral across the HMA.
 - The higher range for Braintree and Colchester assumes that Tendring only provides enough housing to meet its target, ensuring that collectively an oversupply of housing to jobs is not a risk within the HMA.
 - 57,000 new jobs being created across the HMA between 2013-37, of which 14,500 located in each of Braintree and Colchester, with 3,400 in Tendring.
- Tendring's economy will not provide enough jobs to support the Sub National Population Projections (SNPP) dwelling forecast, meaning the lower EPOA scenario is considered more realistic.
- In the event that the Tendring's population was closer to that of the official ONS (SNPP) projections, this additional population would obtain employment in the wider HMA, especially Chelmsford and Colchester – i.e. commuters.
- Sensitivity analysis undertaken for the Objectively Assessed Housing Need study using Experian forecast data (June 2015), suggests the HMA will create more job growth than estimated by Edge Analytics. For Colchester in particular, Experian considers Colchester to have especially buoyant growth prospects, and one of the fastest growing areas in the East of England, which itself is one of the fastest growing regions of the country.

The Strategic Housing Need

The Objectively Assessed Housing Need

Consistent with the National Planning Policy Framework (NPPF) and National Planning Practice Guidance, housing need of the HMA as a whole has been defined and the following recommendations made and summarised in Table 2 and Table 3.

Table 2: Objectively Assessed Housing Need 2013-37 per annum. For the purposes of this report, the data for Chelmsford has not been included, with totals adjusted accordingly. Source: Table 9.3 PBA 'Objectively Assessed Housing Need Study' for Braintree District Council, Chelmsford City Council, Colchester Borough Council and Tendring District Council, January 2016 Update.

Table 3:

Local Authority	Demographic Starting Point	OAN	Difference	Percentage Uplift
Braintree	686	845	159	23%
Colchester	868	920	52	6%
Tendring	480	550	70	15%
HMA Total without Chelmsford	2,034	2,315	281	14%

Demographic Starting Point = housing unit requirement based on ONS Sub-National Population Projections and DCLG conversion of population into household projections and related housing formation (new households) rates. Within this number a small assumption adjustment has been made for vacant and second homes.

OAN = housing unit requirement based on a jobs-led scenario developed by Edge Analytics using their 'PopGroup' model and presented in their Essex Demographic Forecasts Report (Phase 7) prepared on behalf of Essex Planning Officers Association (EPOA). This model uses the future workplace jobs, people employed, unemployment rates, economic activity and commuting ratios used in Oxford Economics East of England Economic Model (EEFM – an integrated economic, demographic and housing need forecast (autumn 2014 release; period 2011-2031).

Table 4: Objectively Assessed Housing Need Study: Per Annum Housing Targets Suggested Ranges 2013-2037. Source: Source: Table 9.5 PBA 'Objectively Assessed Housing Need Study' for Braintree District Council, Chelmsford City Council, Colchester Borough Council and Tendring District Council, January 2016 Update.

Local Authority	Low	High	Additional Dwelling Units at 2032 (low range)	Additional Dwelling Units at 2032 (high range)	Additional Dwelling Units at 2037 (low range)	Additional Dwelling Units at 2037 (high range)
Braintree	793	845	15,860	16,900	19,825	21,125
Colchester	903	920	18,060	18,400	22,575	23,000
Tendring	550*		11,000		13,750	
HMA Total without Chelmsford	2,246	2,315				

* As set out in the 'key findings', PBA advise in point 9.16 of the OAN 2016 update that where a single number is required for Tendring, 550 dpa should be used. As such, this number has been carried forward to inform the calculations in Table 4 and Table 4.

Sources

- OAN 2016 Update.
- Email correspondence from Chris Outtersides to AECOM's Jason Stratton dated 10/03/2016.

1.3 Economy and Employment

Both the Essex County and the South East LEP geographical areas perform above the national average for many key economic indicators, including annual rate of job growth. Nevertheless, the three councils associated to North Essex (Braintree, Colchester, Tendring) do exhibit idiosyncratic and location specific economic challenges.

Key Findings

- All three areas are net exporters of labour, with strong out-commuting trends (Tendring Economic Strategy, Regeneris, 2013).
- Overall need to improve local skill base and retain skilled labour in local employment.
- The corridor (part of the Haven Gateway Sub-Region) appears to operate as three split sub-economies, with economic connections between Braintree and Uttlesford (assumed to be Stansted as a major employer), Braintree and Colchester, as well as Colchester and Tendring, but limited economic connectivity across the full length of the corridor (Figure 7):
 - Relatively equal commuting flows between Colchester and Braintree;
 - Strong commuting flows from Tendring into Colchester (but largely to low value jobs according to NLP LNA 2015 assessment);
 - Smaller but significant commuting flows from Colchester to Tendring;
 - Negligible commuting flows between Braintree and Tendring;
 - Strong relative commuting flows from Braintree to Uttlesford, suggesting the role of Stansted as a key employer of Braintree labour force;
 - The corridor performs better economically as it goes further westward, with Braintree having the strongest indicators for economic activity (active workforce and unemployment rate);
 - Good accessibility to the strategic road network (A120-M11, and A12), together with rail access to London within 50 minutes and proximity of Stansted Airport, contributes to the comparative strength and representation of warehousing and logistics industries, together with high levels of out-commuting across all areas; and

- Colchester and Braintree both exhibit strong commuter flows to London, suggesting the whole area is also part of the wider London Functional Economic Area (FEA).
- Success can be facilitated by cross-border growth.
- Tendring will require significant economic investment and implementation of an economic strategy to prevent economic / population growth continuing to stagnate.
- The Braintree economy has a stronger focus westwards and southwards, and especially linked to the road network, given a relatively high proportion of business activity in warehousing and logistics.
- Development towards Braintree would not be economically as significant for supporting the knowledge gateway in Colchester or economic development in Tendring.
- Braintree is the most economically successful area within the corridor, with the most ambitious and optimistic forecasts for growth. (Braintree Economic Development Prospectus: 2013-2026, BDC) (Table 5)
- Colchester has some strong economic assets and performs well nationally on a number of indicators. However, and similar to Tendring, it has challenges around skills shortages in the labour force at the same time that population growth is outstripping employment growth. (Colchester Employment Land Needs Assessment, NLP, 2015) (Table 6)
- Tendring suffers the most acute economic challenges in the area, under-performing both in the sub-region and the wider-LEP area. It is suffering from relative stagnation with static forecasts for both population and economic growth. Certain coastal areas suffer from chronic deprivation. (Tendring Economic Baseline, Regeneris, 2013) (Table 7)

Year	2011	2013	2031
Economic Activity	71.9%	68.7%	71.4%
Unemployment Rates	3.4%	3.1%	1.7%

Table 5: Braintree Economic Activity and Unemployment Rates: Source: EEFM. Edge Analytics

Year	2011	2013	2031
Economic Activity	69.1%	67.7%	66.4%
Unemployment Rates	3.7%	3.2%	1.8%

Table 6: Colchester Economic Activity and Unemployment Rates: Source: EEFM. Edge Analytics

Year	2011	2013	2031
Economic Activity	60.2%	58.5%	60.3%
Unemployment Rates	6.1%	5.5%	3.6%

Table 7: Tendring Economic Activity and Unemployment Rates: Source: EEFM. Edge Analytics

Economic Strategy and Priorities

In the context of the three sub-economies that appear to exist the economic priorities identified within the evidence sources listed below are:

Colchester/Tendring:

- Address identified skills-gap and raise average educational attainment.
- Support the following sectors as targets for investment, stimulate inward-investment and provide the basis for skills training and long term employment to correct for the skills shortages in the local labour supply:
 - Transport, Port Activities and Logistics (capitalising on Harwich & Felixstowe ports)
 - Renewable energy and low carbon (particularly offshore wind and developing global expertise in this industry)
 - Health and Care (turn the challenge of high percentage of retirees/elderly into an opportunity by developing sector-leading skill and businesses in elderly care)
- Support University of Essex and its development of the Knowledge Gateway project:
 - Creation of a leading science and business park over 43 acres
 - High quality buildings
 - Adjacent UE Colchester Campus
 - Direct access to A133
 - Skills centres for, inter alia: construction, STEM sectors, health and elderly care
 - Essex Business School
 - £12M invested to date
 - Vibrant cluster of 15 SMEs to date
 - Wivenhoe House 4-star hotel
 - Planned Innovation Centre
- Encourage the growth and retention of knowledge-based and other high-value industries, especially in Colchester.
- Use the development of the Creative Business Centre in Colchester Town Centre to develop a creative business hub or cluster, creating wider economic growth.
- For Tendring specifically:
 - Reduce 10% unemployment – which is far above the regional and national average.
 - Average office space provision is identified as low quality and not attractive to potential employers – a need exists to make the area more attractive to inward investment.
 - Use new housing development itself to generate demand and help stimulate local economy, convincing investors about the strength of its internal market and that the development of sectoral specialisms (as highlighted) will facilitate specific training and skills development within the region to help overcome chronic deprivation and skills shortages.

Braintree/Colchester:

- Support growth of SMEs and providing space for companies to grow within the region's boundaries.
- Reducing out-commuting in the medium to long term.
- Forecast growth at Stansted, dualling of A120, improved rail links to London (Braintree to Witham connection), improved A12 junctions to reduce peak hour congestion, delivering broadband to rural areas, could all boost area demand.
- Support existing strengths in logistics and warehousing whilst supporting growth in office-based service sector, especially in Braintree.
- Digital infrastructure means that for many tech or creative industry start-ups, and industries that have moved from physical to online products, the quality of urban environment and density (for attracting skilled labour and benefiting from knowledge / innovation economies) can be more important than access to transport infrastructure.

Braintree/M11 Corridor:

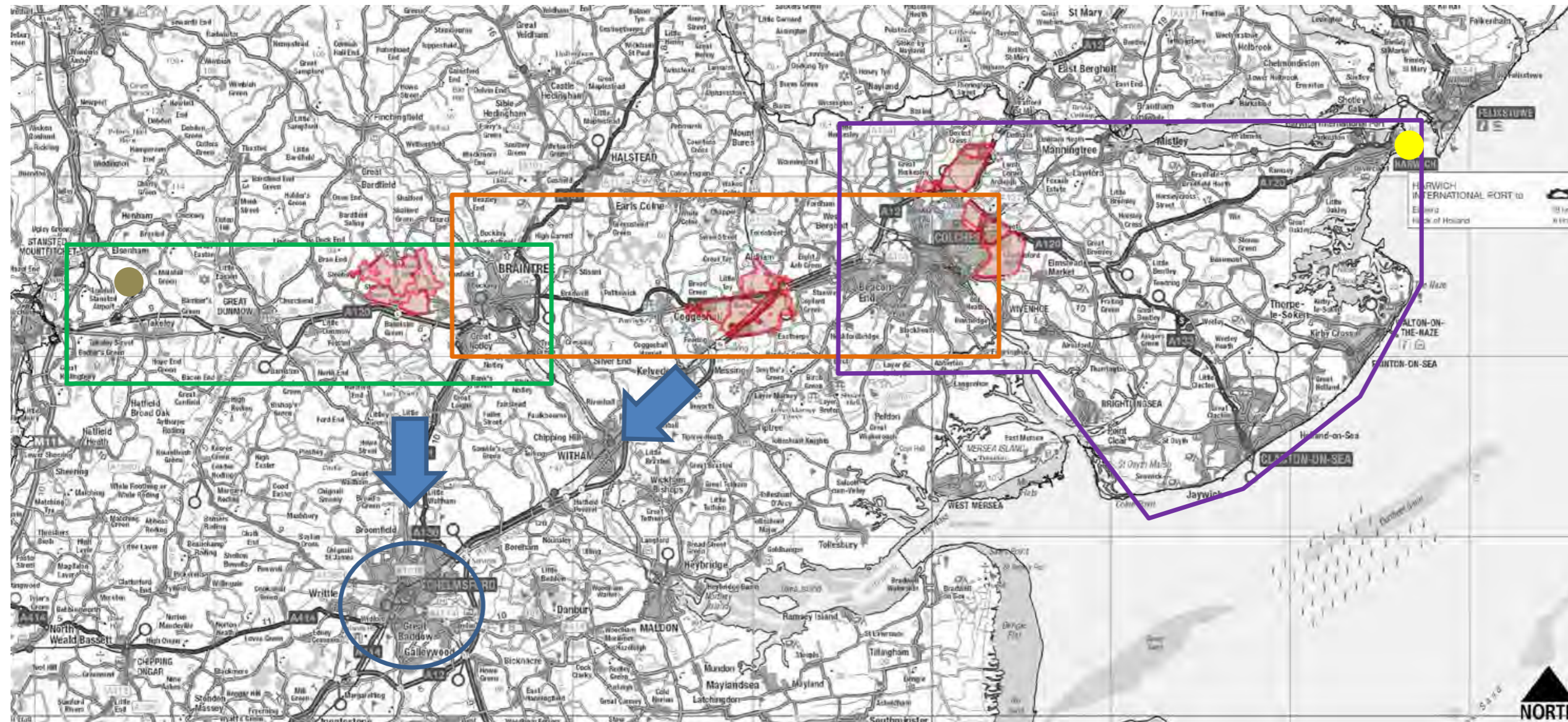
- Seek opportunities to capitalise upon M11/ Stansted growth corridor
- Development of the Harlow Enterprise Zone:
 - Life Sciences
 - Advance Manufacturing
 - ICT
 - Anglia Ruskin University's new MedTech campus comprises an overall 5,000 job potential
- The Stansted Sustainable Development Plan (May 2015):
 - Potential for Stansted Airport passenger numbers to double over the next 10-15 years.
 - Aspiration to support an extra 10,000 on-site jobs and generating £4.6bn in additional economic benefit.
 - Key enabler of growth in the East of England, east London and the burgeoning London-Stansted-Cambridge corridor.
 - The airport has the highest volume of dedicated freight traffic among the London airports. Potential for cargo goods volume to increase, potentially doubling.

Sources

- South East LEP Growth Deal and Strategic Economic Plan 2014
- The Stansted Sustainable Development Plan (May 2015)
- Tendring Economic Strategy, Regeneris Consulting Ltd, October 2013
- Braintree Economic Development Prospectus 2013-2026
- Colchester Economic Growth Strategy 2015-2021



Figure 6: Daily Commuter Flows: Source: OAN, 2015 (PBA Analysis)



Sub Economies

- Colchester / Tendring
- Braintree / Colchester
- Braintree / Uttlesford (Stansted)
- A130 Corridor / Chelmsford
- Harwich International Port Terminal
- Stansted Airport
- ➔ Direction of Commuting Beyond A120 Corridor

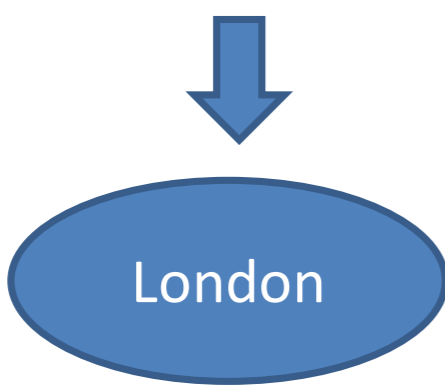


Figure 7: Defining the Functional Economic Area (FEA) - Existing Spatial Area and Interrelationships. Source: AECOM

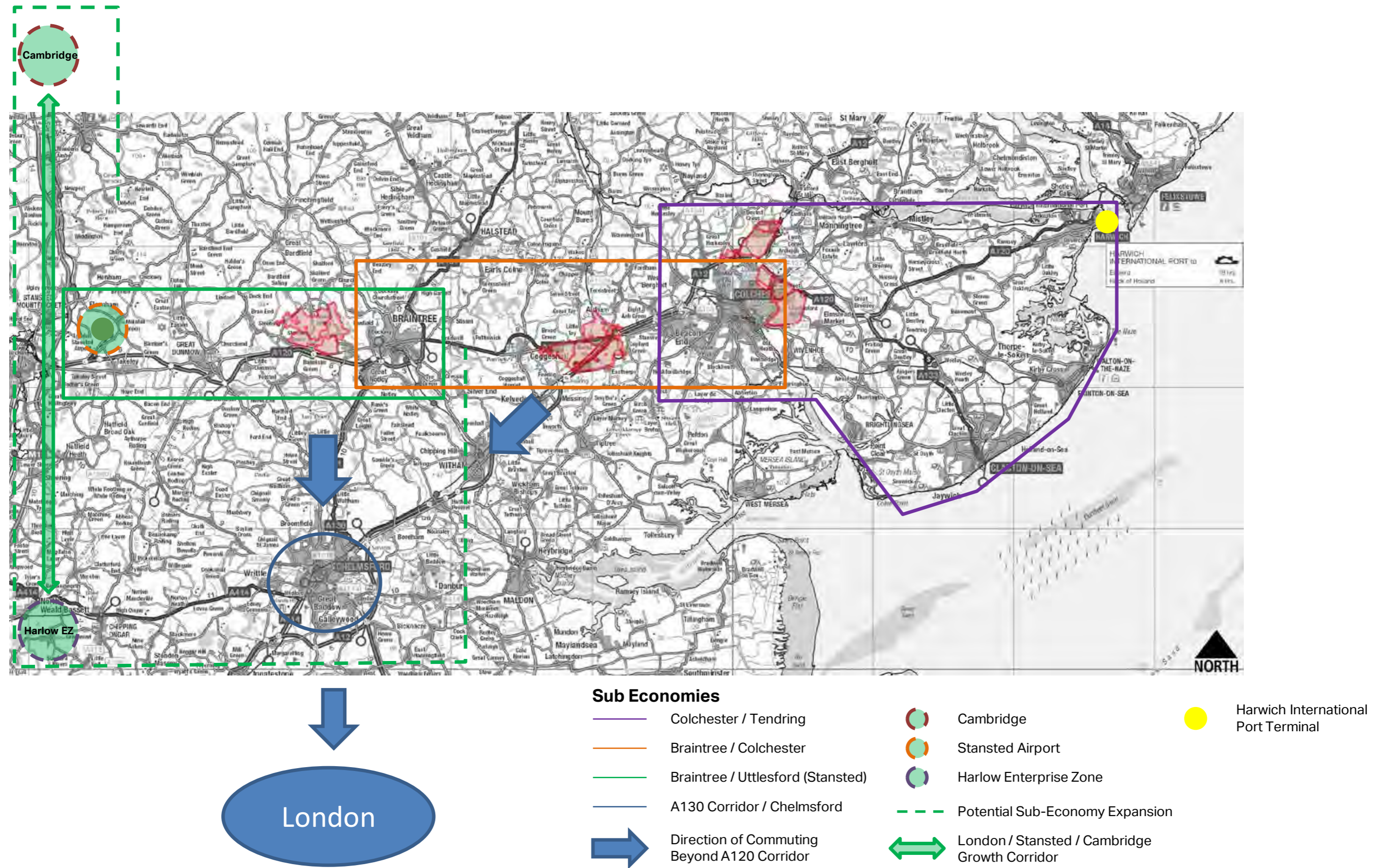


Figure 8: Defining the Functional Economic Area (FEA) - Future Spatial Area and Interrelationships. Source: AECOM

1.4 Transport - Strategic

North Essex is connected by rail, road, air and sea. The Great Eastern Main Line (GEML) links the major towns and cities via a high capacity, high frequency rail line radiating from London, whilst two major strategic highway connections exist in the form of the A12 and A120 trunk road network. The strategically important, London Stansted Airport lies to the west within a 60km radius of the four selected sites and albeit on a lesser scale, Southend Airport lies approximately 30km to the south of Chelmsford. Access via sea is provided by both the ports at Harwich and Felixstowe, as well as London Gateway and Tilbury to the south. There are, however, a number of constraints that exist with the current transport network, the details of which are explored from a strategic (sub-regional / North Essex) and (site(s)) perspective through description and mapping within this report.

Key Findings

- The towns and cities within north Essex are favourably positioned to connect with one another, however due to existing constraints on the transport network, short distance travel in many cases takes longer than desired and is dominated by short private car trips (junction hopping). This will fundamentally impact growth in the region.
- The location of the international port gateways at Felixstowe, London Gateway and Tilbury mean significant volumes of freight is currently transported through Essex via road and rail to Europe and beyond. The ports at Harwich and Felixstowe are predicated to see future upgrades and therefore large increases in additional TEU capacity by 2020, which will invariably result in increased freight movements and place greater pressure on key transport corridors within North Essex such as the A12, the A120 and the GEML.
- Given the current air transport movements through the airports, the future projections for increases in these movements and their strategic importance and position in the UK and southeast England, the future opportunities they may bring to North Essex and its growth in population are of potential importance.
- The rail-based network is almost entirely focused on connections between London Liverpool Street, Ipswich and Norwich, serving major towns and cities such as Chelmsford and Colchester on route. Cross-country rail connections provide low frequency and low capacity services. Although not directly served, the Cambridge, Stansted, London Liverpool Street corridor offers an alternative route by rail from the west of the study area. Capacity on this corridor is potentially affected by future Crossrail 2 proposals.
- With excellent rail connections to London, nearly half of all passengers arriving at Stansted Airport do so by public transport. However, public transport connections to surrounding areas and the main towns in Essex, are weaker (mainly bus based) and a high proportion of those traveling to the airport from within Essex do so by car.
- Strategic road access improvements such as the Lower Thames Crossing will potentially also have a knock-on effect on the wider strategic road network requirements, its role and performance as a connection through Essex in future.

Sources

- Essex Transport strategy, ECC, June 2011.

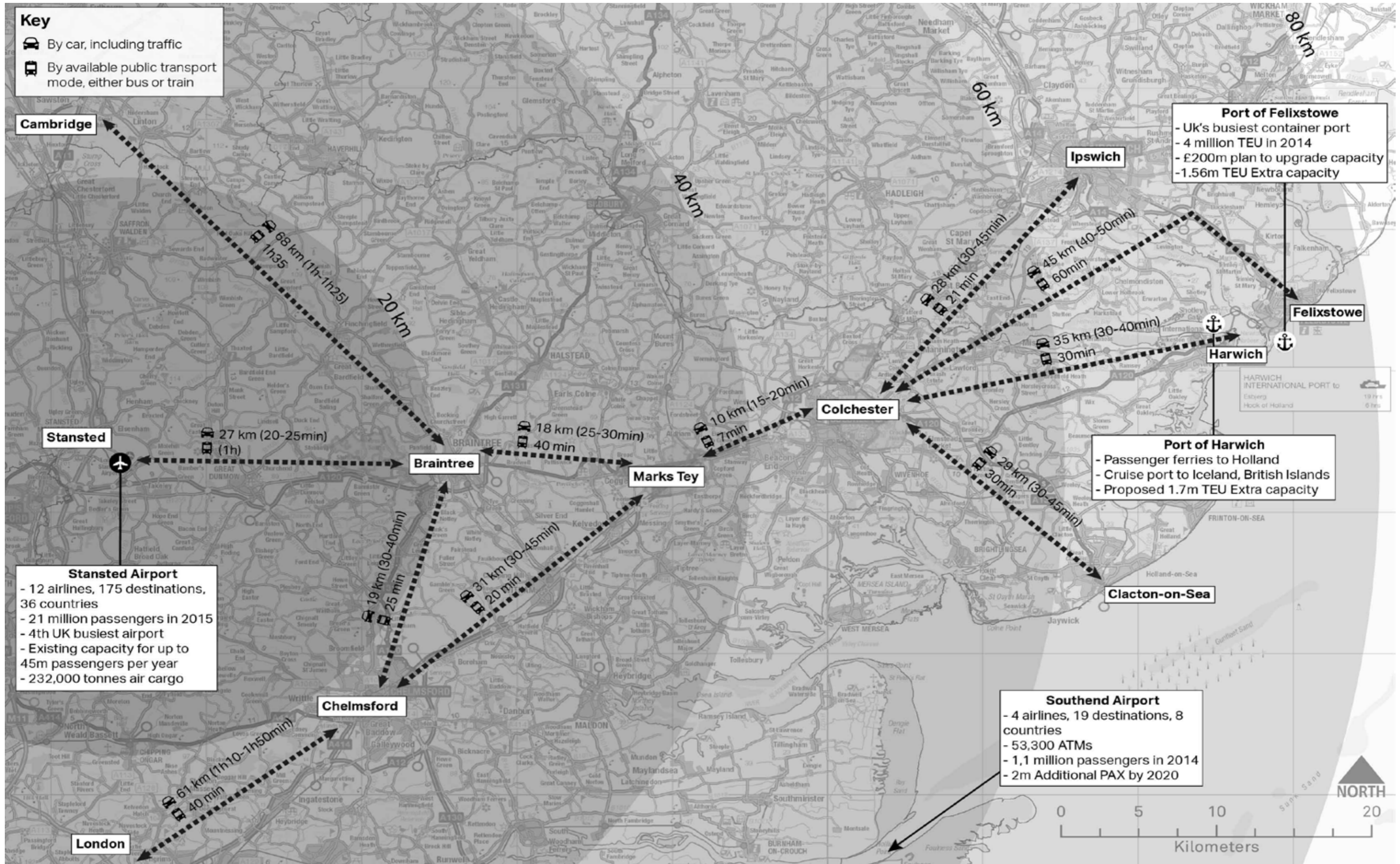


Figure 9: Strategic Transport Context, Journey Transport Times between key centres of North Essex and the wider region - Journey time comparison calculated by mode between station locations during peak times and within traffic. AECOM.

1.4 Transport - Strategic

Key Findings

- LA origin data
 - Excluding Chelmsford and Uttlesford (which sit outside of the study area) under 15% of total employment movements in Braintree, Colchester or Tendring are to London.
 - Over 50% (up to 65% in Colchester) of journey to work movements are internalised within the Local Authorities. Braintree depicts a slight anomaly to this, in that only 46% of employment movements remain within the authority boundary with a more pronounced relationship with Chelmsford and the other towns.
 - In general, despite good transport connections, the data illustrates attraction towards London is relatively low between the north Essex LA's (12% from Braintree, 9% from Colchester & 6% Tendring). In comparison there is high internalisation within the local employment sector i.e. within LA boundaries, other than possibly Braintree, which has less than 50% internalisation.
- Town Centre origin data
 - With reference to Figure 10, which illustrates town centre origin employment movements only, the pattern of movement and relationships broadly mirrors that of the local authority area as a whole.
- Census 'Method of travel to work' Data
 - The use of the private car for employment based travel at district level within North Essex is dominant, in most cases around 70% of the modal share – less in Colchester.
 - Uptake of 'sustainable' active modes and public transport is generally fairly low although marginally higher in Colchester with 16% and 14% respectively, highlighting the higher quality and availability of transport infrastructure available in town.
 - The high-level of self-containment identified in the journey to work census data combined with the mode share data illustrates the need for alternative transport solutions for short travel to work trips, which are currently dominated by private car and contribute to considerable town wide traffic congestion.
- Census 2011 distance travelled to work dataset
 - The average distance travelled (km) to work is greatest in the Braintree LA (approx. 21) compared with Colchester (approx. 19) and Tendring (approx. 19). The share of the working population travelling less than 5km to work is accordingly smaller in Braintree (25%) than Colchester (40%) and Tendring (33%), whilst people travelling more than 20km to reach their work place is the highest in Braintree (26%) compared to 21% in Colchester and 24% in Tendring.

- The data analysis and the summary of this above indicate that up to 40% of the working population within the districts undertake short distance trips (under 5km) to places of work. These groups are therefore likely to be prime candidates to engage in the promotion of active modes (walking/cycling) or short distance public transport movement and therefore suggest that mode shift towards these modes would be possible in principle, with well-planned and implemented future infrastructure.

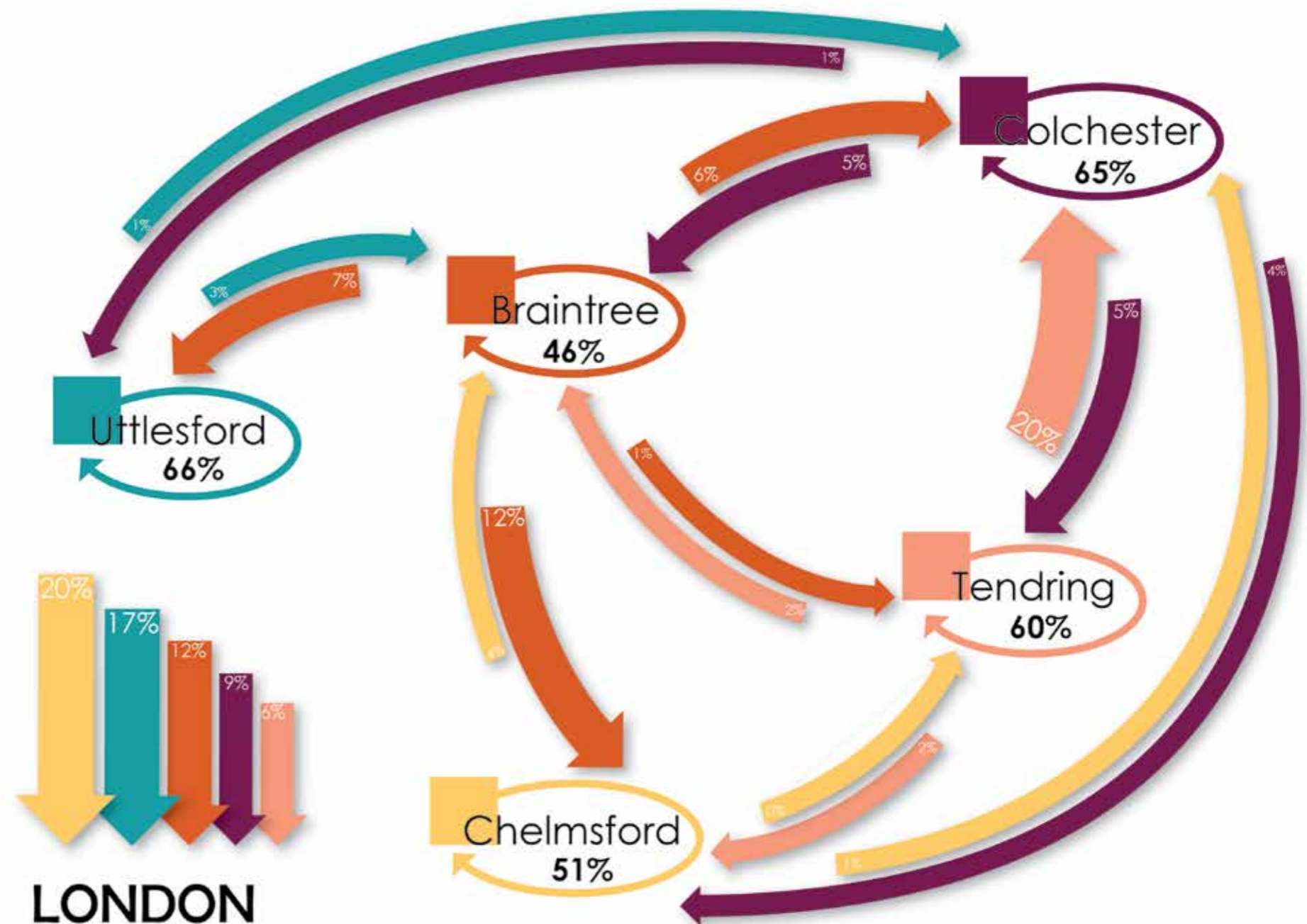


Figure 10: Travel to work patterns by local authority. AECOM from Nomis Census 2011 'Journey to work' data.

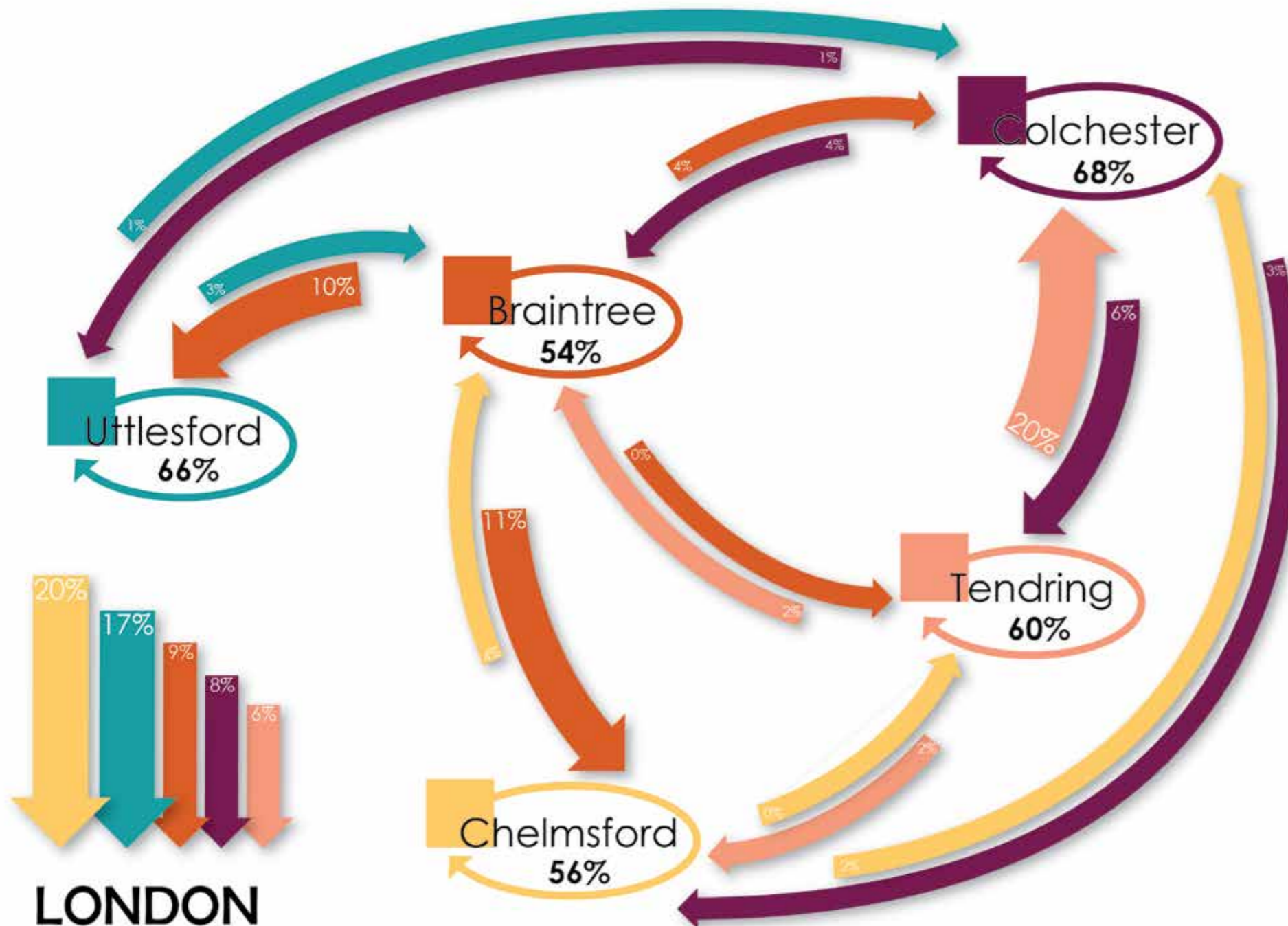


Figure 11: Travel to work patterns by town centre SOA or local authority. AECOM from Nomis Census 2011 'Journey to work' data.

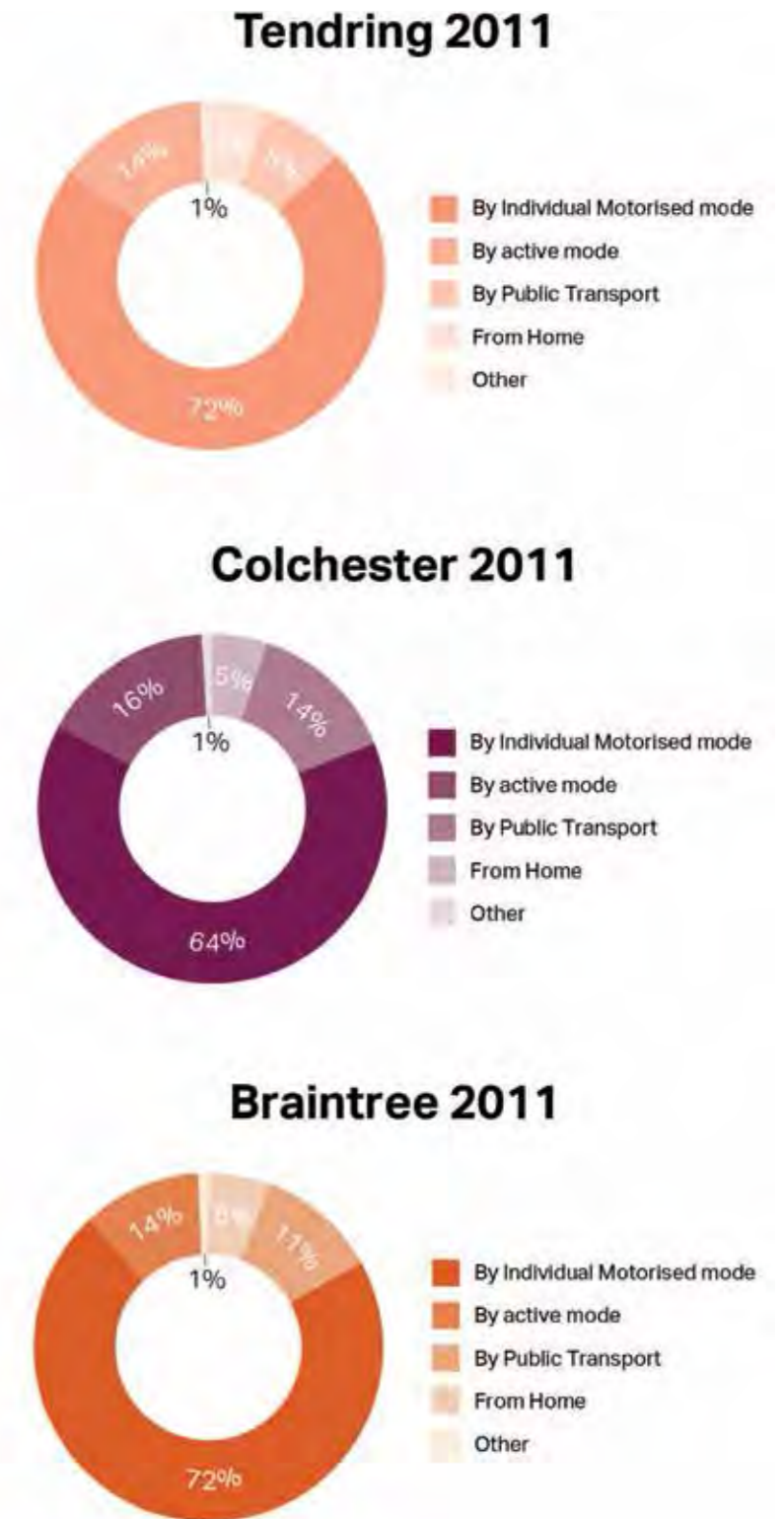


Figure 12: District level modal share. AECOM from Nomis Census 2011 'method of travel to work' data.

Roads

The A12 trunk road provides a strategic connection between east London, the M25 and as far north as Lowestoft in Suffolk. The A120 trunk road provides a strategic link between the M11 London to Cambridge link and Harwich in the east. The A-Road infrastructure in north Essex is predominantly single and dual carriageway, with small sections of 3 lane carriageway on the southern sections of the A12 south and north of Chelmsford and the M11 between the M25 and junction 8 of the M25. The A130 provides a dual section of road between Chelmsford and the A13.

- Historically, investment in this route has not kept pace with growing demand and all sections of road are currently operating at, or near, capacity. Journeys can therefore be unpredictable, especially at peak times, and incidents can lead to serious disruption (A12/A120). The A12, in its current state, is felt to inhibit growth in the region, both due to the issues of congestion and because of journey unreliability, which inhibits business growth in the area.
- It is likely that the lack of 3 lanes in either direction along sections of the A12 identified has a fundamental effect on traffic 'stress'.

- ECC identify Junction 19 and 29 in particular as being current 'bottleneck' links within the local road network, whilst they identify that the route between the A12 and the A131 / A120 will see a significant increase in traffic over the next 20 years because of the planned growth in northeast Chelmsford.

Key Findings

- As strategic routes the A12 (north-south) and A120 (east-west) serve several functions:
 - Link the ports of Felixstowe and Harwich for the movement of freight;
 - Form part of the Trans-European Network carrying international vehicular traffic;
 - Act as major transport links between London, the South East and the East of England;
 - Act as a tourist route to areas within the region and to mainland Europe.
- East-west travel times between Braintree, Chelmsford and Colchester are currently impacted by high levels of traffic congestion particularly on the A120 and A130. The A12 also experiences levels of driver delay particular around Chelmsford and south towards the M25.
- Traffic flows on the A12 range between 60,000 and 90,000 vehicles per day (two-way), depending on the location, HGV's account for between 10 - 15% of the total flow. When compared to roads within the East of England, the A12 is amongst the most heavily trafficked.
- The A120, carries less traffic with up to 30,000 vehicles per day on some sections, and a large proportion of the HGV's using this route travel towards Harwich.
- The sections of carriageway around Chelmsford (from junction 15), around Witham (between junction 23 and Junction 25), Marks Tey (junction 26) and north of Colchester (junctions 29) currently experience up to and beyond 100% peak period stress levels i.e. traffic volumes are greater than the theoretical capacity of the road, this results in at times lengthy traffic queueing.



Figure 13: North Essex existing road widths. AECOM.

Roads

Key Findings

- The following existing constraints on the A120/A12 network which AECOM has mapped in Figure 15:
 - Galleys Corner Roundabout
 - Marks Farm Roundabout
 - A120 junction with Station Road (Marks Tey)
 - The A120 east of Coggeshall to the A12 Link (delay is caused by closely spaced junctions within Marks Tey).
 - A133 Ipswich Road/Harwich Road Junctions
 - A12 Junction 26 and possibly Junction 28
- Jacobs on behalf of ECC have provided traffic modelling support to Tendring District Council (TDC) in respect of their emerging Local Plan proposals. The document, based on agreed future development scenarios (including future NTS background growth, sites with planning and identified future development sites) identifies a number of junctions across the district that will become over capacity in future year scenarios 2032 and 2047. The report provides a number of mitigation measures that are likely required (junction widening) to mitigate the anticipated traffic growth in the area. NB. This modelling includes 6,000 homes on the East Colchester site (full development scenario by 2047).
- Jacobs and ECC have undertaken a similar role for Braintree's Local Plan Options Assessment. Eleven separate development scenarios were tested by Jacobs with varying development thresholds (jobs and housing), of which the West of Braintree and Marks Tey (north of the A12 only) were tested. The report concluded that by 2032 it is likely that development will put the current road network under considerable pressure with many of the key junctions identified failing to provide enough capacity. It is likely that a number of alterations will be required at these junctions, along with new infrastructure and greater provision of alternative methods of transport to encourage a modal shift. The key junctions are identified in Figure 15.
- For Colchester's Local Plan Modelling Support, a SATURN model was developed in 2009 with a base year of 2007 on the AM and PM peaks. For the purposes of the 2015 Local Plan modelling the forecast year has been updated to 2032 encapsulating all identified development. The junction delay comparisons for the most affected peak period (AM) show that there is increased delay at a number of junctions when compared against the 'current allocated development' scenario. Increases in delay noted at the junctions identified in Figure 15.
- Depending on the development scenario assessed under the Jacobs Modelling assumptions, a variety of additional junctions experience traffic delay. Jacobs Local Plan modelling include analysis of queuing at junctions, a level of detail, which is not mapped due to the scale of the plans.

Sources

- Essex Transport Strategy, ECC, June 2011.
- Colchester Borough Council, email dated 07/03/16.
- Local Plan Modelling Support, December 2015.
- Local Plan Options Assessment, January 2016.
- Local Plan Modelling Support, January 2016.
- Essex Economic Growth Strategy, ECC, 2012
- Tendring Infrastructure Delivery Plan, Tendring Council, 2013
- The HA A12 / A120 Route Based Strategy, March 2013.

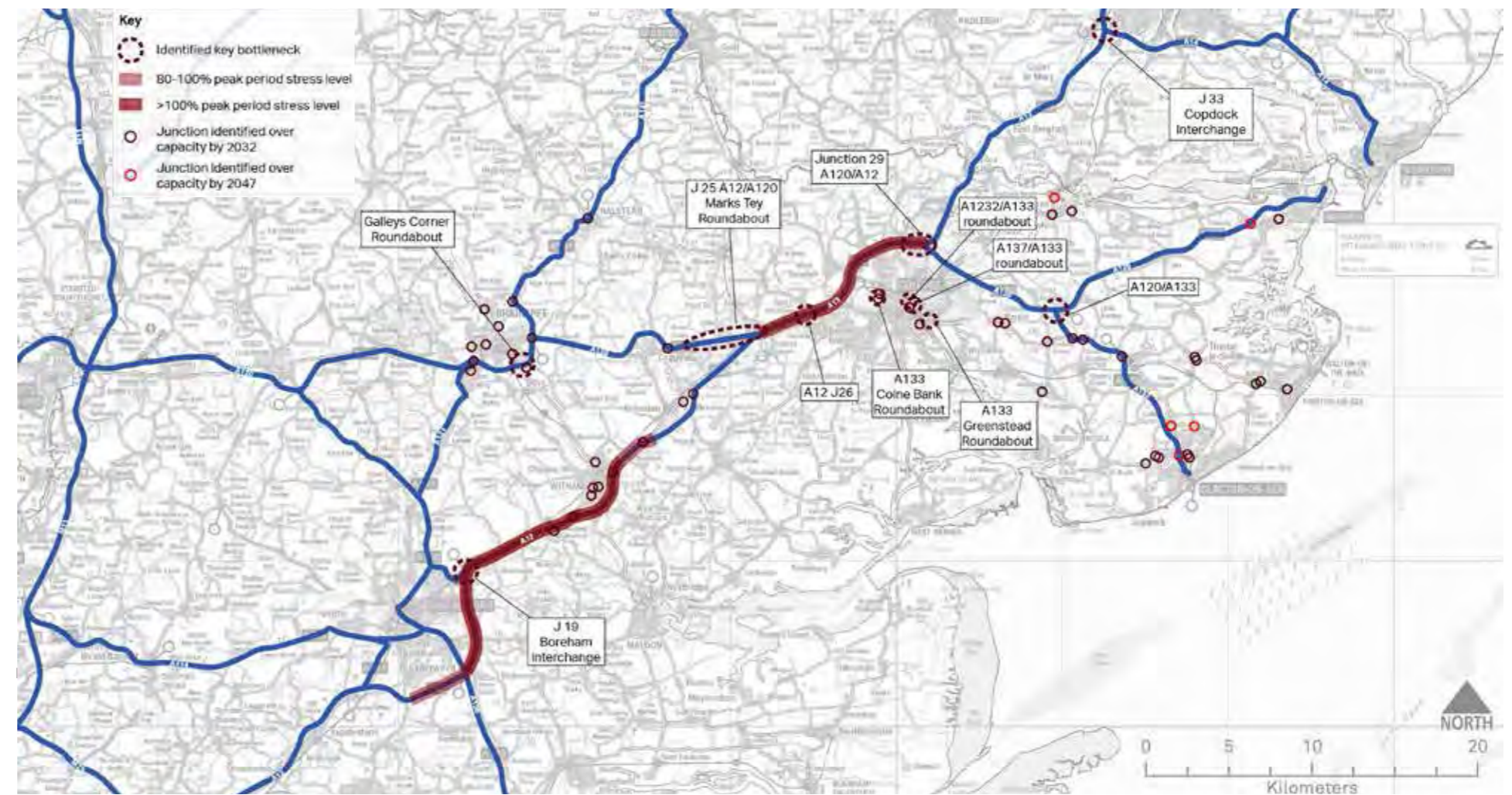


Figure 15: North Essex existing road widths. AECOM.

Roads

Key Findings

- The A12 links central London with Suffolk, as is the case with the A120, the conditions along the route vary considerable in terms of road width, quality of surface and traffic conditions, summarised below: .
- Between the urban area of Chelmsford and past Witham, the road is mainly dual carriageway in nature with the exception of a 6km section of 3 lanes in both directions. This entire section is identified as currently subject to over 100% peak period stress level along with identified traffic issues at Junction 19 – Boreham interchange. The latter is subject to planned upgrades in concordance with the A130 bypass proposals, whilst the remaining duelled sections of the A12 are proposed to be widened to a 3 lane carriageway in both ways.
- The historic design of the A12 between for example Witham and Marks Tey include a number of sub-standard junctions and slip roads. In the same area, properties with direct frontage access exist. Peak period stress levels of between 80-100% currently occur on the A12 north of Witham and Junction 25 – Marks Tey roundabout. Currently a dual carriageway, this section of the A12 is planned to be widened to 3 lane carriageway in both directions with a potential new junction between the A120 realignment and the A12 (one of several options under consideration by ECC).
- Within the Colchester area, the A12 is a 3 lane carriageway in both directions from junction 25 passed junction 26, where it then downgrades again to a dual carriageway. In terms of traffic issues, the entire section is currently subject to over 100% peak period stress levels, whilst junction 26 and 29 were identified as key bottlenecks. Proposed upgrades on this section are proposed at junction 26 along with the widening of the dual carriageway section to a 3 lane carriageway in both directions.
- From junction 29 to Ipswich, the A12 is a dual carriageway with no identified traffic issues other than its junction with the A14 (junction 33 – Copdock interchange).
- In addition, the totality of the previously described sections of the A12 are proposed receive technological Smart M-Way upgrades including CCTV monitoring and improved variable message signing to improve traffic movement.



Figure 19: Street view of the A12 North of Chelmsford



Figure 18: Street view of the A12 North of Witham



Figure 16: Street view of the A12 approach to junction 28



Figure 17: Street view of the A12 passed junction 29 towards Ipswich

Roads

Key Findings

- The western section of the A120 links the M11 at Junction 8 with the A12 at Junction 25 (Marks Tey), whilst the eastern section links the A12 at junction 29 in Colchester with Harwich (town and Port). The A120 is 73km in length, along its route the conditions of the road vary considerably in terms of road width, quality of surface and traffic conditions, which is summarised in detail below:
- Between J8 of the M11 (Stansted Airport) and the A131 / A120 / Coggeshall Road junction (Marsh Farm), the A120 forms a 29km dual carriageway with high quality well maintained surfaces and in many cases grade separated junctions and limited direct points of access to the route. Traffic on this section of the road is free-flowing in most cases, with congestion currently identified around Braintree, at Galleys Corner Roundabout, the junction between the A120 and the A131 along with Marks Farm roundabout highlighted by the Jacobs modelling as over capacity by 2032 with the introduction of development.
- From Marks Farm roundabout to J25 of the A12, the A120 is a single carriageway road with a number of direct accesses fronting the route. Traffic issues are identified (Large traffic queues forming at peak times) on large sections on this route, namely between the junction with the A12 and Broad Green. In addition, the A120/B1024 junction was identified by Jacobs within the Local Plan modelling as over capacity by 2032. ECC is leading a project to investigate the expansion of the A120, including the possibility of a new offline duelled section of the A120 between Marsh Farm and the A12 close to Marks-Tey.
- Finally, a section of the A120 links the A12 at junction 29 (North of Colchester) with Harwich. The section of road, located mainly within the administrative boundary of Tendring, is dual carriageway, well maintained and carrying mainly free-flowing traffic, with the exception of its junction with the A133, which currently experiences congestion. Passed this junction, the dual carriageway quickly downgrades to a single carriageway and remains this way until Harwich. This last section, similar to the section between Braintree and Marks Tey, is dominated by direct points of accesses, along with several mini roundabouts limiting free flow.
- A £50m upgrade plan for this section of the A120 was identified in Tendring's Infrastructure Delivery Plan (IDP) dated of 2013, whilst investments on the entire length of the A120 were also identified in Essex Economic Growth Strategy report dated of 2012.

Sources

- Essex Economic Growth Strategy, ECC, 2012
- Tendring Infrastructure Delivery Plan, Tendring Council, 2013



Figure 21: Street view of the A120 West of Braintree site



Figure 22: Street view of the A120 in Marks Tey



Figure 23: Street view of the A120 bordering East Colchester site



Figure 20: Street view of the A120 towards Harwich in Tendring

Rail

The GEML is an intercity rail route connecting Norfolk, Suffolk and Essex with London Liverpool Street. The rail based network is almost entirely focused on connections with London Liverpool Street, cross country rail connections in comparison provide low frequency and low capacity services and are of limited importance strategically and for volume transport to the region.

Key Findings

- The frequencies on the main routes through Essex are compared below:
 - The GEML between Norwich and London Liverpool Street operates a high capacity peak hour service, with 10 trains per hour (either direction) between Colchester and London. The operation of the line is focused on the reliable and punctual operation of trains into and out of London Liverpool Street. The mixture of intercity, semi fast outer suburban and freight trains on a two track mainline compromises its capacity to perform as it has many requirements to perform. This is exacerbated by the age of the rolling stock.
 - The Braintree (Flich Line) operates 1 service per hour (either direction) between London, a 12 car train between London and Colchester splits at Witham;
 - A diesel powered 1 train per hour (either direction) shuttle route operates between Marks Tey and Sudbury (Gainsborough Line);
 - The Sunshine Coast line operates up to 4 trains per hour (peak time - either direction) between Colchester and Clacton, and up to 2 trains per hour (peak time - either direction) Walton On-the-Naze;
- There are apparent gaps in the network in terms of connectivity and frequencies, with understandably a clear bias towards movement of passengers on the GEML, whilst the branch lines operate low frequency, low capacity services.
- In terms of rail connectivity, there is a clear gap in the network between Braintree and Stansted and cross regional movements in north Essex are therefore very limited.
- The line between Shenfield and Norwich is double-tracked and contains a high number of short loops. This results in lack of flexibility in timetabling and limits the ability of the train operating company and/or Network Rail to act quickly in the event of a train breaking down.
- Current average speeds on the GEML and its branches are as follows:
 - 40-75mph between London Liverpool Street and Bow Junction,
 - 80-105mph on the rest of the GEML,
 - 40-75mph on both the Braintree and the Sudbury sublines.

Key Findings

- The lower speeds are of over capacity on the rail line and signaling constraints.
- The GEML operates some of the oldest train rolling stock (average age is 25 years) and is one of the slowest main lines in the UK. The current public performance measure for Greater Anglia intercity services highlights the relative poor performance with only 84% of trains arriving at their final destination within ten minutes of the advertised time against a target of 93%. This reflects the issues associated with operating older carriages and infrastructure, which is in need of investment.
- Within the DfT's franchising plans it has committed to deliver "Norwich in 90" – 90 minute services between London Liverpool Street and Norwich within the period 2015-2109 defined as CP5. This will help to provide a faster route between the North Essex station of Colchester (the station stop on route to Norwich).
- The Rail Executives East Anglia Prospectus 2015 identifies the need for upgraded rolling stock, this is unlikely to consist of new trains and increased capacity, rather improved and refurbished existing rolling stock.
- The Port of Felixstowe in 2014, handled in excess of 4 million TEU (twenty foot equivalent units). It is also the country's largest inter-modal rail freight terminal. 41% of the UK container rail freight is transported from the Port of Felixstowe.
- Over 30,000 people in Suffolk rely on Ports and transport for their livelihoods, and the Port of Felixstowe is a key driver of economic growth and vital to the East Anglian and UK economy. Rail connectivity is an important element in ensuring the Port's continued success. Investment in the Strategic Freight Network is proposed, in particular continued investment in the strategically important Felixstowe to Nuneaton route (to include additional capacity works between Felixstowe and Peterborough and early electrification). The route is anticipated to remove 750,000 containers off the road annually by 2030 and boost the percentage of

Sources

- National Rail enquiries, consulted February/March 2016.
- Suffolk Rail Prospectus, SCC, March 2015.
- Anglia Route Study, Network Rail, March 2016.
- East Anglia Rail Prospectus, The Rail Executives, 2015.

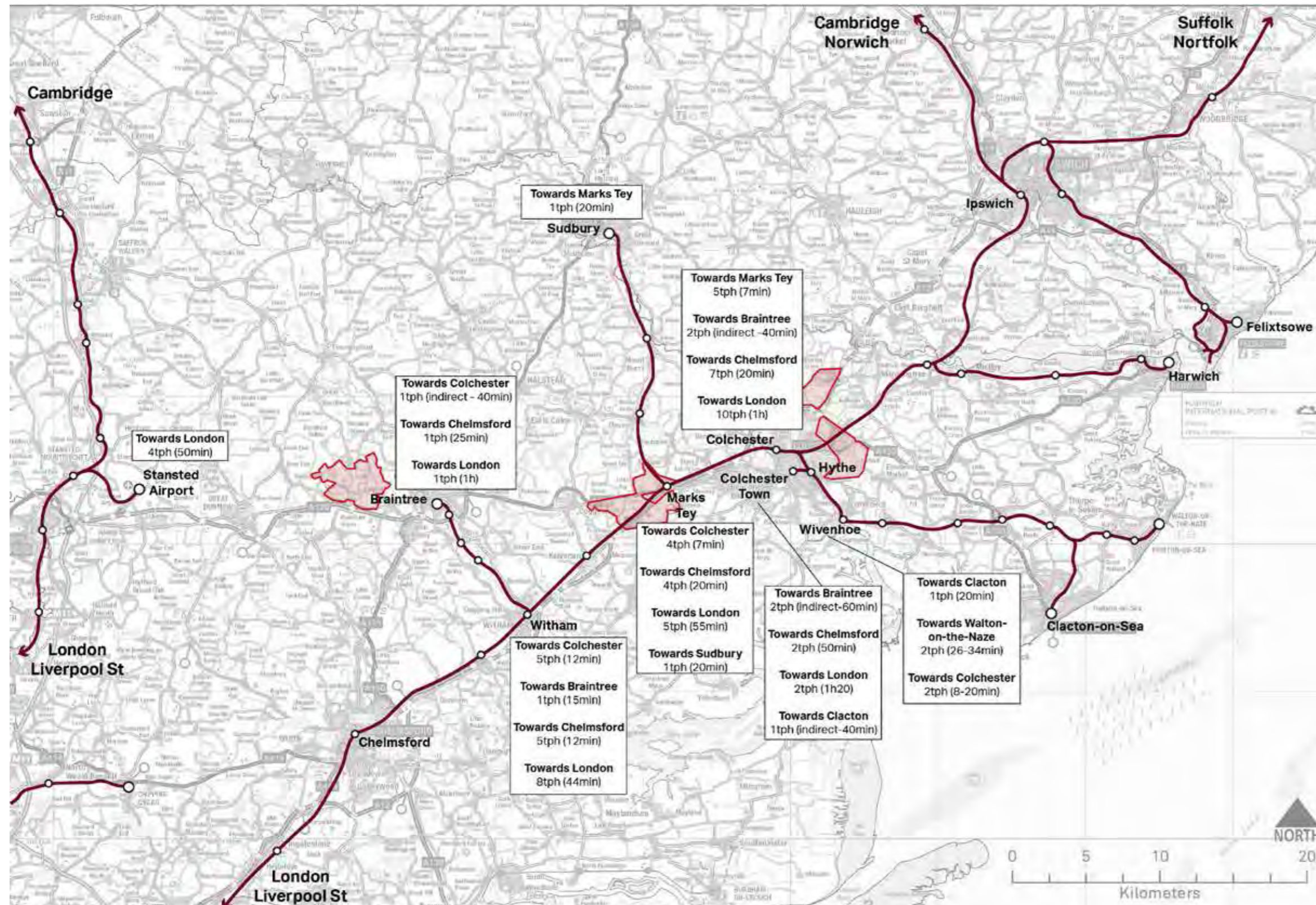


Figure 24: Existing rail peak hour frequencies. AECOM.

Rail

Key Findings

- Network Rail highlights current (2013), and future (2019,2023 & 2043) capacity constraints on the GEML based on the peak period 08.00-09.00. Within the development horizons for the proposed sites it is likely extensive capacity and overcrowding issues will be apparent on this line with the majority of the line from Colchester towards London at up to 100% of seats taken with standing up to 100% capacity met from Chelmsford Station, south to London. Networks Rail predications are based on an increase in morning peak passenger demand into London of 32% by 2023 and 75% by 2043. **7. N.B. The report however does not provide detailed land use growth assumptions used to predict the passenger growth in East Anglia and north Essex, this will require further exploration with Network Rail at the concept stage.**

- It is estimated that there will be a shortfall of 3,000 seats at peak times by 2031 if no action is taken to increase seating capacity.

2013

- The data on capacity constraints suggest that in 2013 during peak hour operations the GEML experiences constraints (seats full) from approximately Ingatestone onwards towards London, whilst the remaining sections of the line northwards operate at satisfactory crowding levels (up to 70% of seats taken).

- The ORR data depicts current interchange and total entry and exits at stations on the network. Marks Tey illustrates a high percentage interchange when compared with other stations.

2019

- Similarly to 2013, constraints on the network are only anticipated to occur from Chelmsford onwards to London, with all seats full and constraints on standing capacity (up to 40% of space taken) from Ingatestone onwards.

2023

- The pattern starts to worsen with seating constraints predicted to start at Witham, whilst from Chelmsford onwards to London there are standing constraints apparent, specifically from Ingatestone onwards, which is anticipated to see up to 80% standing capacity taken.

2043

- By 2043 it is anticipated that rail capacity on the GEML will be extremely constrained, with seating full from Marks Tey to Chelmsford and from Chelmsford to London standing at 100% capacity. The constraints on the rail network have a considerable bearing on growth in the region and how people will move around albeit in the context of the growth facts Network Rail have applied to their predictions.

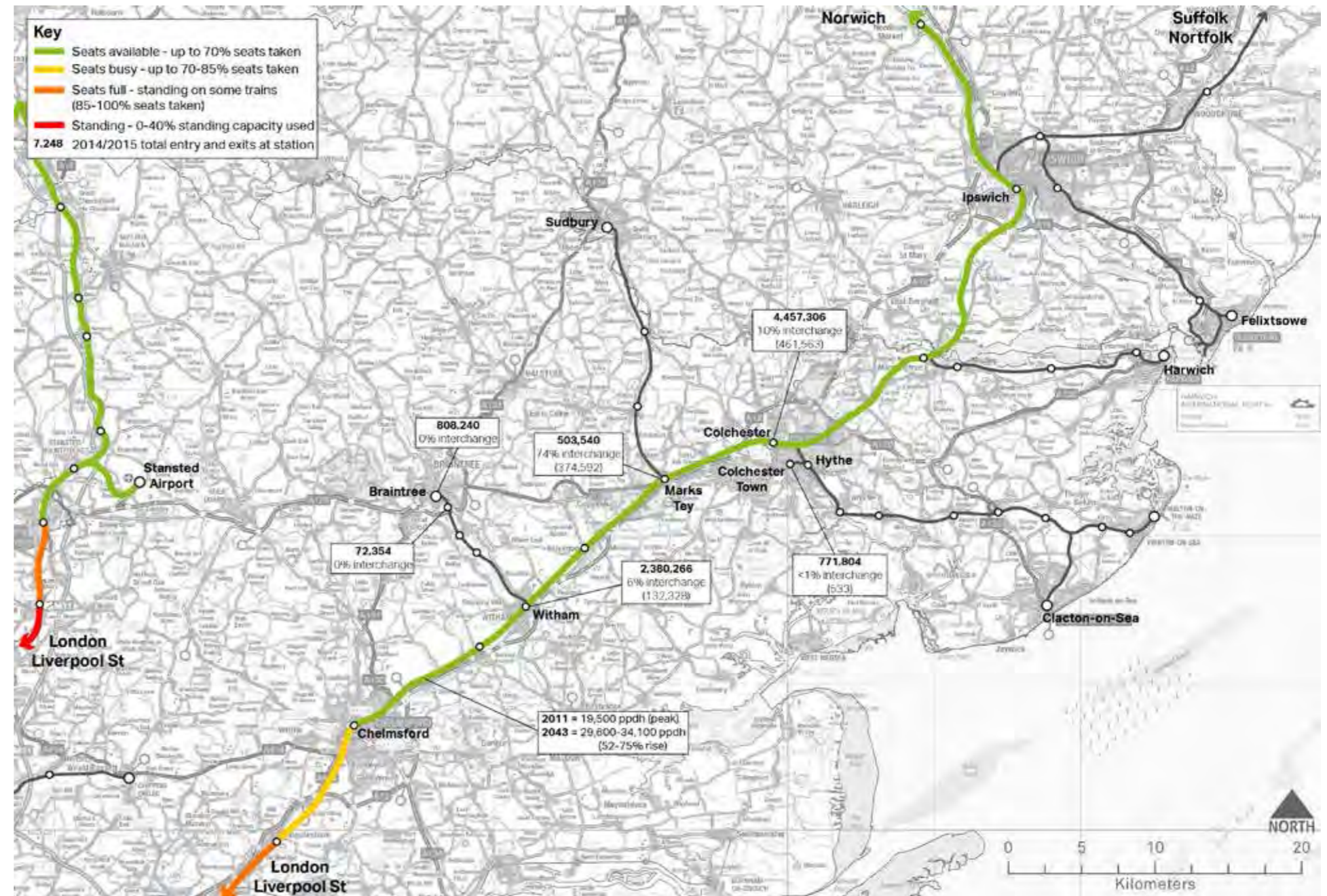


Figure 25: Existing situation in 2013. AECOM from, Anglia Route Study (draft), Network Rail, November 2014 and Office of Rail and Road (ORR) on 15 December 2015.

Sources

- Suffolk Rail Prospectus, SCC, March 2015.
- Anglia Route Study, Network Rail, March 2016.

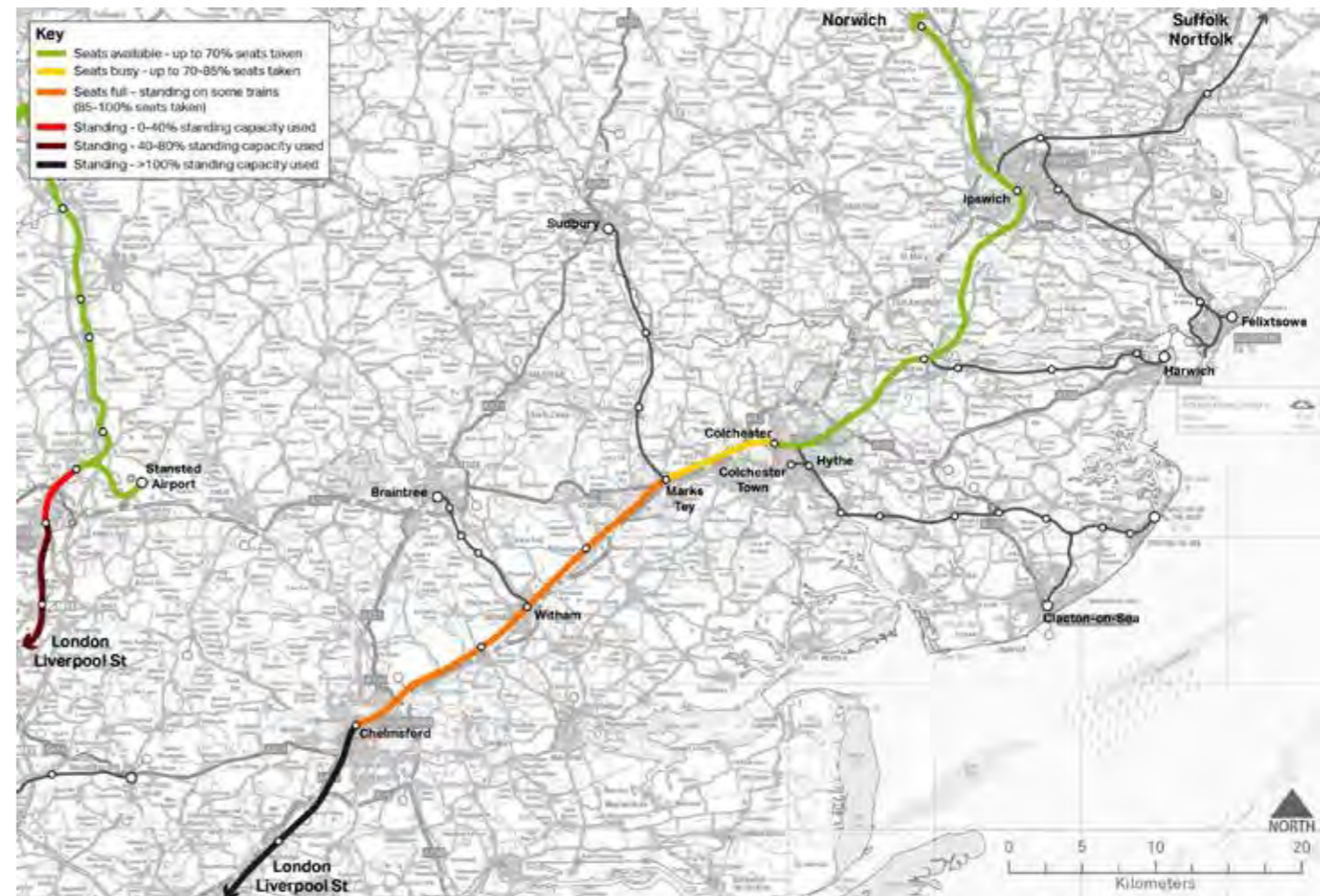
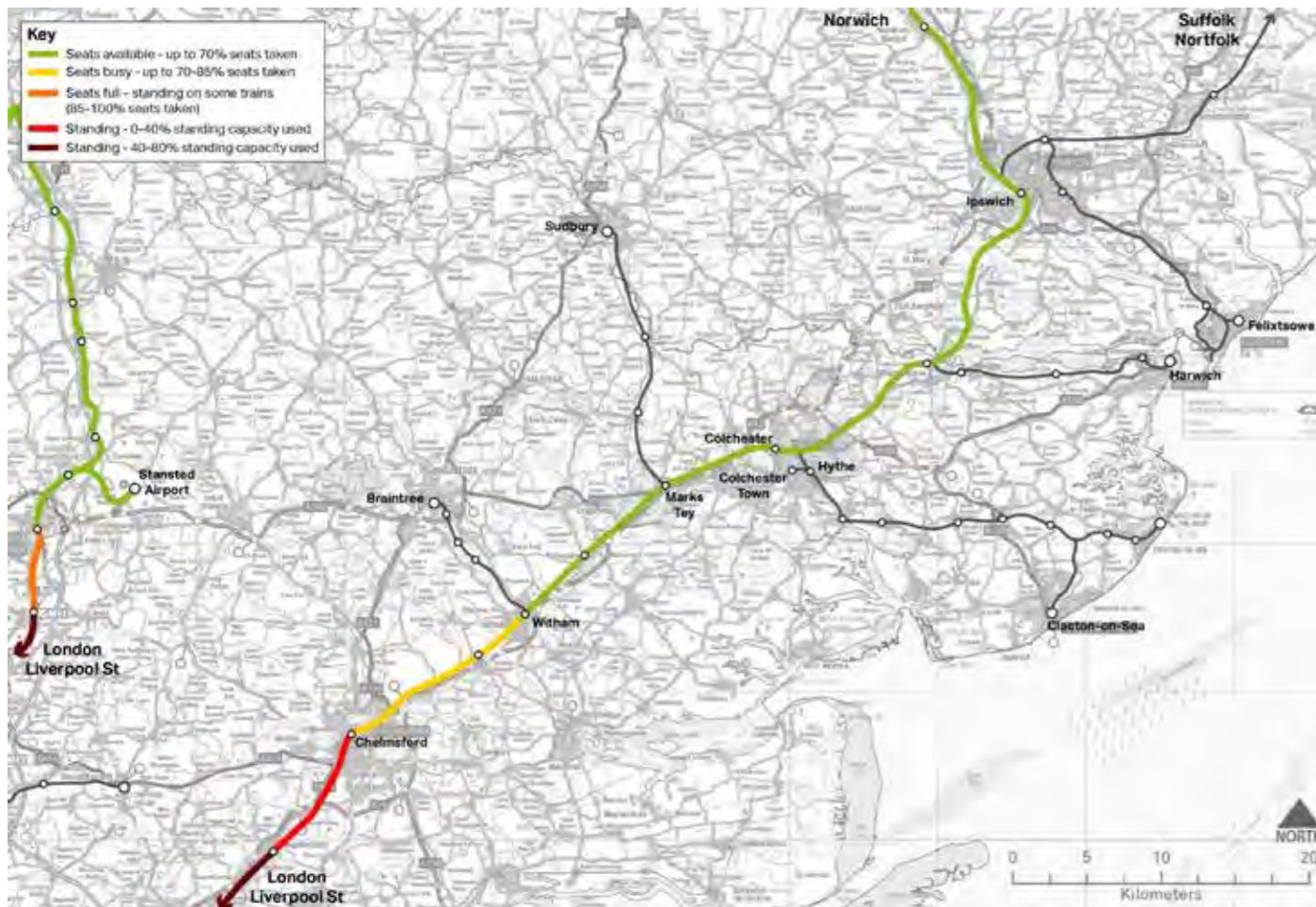
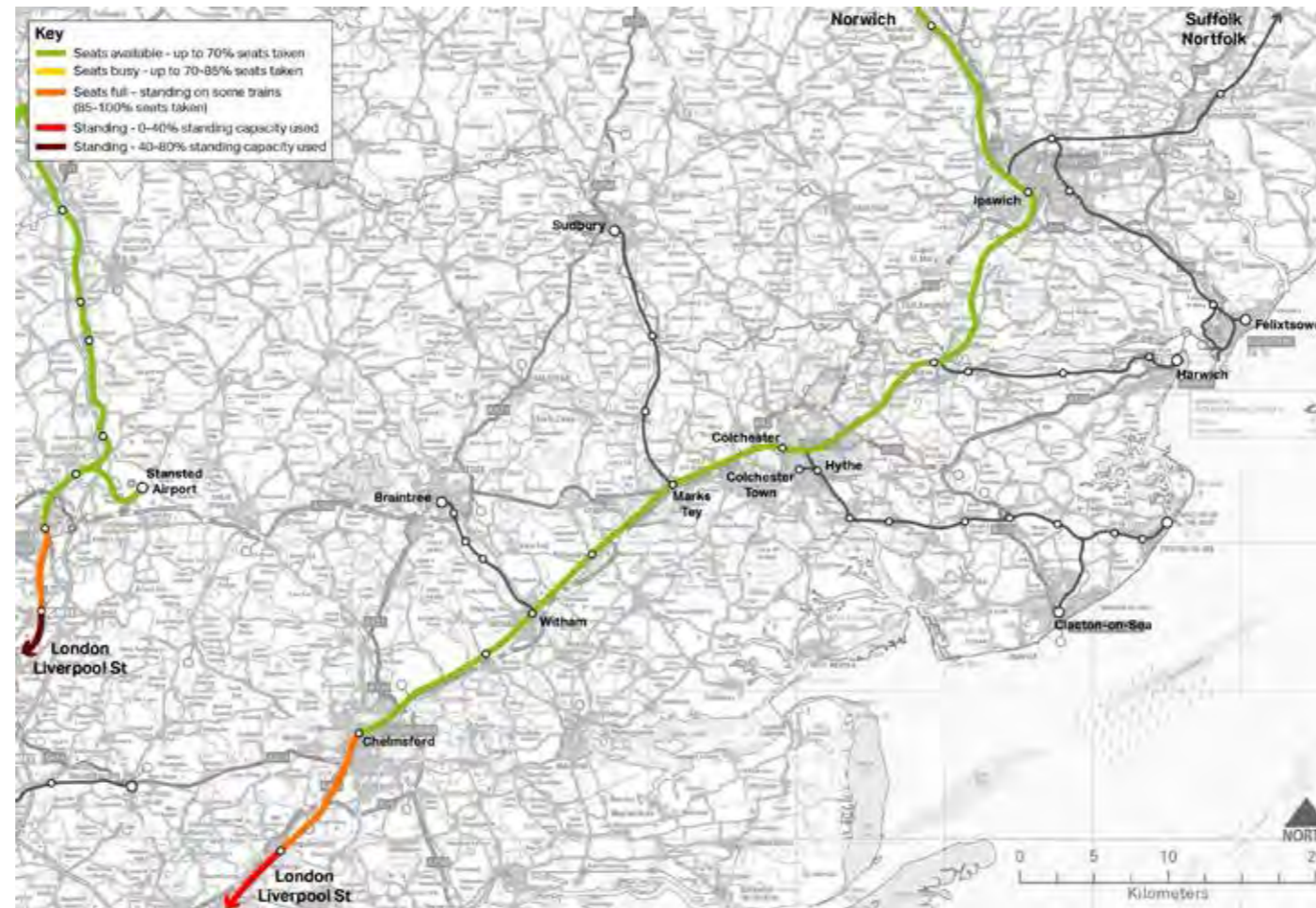


Figure 26: Existing situation in 2019 (top), 2023 (bottom left) and 2043 (bottom right). AECOM from Network Rail Anglia Route Study Draft for Consultation November 2014 and Estimates of Station Usage for 2014-15, for all stations in Great Britain, Office of Rail and Road (ORR) on 15 December 2015.

Rail

Key Findings

- Control Period 6 (CP6) future objectives for the GEML are as follows:
 - Provide sufficient capacity for passengers travelling into central London during peak hours, taking into account anticipated growth over the period to the end of CP6 (2023/2024)
 - Provide journey time improvement for services on the route from Norwich to London
- To enable this, different options are identified including additional platforms at London Liverpool Street and improved signalling between Chelmsford and Stratford.
- Network Rail have identified possible future upgrades (2043 horizon) to the branch lines that link with the GEML, these include new loops to enable two-way running along the line, thus doubling rail frequencies. Whilst a new passing loop for freight transit is proposed north of Witham to provide robust capacity for the addition of a third London to Norwich service all day alongside the existing and future freight services levels.
- A new station is proposed by Chelmsford County Council in partnership with Network Rail for Beaulieu Park (between Chelmsford and Hatfield Peverel), proposed to accommodate the anticipated increases in passenger demand relating to the extension to Beaulieu Park residential development. In addition to this, a third track will be built north of Chelmsford for between 3.5-5.5 miles to allow additional capacity. Along with this ECC proposal, a BRT route connecting with the city centre is proposed.
- Based on the capacity constraints evidence, future growth in development in North Essex concentrated on accessing employment in locations located on the southern sections of the GEML, within the context of Network Rail proposed 2043 rail interventions, it is likely that without radical public transport solutions in the region the southern sections of the GEML will continue to be constrained. The Anglia Route Study does however identify a number of small scale interventions to address the peak demand
 - Additional platform capacity at London Liverpool Street Station,
 - Signalling headway reduction between Chelmsford and London Liverpool Street: aim at improving the signalling to allow trains to run closer together, ideally reducing the time gap between each train from 2 minutes (max 24tph on the line) to 1.5 minutes to achieve the target of 32tph on the line
 - Passing loop north of Witham: achieving an increase in train services to meet the increased demand
 - Four-tracking or grade separation at Haughley Junction: required by the pressure exercised on this section by both an increased level of services on the GEML and an increased demand in freight on the Felixstowe-Peterborough corridor,
 - Doubling of Trowse Swing Bridge: to achieve additional services to Norwich as well as Cambridge/Ely.

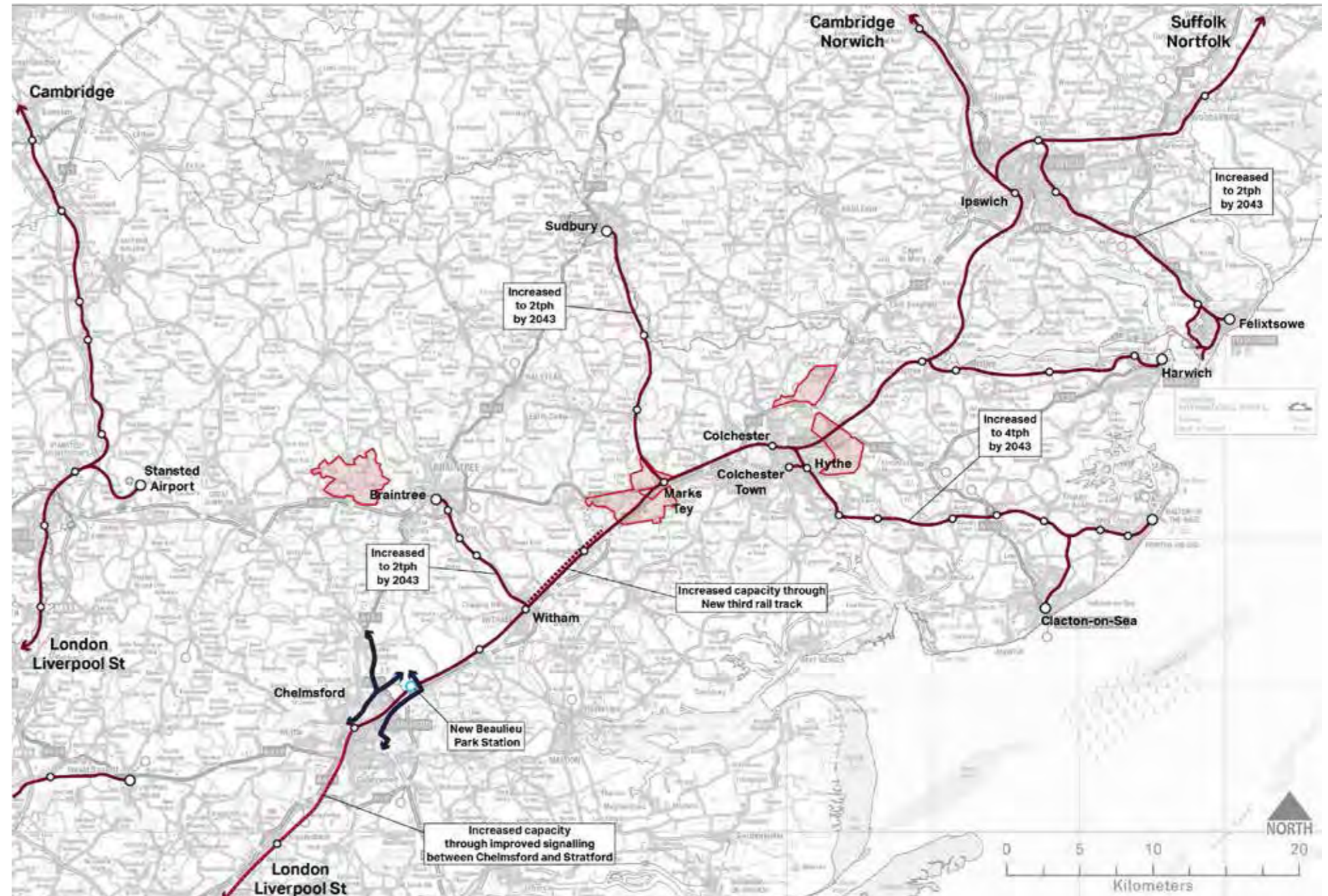


Figure 27: Identified improvements and proposals for rail network. AECOM.

- There is however a clear capacity gap on the GEML by 2043 even with these identified interventions.

Sources

- Anglia Route Study, Network Rail, March 2016.
- Once in a generation – a Rail prospectus for East Anglia

Bus

Key Findings

- A total of 18 'inter regional' bus routes run between the town and city centres in the north Essex region. Bus provision is predominantly along the north-south corridor between Colchester and Chelmsford with various longer distance services linking Stansted Airport. There are also a relatively high number of radial bus routes from Colchester town centre in comparison to Braintree. For example, this will be a key consideration when developing a future transportation network between towns and the identified sites.
- Bus routes and their frequencies are illustrated in the table below and in Figure 21:

National Express Coach	Route	Average Two-way Frequency
250	Ipswich to Stansted via Colchester, Marks and Braintree	11 per day (including night services from 02:00 to 22:00)
481	London Victoria to Ipswich via Chelmsford, Marks and Colchester	4 per day
484	London Victoria to Walton-on-the-Naze via Chelmsford, Colchester and Clacton on sea	1 per day

Other Interurban Bus	Route	Average Two-way Frequency
352	Chelmsford to Halstead via Braintree	2 per day
70	Colchester to Chelmsford via Braintree	2-3 per hour
71	Colchester to Chelmsford via Witham and Kelvedon	Every 30-40 minutes.
SX133	Stansted airport to the University of Essex in Colchester via Braintree, Marks Tey and Colchester	1 per hour to Braintree and approx. one every two hours continuing to the University
132	Halstead to Witham via Braintree	30 minutes
93/94	Colchester to Ipswich via Capel St-Mary	1-2 per hour
801/802	Witham to Ipswich via Marks Tey and Colchester	1-2 per day
74/76	Colchester to Clacton-on-Sea	Approx 1 per hour
102/103/104	University of Essex in Colchester to Harwich via Colchester and Manningtree	2 per hour
75	Colchester to Maldon via Tiptree	1-2 per hour
88	Colchester to Great Yeldham via Halstead	1 per day to and from Great Yeldham, 1 per hour between Halstead and Colchester
105/107/109	Colchester to Walton on the Naze	1 every two hours
803	Witham to Harwich via Braintree, Marks Tey, Colchester and Manningtree	2-3 per day
755/756	Colchester to Bury St Edmunds via Sudbury	1 service per hour from and to Sudbury, 1 service per hour between Sudbury and Bury St-Edmunds (indirect service)
67	Colchester to West Mersea	Up to 3 per hour

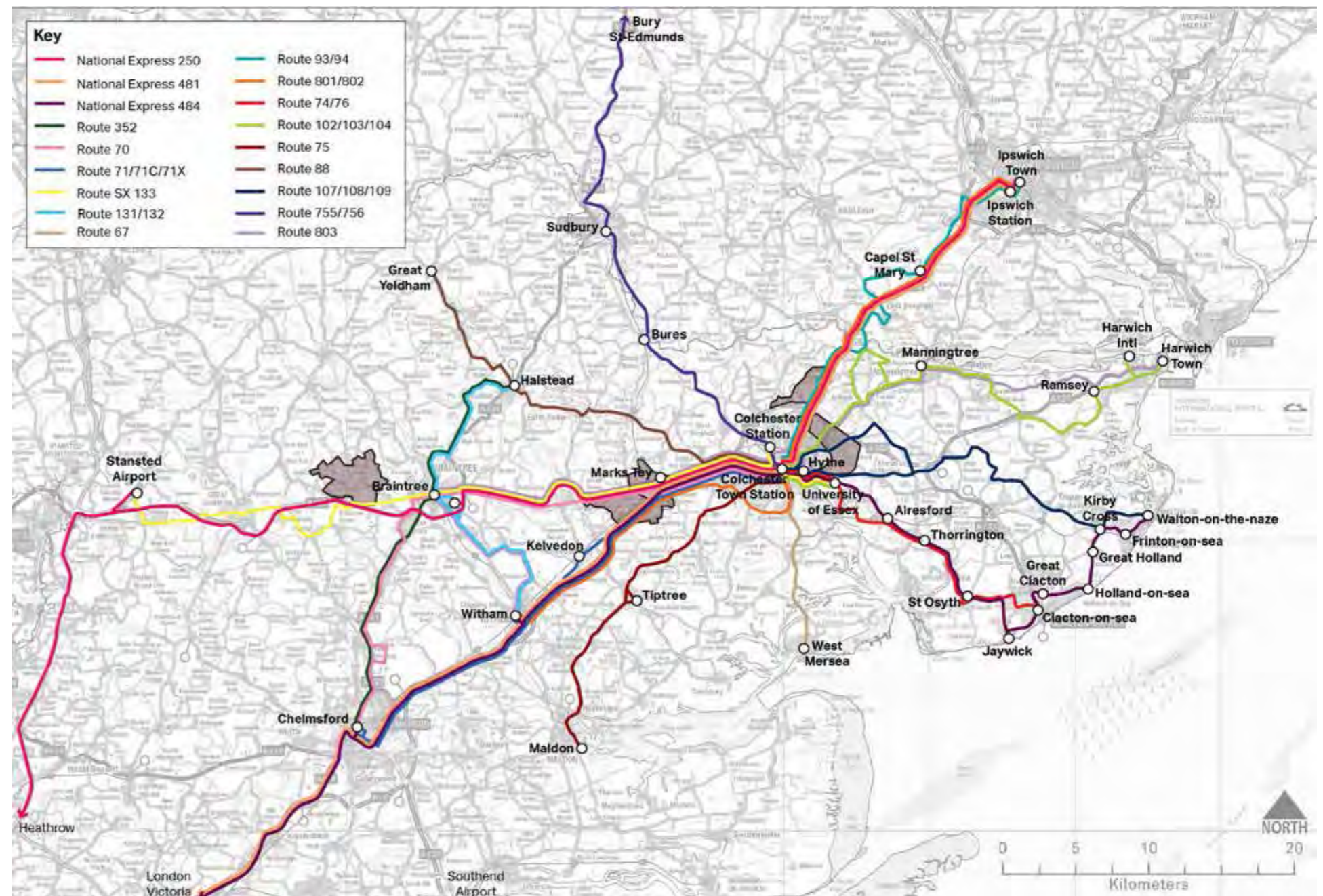


Figure 28: Existing North Essex Strategic Bus Network. AECOM.

Sources

- Essex Transport strategy, ECC, June 2011

Cycle Network

Key Findings

- The National Cycle Network (NCN) is a series of safe, traffic-free paths and quiet on-road cycling and walking routes that connect to every major town and city.
- The Network passes within a mile of half of all UK homes and now stretches over 14,000 miles across the length and breadth of the UK. Almost 5 million people use the NCN. Sustrans, note that over 27 million trips on the network are made by children traveling to and from school.
- The following long distance NCN routes operate within the region:
 - NCN 1 - long distance cycle route connecting Dover and the Shetland Islands - via the east coast of England and Scotland - that also forms the majority of the British section of the North Sea Cycle Route.
 - Route 13 (incomplete) - long distance cycle route connecting Tower Bridge in London with Fakenham in Norfolk
 - National Route 51 - passing through Oxfordshire, Buckinghamshire, Bedfordshire, Cambridgeshire, Suffolk and Essex. The section between Harwich and Colchester forms part of the North Sea Cycle Route, also known as EuroVelo 12.
 - National Route 16 - the first section connects Route 13 near Stansted via Great Dunmow, Braintree and Witham and continues to the intersection of Route 1 near Great Totham. The second section will connect Basildon with Shoeburyness, near Southend-on-Sea. Route 16 starts at the intersection with Route 13 at Birchanger near Stansted. The route heads south-east on bridle paths from the village of Birchanger near Stansted to join a traffic-free railway path known as the Flich Way.
 - Regional route 51 - East to west cross country Essex route
- Cycling levels in the area have risen substantially since 2007, supported by sustained investment in improving and promoting cycling, particularly as part of the Colchester Cycle Town initiative.
- Additionally, the Essex Transport Strategy has established the improvement and promotion of the Cycle Network as a priority for the Haven Gateway.

Sources

- Sustrans
- Essex Transport strategy, ECC, June 2011.

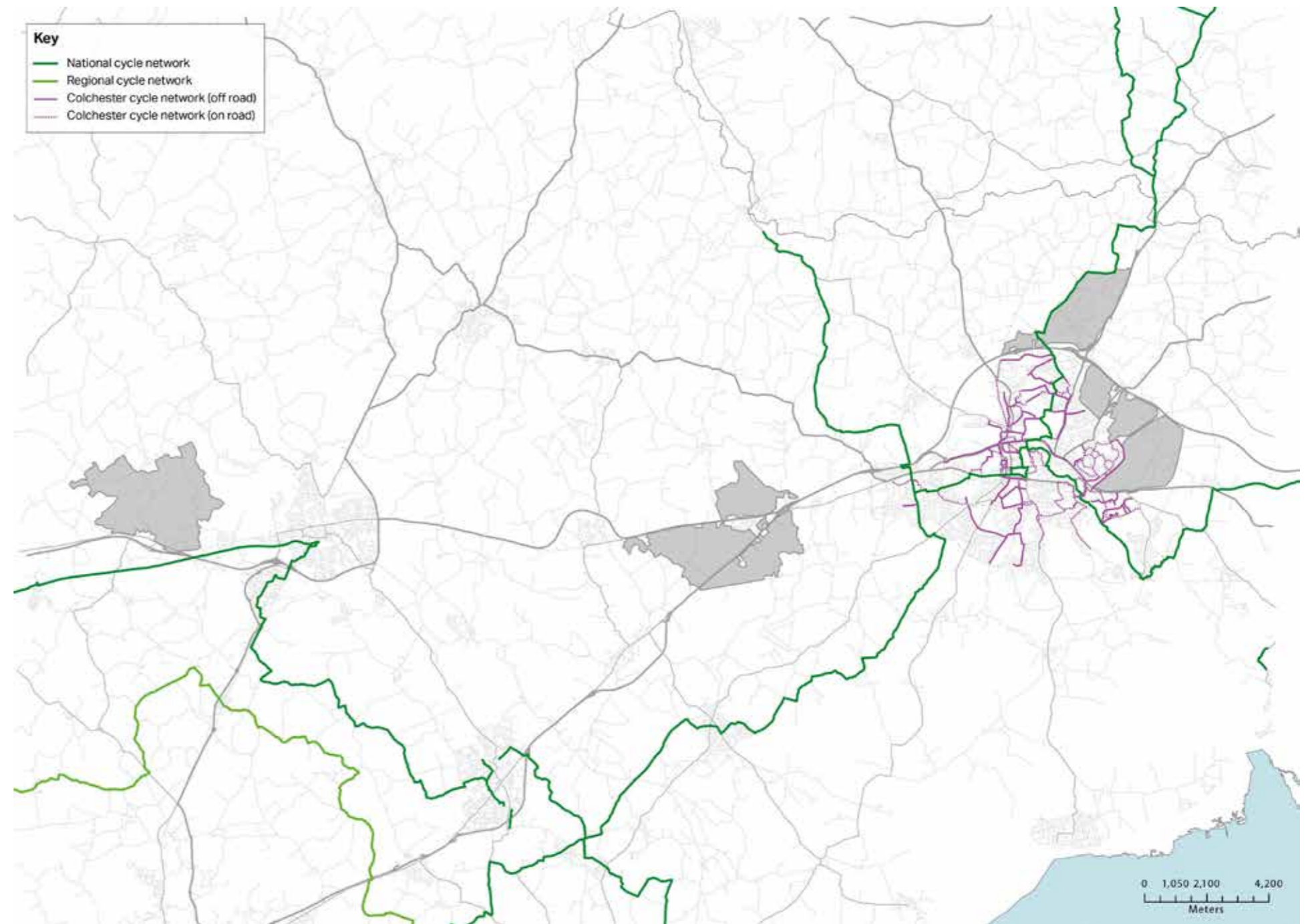


Figure 29: North Essex Existing Long Distance Cycle Network. AECOM from Sustrans.

1.5 Landscape Character, Sensitivity and Condition

Key Findings

- The existing topography is broadly defined by low-lying to gently undulating broad plateaus divided by narrow river valleys and marshland, principally the Rivers Stour, Colne and Blackwater.
- The Dedham Vale AONB and Stour Valley, with picturesque villages, rolling farmland, rivers, meadows, ancient woodlands characteristic of lowland English landscape crosses to the north of the study area.
- The area is defined by a complex settlement pattern of small nucleated and linear villages with many scattered farmsteads along dispersed lanes. Settlements are of mixed age made up of a variety of buildings with a rich and varied history.
- Overall the field pattern is irregular providing an enclosed character crossed by a network of narrow lanes and broadly reflects the historical activity of the area. The dominant land use is arable but with some sporadic pasture and orchards.
- Although tree cover is largely sparse across the field pattern, there is a network of low lying hedgerows and pockets of ancient woodland.
- Watercourses, including the River Colne, River Brain and River Tey flow gently across flood plains, supporting small, localised wet habitats and grazing marsh in the river valleys.
- Forming part of the Northern Thames Basin National Character Area, the geology of the area is largely London Clay overlain by loamy clay soils. These are lime based around to the west of Braintree and becoming more acidic around Colchester. These soils can impede drainage.

Sources

- Soilscape, National Soil Resources Institute (accessed through magic.co.uk)
- Natural England, National Character Areas - GIS Digital Boundary Datasets
- OS Terrain 50
- Environment Agency Geostore

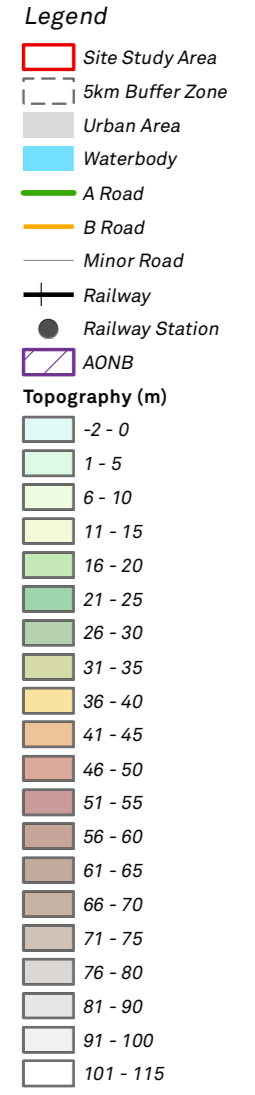
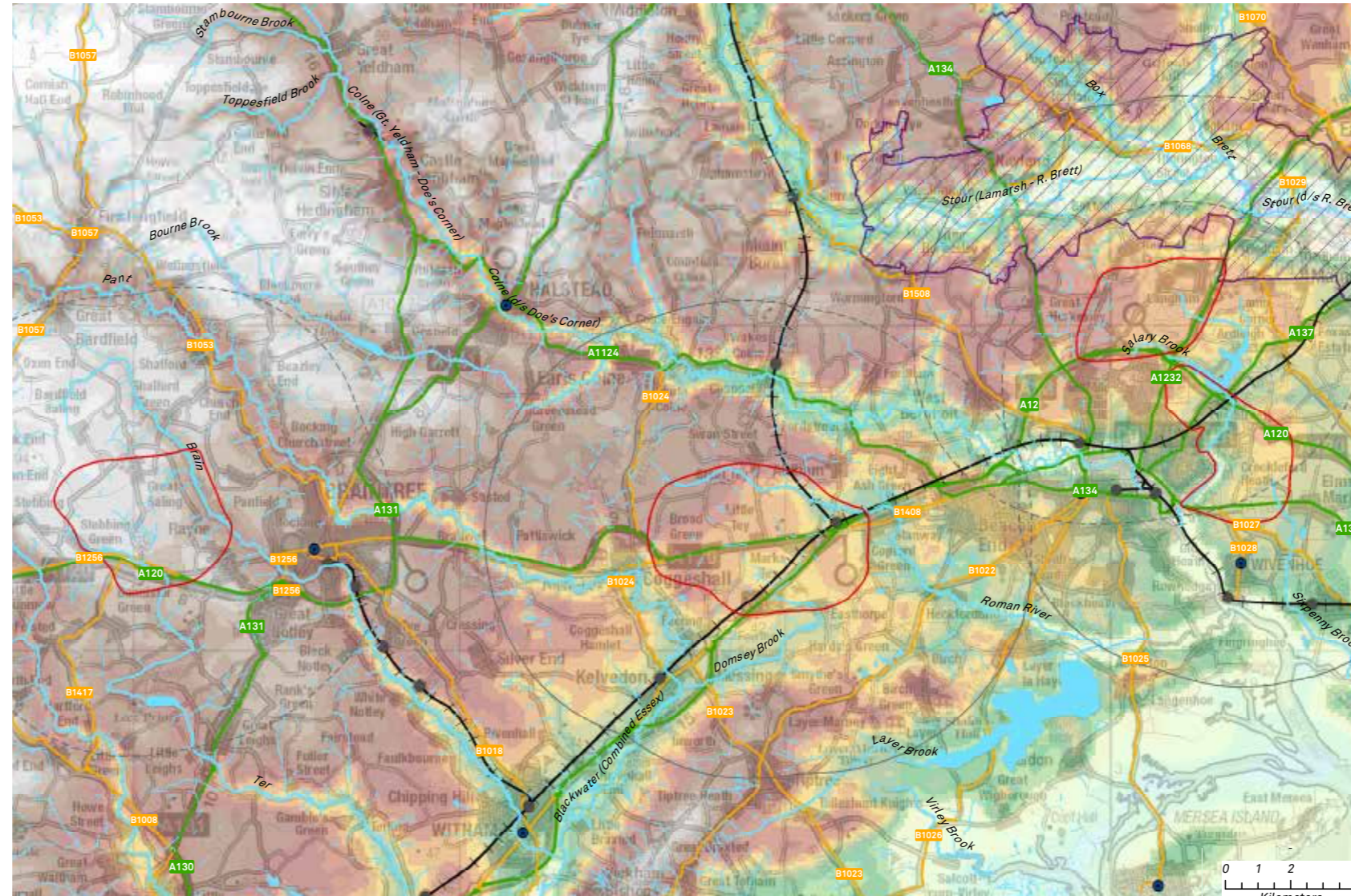


Figure 30: Strategic Landscape and Topography. Source: Natural England / Environment Agency

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1.6 Ecological Designations

Key Findings

- The area around the site study area has a rich and varied ecological baseline with a mosaic of habitats including ancient woodland, woodland pasture with pockets of lowland heath, semi-improved grassland and riparian margins.
- Of particular importance are the internationally recognised and protected sites to the south of Colchester including the Colne Valley (RAMSAR, SAC, SPA) and Abberton Reservoir (RAMSAR, SPA). Although not specifically on any of the identified sites, potential new development may increase pressure on these sites and could therefore be subject to an Appropriate Assessment and create the need for Suitable Alternative Natural Greenspace (SANGs) to be provided.
- There are also a number of nationally important Sites of Special Scientific Interest including waterways such as the Roman River and ancient woodland such as Bovingdon Hall Woods.
- For the most part the broad site study area for the potential garden communities are free of ecological designation or where these do exist they are located at the periphery of the site

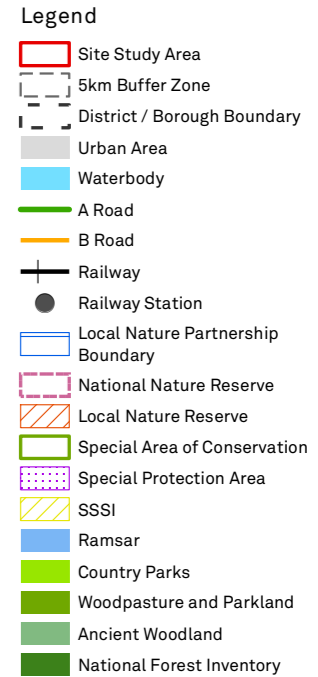
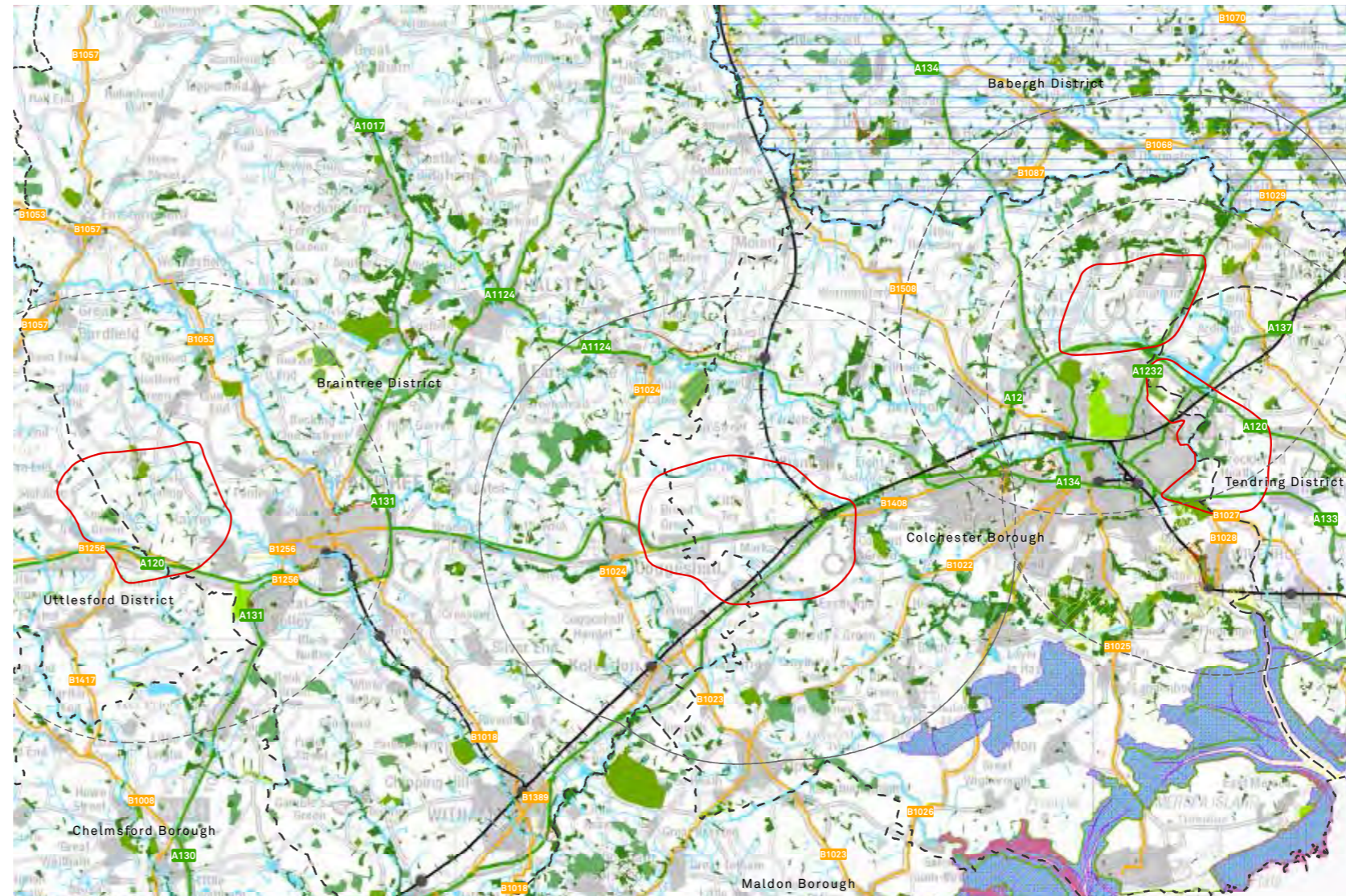


Figure 31: Strategic Ecological Designations. Source: Natural England / Environment Agency

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Sources

- Natural England, Designated Sites Citations
- OS Terrain 50
- Environment Agency Geostore

1.7 Water Cycle

Key Findings

- Fluvial flood risk is largely concentrated around the Colne Valley, the River Brain and the tight flood plains of their tributaries.
- All of the rivers within the study area are considered to be at risk of ecological deterioration with (Braintree District) considered to have moderate ecological potential whilst Pods Brook has low potential.
- The majority of the study area sits within surface and a ground water nitrate protection zones and drinking water protection zones. Future development would need to ensure that these are carefully managed preventing pollution from development that could affect existing water supply.
- The study area falls within water resources areas (referred to in the Anglian Water development plan as "South Essex") classified to be seriously water stressed and is predicted to be in water deficit condition by 2030. Furthermore, the Environment Agency identifies a number of local water bodies that area at risk of serious stress. In these areas, not only is supply likely to be increasingly constrained but demand for water is putting pressure on the functionality of ecosystems. Growth and climate change are likely to exacerbate these conditions. Accordingly, the delivery of significant new development in the area will need to seriously consider mitigation measures, such as water recycling, which limits potential strain and impact on the existing network.

Sources

- Natural England - GIS Digital Boundary Datasets
- OS Terrain 50
- Environment Agency Geostore



Figure 32: Strategic Ecological Designations. Source: Natural England / Environment Agency

1.8 Summary of Key Strategic Influences of Growth



This chapter provides baseline synthesis and key findings associated to the East of Colchester / West of Tendring area of investigation and the wider 5km buffer zone.

02 East of Colchester / West of Tendring

- 2.1 Site Overview and Landuse**
- 2.2 Call for Sites**
- 2.3 Land Ownership and Development Arrangements**
- 2.4 Surrounding Settlement Hierarchy**
- 2.5 Economic Context**
- 2.6 Movement and Connectivity**
- 2.7 Landscape and Strategic Networks**
- 2.8 Agricultural Land Classifications and Mineral Safeguarding Areas**
- 2.9 Ecological Designations**
- 2.10 Parks, Recreation and Historic Environment**
- 2.11 Water Cycle**
- 2.12 Utilities**
- 2.13 Social Infrastructure**

2.1 Site Overview and Landuse

The East Colchester / West Tendring area of investigation wraps around the urban edge of East Colchester, bordering the A1232 to the north west with severalls industrial park beyond, and the A133 to the south with the University of Essex and Knowledge Gateway Business/Science Park beyond. The Local Authority boundary of Colchester and Tendring cuts through the site in a deviating north-south direction. The A120 defines the north eastern edge. The residential neighbourhoods of Greenstead, Parsons Heath and Highwoods are all in close proximity to the west, however Salary Brook and its valley presents a distinct separation between these residential areas and the western boundary of the area of investigation south of Bromley Road due to its sudden change in topography. The land is predominantly undeveloped and in agricultural production. There are isolated residential properties and farms scattered across the site, with a linear band of properties and small-scale employment uses along Harwich Road in the northern section.

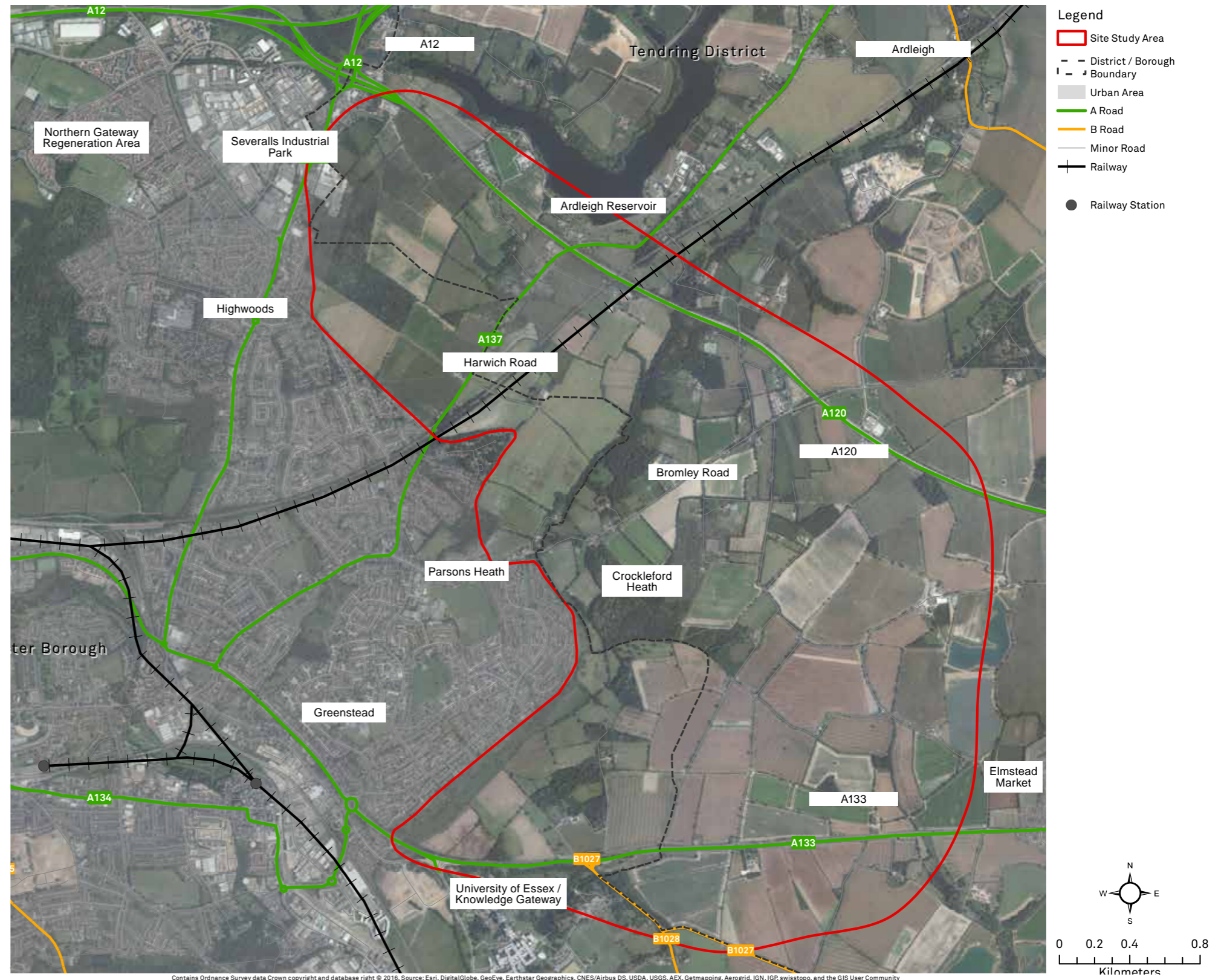
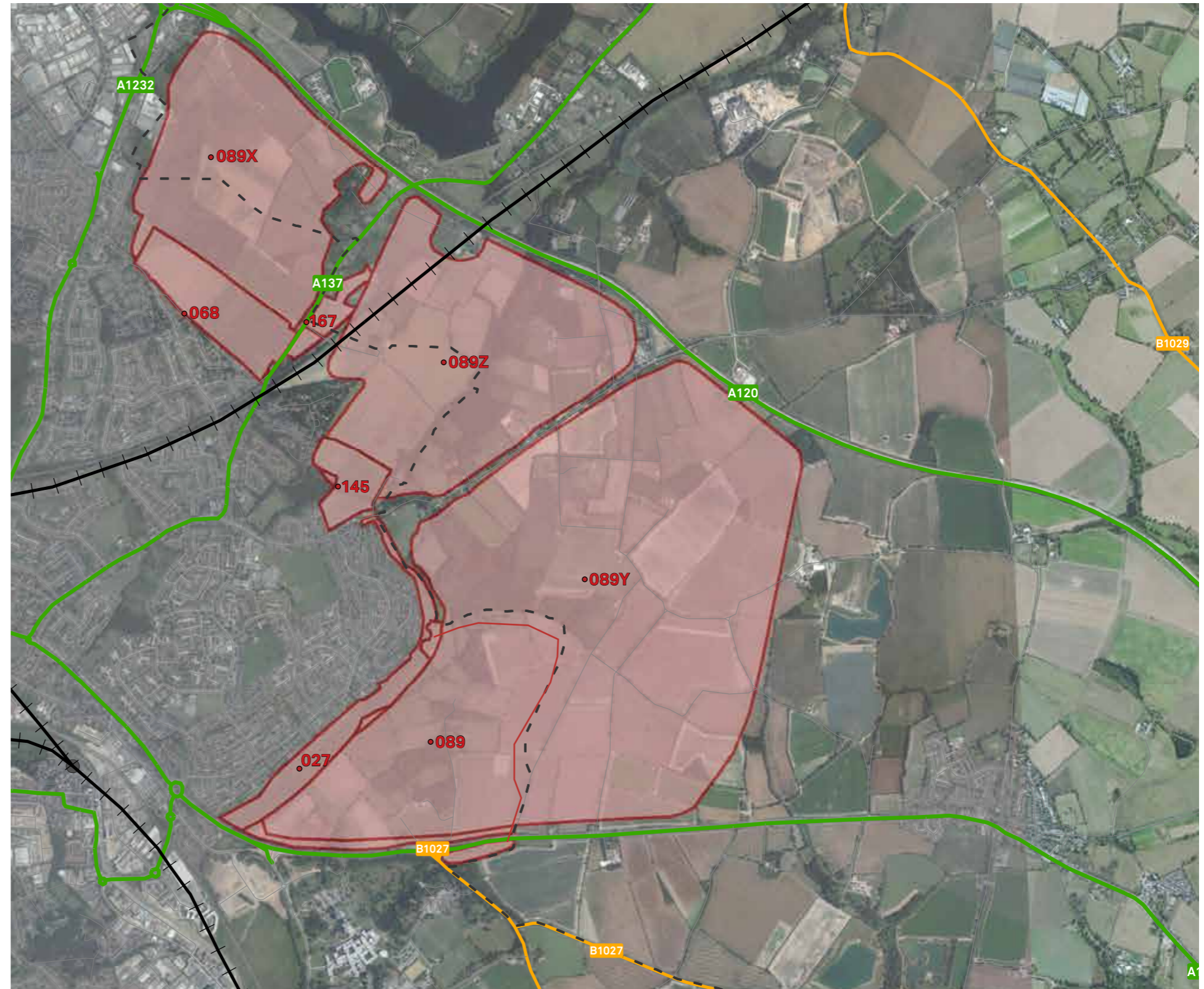


Figure 33: East Colchester / West Tendring Context

2.2 Call for Sites

Key Findings

- The Call for Sites process for Colchester and Tendring undertaken to support the development of their new Local Plans identified 8 sites associated with the East of Colchester Garden Community option.
- The aggregated call for sites area totals 874.6ha with proposed uses comprising Residential, Mixed Use and Country Park.
- The individual site details are shown below in Table 8.
- Aggregated, the individual sites have the capacity in principle (i.e. before site capacity testing) to accommodate at least 10,000 homes, equivalent to an approximate population of 24,000.



Call for Sites Reference	Location	Proposed Use	Site Area (ha)
027	Salary Brook	Country Park	21.156
068	St John's Road, Colchester	Residential	26.455
089X	West Tendring Site	Mixed Use	132
089Z	West Tendring Site	Mixed Use	153.6
089Y	West Tendring Site	Mixed Use	409.3
089	St Andrews Avenue, Colchester	Mixed Use	115.2
145	Land North of Bromley Road, Colchester	Residential	10.72
167	Shaw's Farm, Parsons Heath	Residential	6.187
Total Site Area: 874.618ha			

Table 8: Call for Sites - East Colchester / West Tendring. Source: Colchester BC Call for Sites (2014/2015)

Figure 34: East Colchester / West Tendring Call for Sites Submissions. Source: Colchester BC Call for Sites

2.3 Land Promoters and Development Agreements

Key Findings

- There are large single landownership between A120, A133 and Bromley Road, but the situation is more fragmented in the central/northern sections of the area of investigation.
- The majority of land south of Bromley Road is under option to Mersea Homes.
- It is understood Persimmon Homes may have an option on the northern land parcels at St Johns Farm measuring approximately 137ha. The exact details of the agreement are not known.
- Landownership north of Bromley Road is complex with multiple landowners.

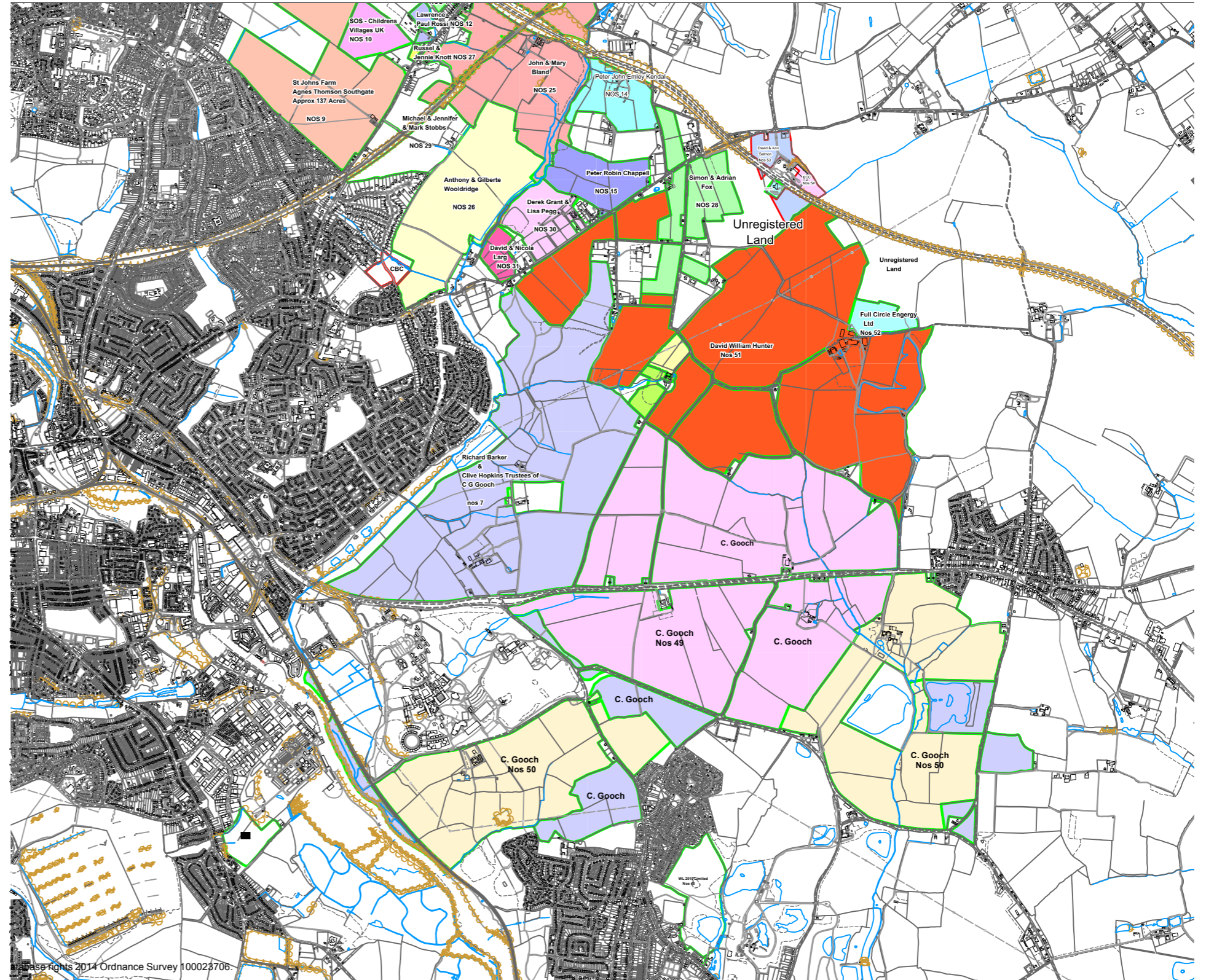


Table 9: Preparation Documents Commissioned by Promoters to Date and Similarities to the Councils in support of the call for sites process

Document	Prepared By
Colchester Fringe Capacity Study (2013)	ADP Ltd
Colchester BC Landownership Map	Colchester BC

Figure 35: East Colchester / West Tendring Land Ownership. Source: Site Promoters

2.4 Surrounding Settlement Hierarchy

Key Findings

- The Site Study Area is along the eastern edge of Colchester (Regional Centre in the Settlement Hierarchy)
- Colchester Town, around Colchester Town Rail Station, is situated approximately 3.1km to the west from the nearest point of the site.
- The District Settlement of Wivenhoe is located approximately 1.5km to the south of the area of investigation.
- The area beyond the eastern boundary of the area of investigation is more sparsely populated and has a far more rural character although the village of Elmstead Market approximately 1.2km away along the A133 is classed as a Key Rural Service Centre.
- The Smaller Rural Settlement, the village of Ardleigh is located approximately 2.8km along the A137 to the north east..

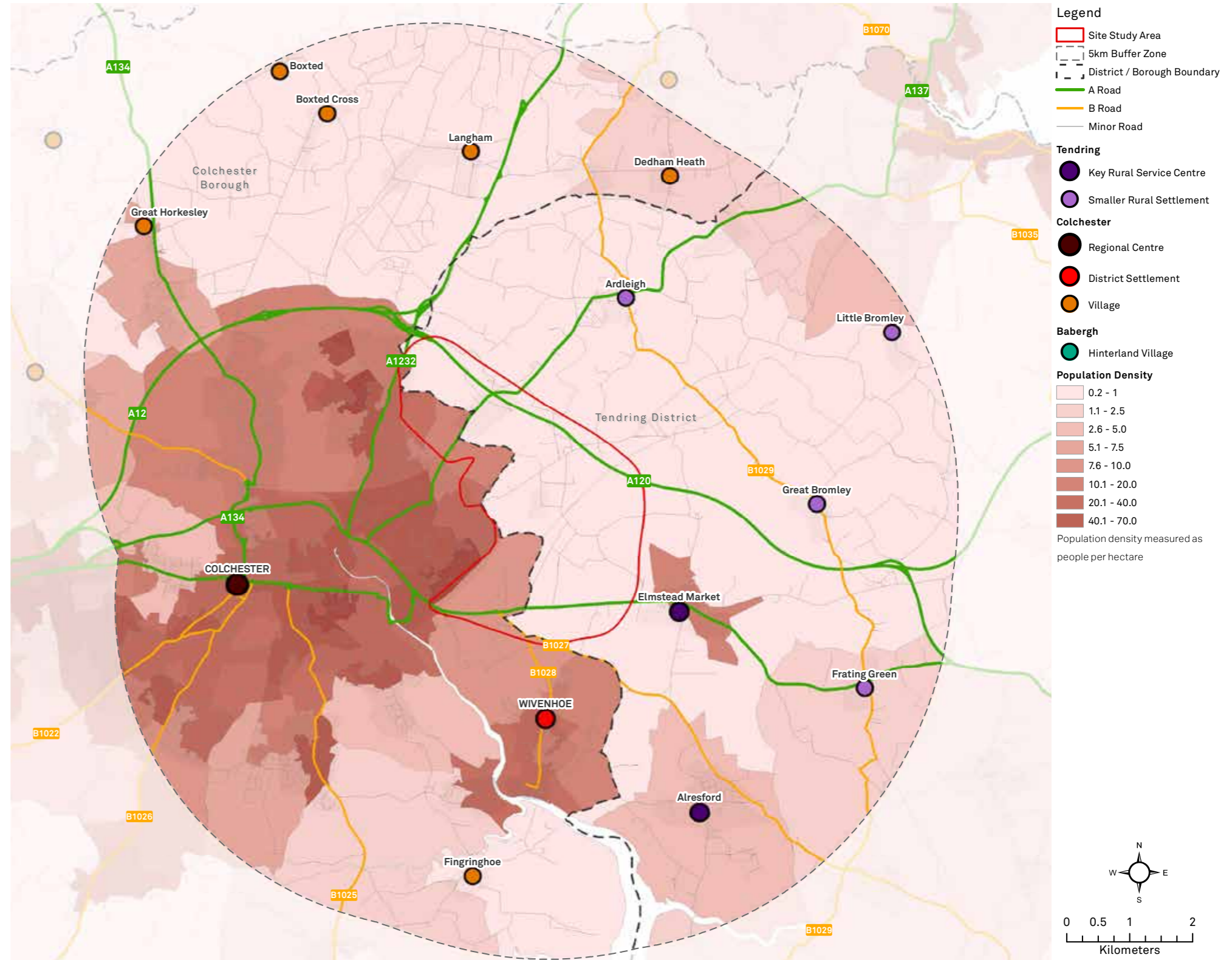


Figure 36: East Colchester / West Tendring Settlement Hierarchy. Source: AECOM

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2.5 Economic Context

Key Findings

- The major strategic employment locations for Colchester are the area of Easter Park and Severalls Lane Business Park which lie to the north-west of the potential East Colchester / West Tendring Garden Community Site Area.
- The University of Essex lies immediately south of the Site Area, and in addition to its academic growth plans it is developing the adjacent Knowledge Gateway Business / Science Park.
- Tendring's Economic Growth Strategy (October 2013) identifies this broad location as a key new growth node which could:
 - Provide unique employment space.
 - Introduce new education infrastructure.
 - Complement target sectors (e.g. renewable energy / healthcare and assisted living).
 - Establish North East Essex Healthcare and Assisted Living Centre of Excellence.
 - Accommodate and enable high technology spin-out companies.
 - Constitute a demand side led initiative for Tendring DC (i.e. population and housing led growth).
- Colchester has aspirations to become the Essex hub for creative industries, in which a facility is being developed in the town centre to help achieve this. This compliments the town centre office and retail employment offer.
- To the east and south east of the site, agriculture is by far the largest economic activity.
- Tendring's largest centres, and therefore main economic centres, are located on the coast (Clacton, Brightlingsea, Frinton-on-Sea, Harwich) 25-35km.
- The A120 route provides a key link to these centres and important connection the main east coast ports of Harwich and Felixstowe.

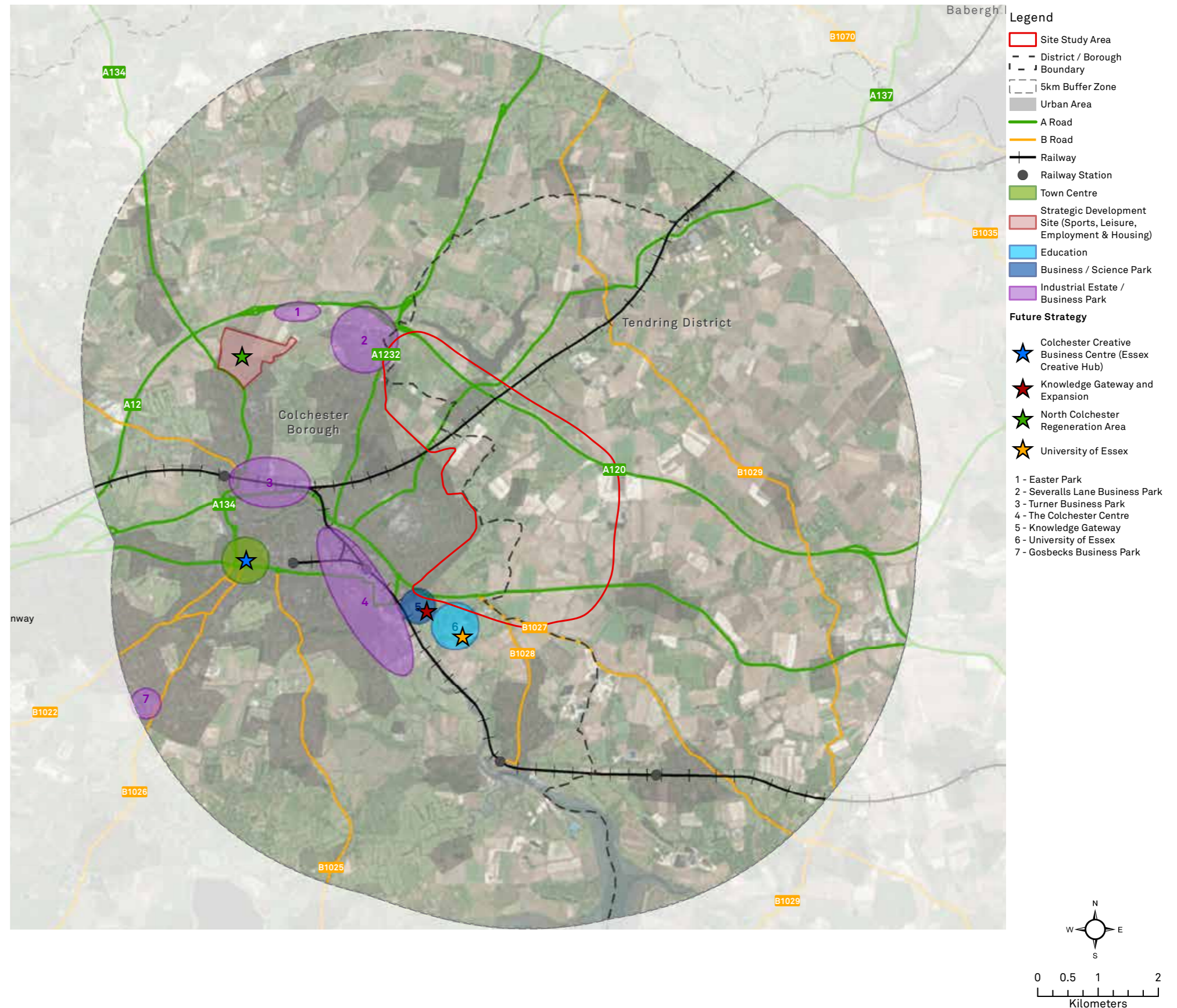


Figure 37: East Colchester / West Tendring Economic Context. Source: AECOM

2.6 Utilities

Key Findings

Electricity

- Some network reinforcement will be needed in the period to 2013 to ensure that the Regulated reliability criteria are maintained under winter loading conditions. Development east of the Salary Brook may be more costly owing to the need to install new circuits under the river to support the load. But other supply options could be made available to the area, subject to further study. Overall, there are a number of existing primary substations in the local area and sites that have been reserved by UKPN for new primary substations, that could be used, expanded or developed now subject to detailed study.

Water Supply

- The region east of Colchester (referred to in the Anglian Water development plan as "South Essex") is predicted to be in water deficit condition by 2030 and water will need to be delivered from other areas within the Anglian Water region, or supplemented by neighbouring water companies. This is based on average growth trends; any accelerated growth will bring the date forward.
- There are no major supply projects planned during the current review period (to 2020) – the focus is firmly on demand reduction by tackling leakage and installing water meters.
- In a meeting held between AECOM and Anglian Water on 20th May 2016, it was confirmed that water supply should be possible from the Arleigh Reservoir, immediately north of the A120, subject to new and upgraded existing infrastructure.

Gas

- The medium pressure network is expected to be able to deliver the predicted additional demand from potential development, but the low pressure network will require reinforcement in places.

Waste Water

- The Colchester Waste Water Treatment Plant, now referred to Water Recycling Centre (WRC), is near capacity. There is a high level strategy to expand the plant, but expenditure will only be committed in response to developer demand. Expansion will have a fairly long lead-in time, so there may be some constraint on early development.
- In a meeting held between AECOM and Anglian Water on 20th May 2016, it was confirmed that there are a number small WRC's with some capacity in this area. These include WRC's at Fingringhoe and Great Bromley. These could serve early development, but before the end of the plan period (2032), waste water would have to be pumped to Colchester WRC at Hythe, or a new treatment plant would have to be built. Pumping to Hythe would involve a river crossing.

Telecommunications

- Evidence appears limited. Additional investigation required.

Sources

- Anglia Water & National Grid

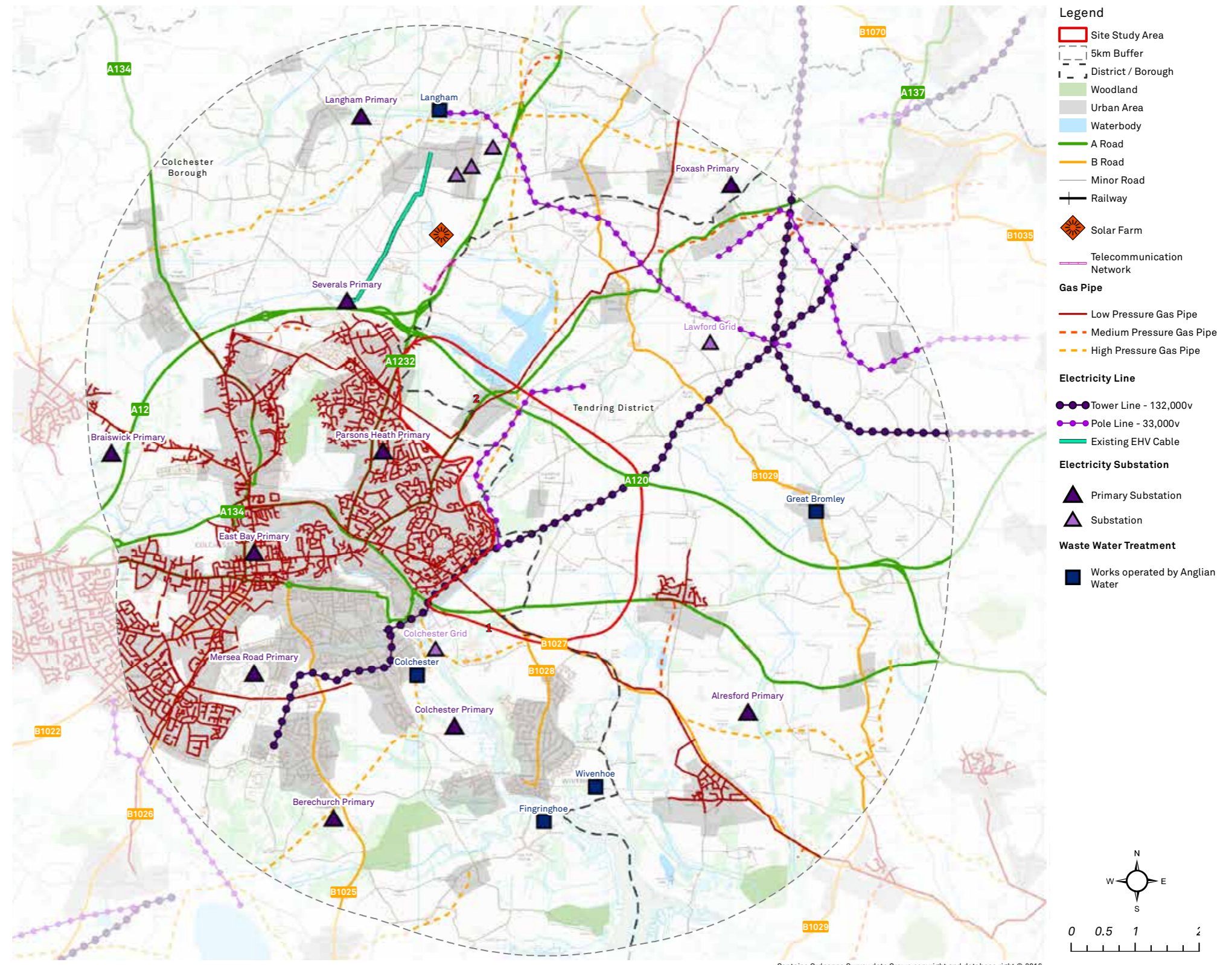


Figure 38: East Colchester / West Tendring Utilities. Source: Anglian Water / National Grid

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2.7 Landscape Character, Sensitivity and Condition

Key Findings

- Although the majority of the area of investigation lies between 45m AOD in the northern corners, gradually sloping down to 30m AOD, there is a marked change in the topography as the Salary Brook transects the site form north east to join the Colne River in the south west, with a rise of some 40m from the valley bottom to high points to the north west and east of the site.
- The upland farmland plateaux is characterised by arable fields together with relatively poor semi-improved grassland. The local landscape character assessment also identified areas of heather on the plateau as well as the valleys.
- The landscape beyond the south of the site contributes to the separation of Colchester and the settlements of Wivenhoe and Elmstead Market.
- The area of investigation is bound on the west by the urban edge of Colchester; the neighbourhoods of Greenstead, Parson's Heath and Highwoods. The Townscape Character Area that borders the west of the site is described as Post-1960s Suburbs (Avon Way, Longridge and St. Johns Road further north), with a small area of Mixed Age Suburbs around Welshwood Road **(1)** just south of the railway line. To the North West corner of the site, 20th century retail, commerce and industry dominates (Severalls Lane/Colchester Business Park) **(2)**.
- The topography of the site, as well as the densely vegetated field boundaries, restricts long views into and within the site. There is no visual connection with Colchester town centre.
- The National Character Area of the site is defined as the Northern Thames Basin. Much of the area of investigation sits on Thames Group bedrock (London Clay) with the majority overlain by glacial till (Colchester Borough Landscape Character Assessment (2005).

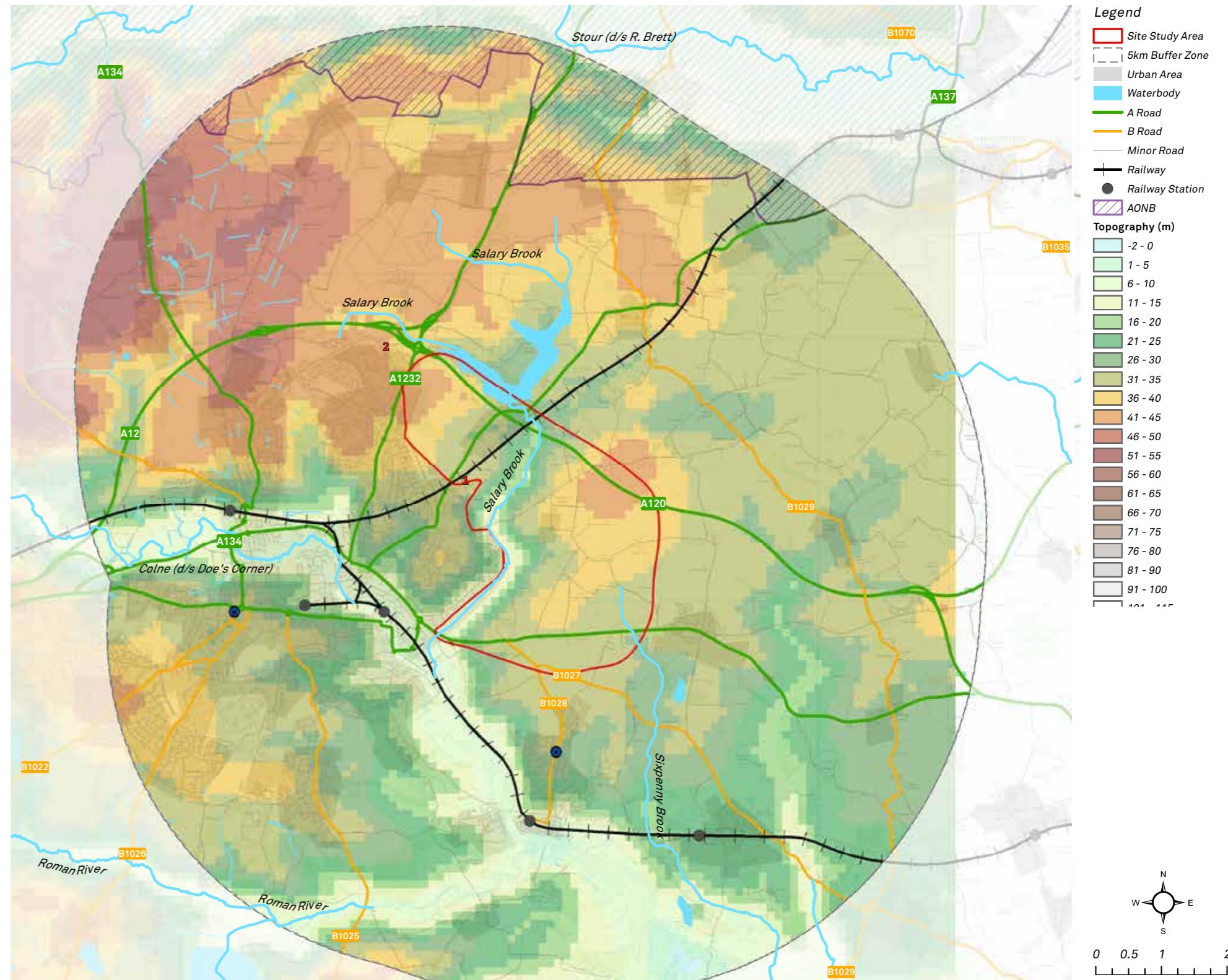


Figure 39: East Colchester / West Tendring Landscape and Topography. Source: Natural England / Environment Agency

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Figure 40: View across south section of the Site Area looking north with the University of Essex and Knowledge Gateway in the foreground. Source: Bing Maps Bird's Eye View



Figure 41: View across north section of the Site Area looking south with Ardleigh Reservoir in the foreground and Severalls Industrial Park in the bottom right corner. Source: Bing Maps Bird's Eye View

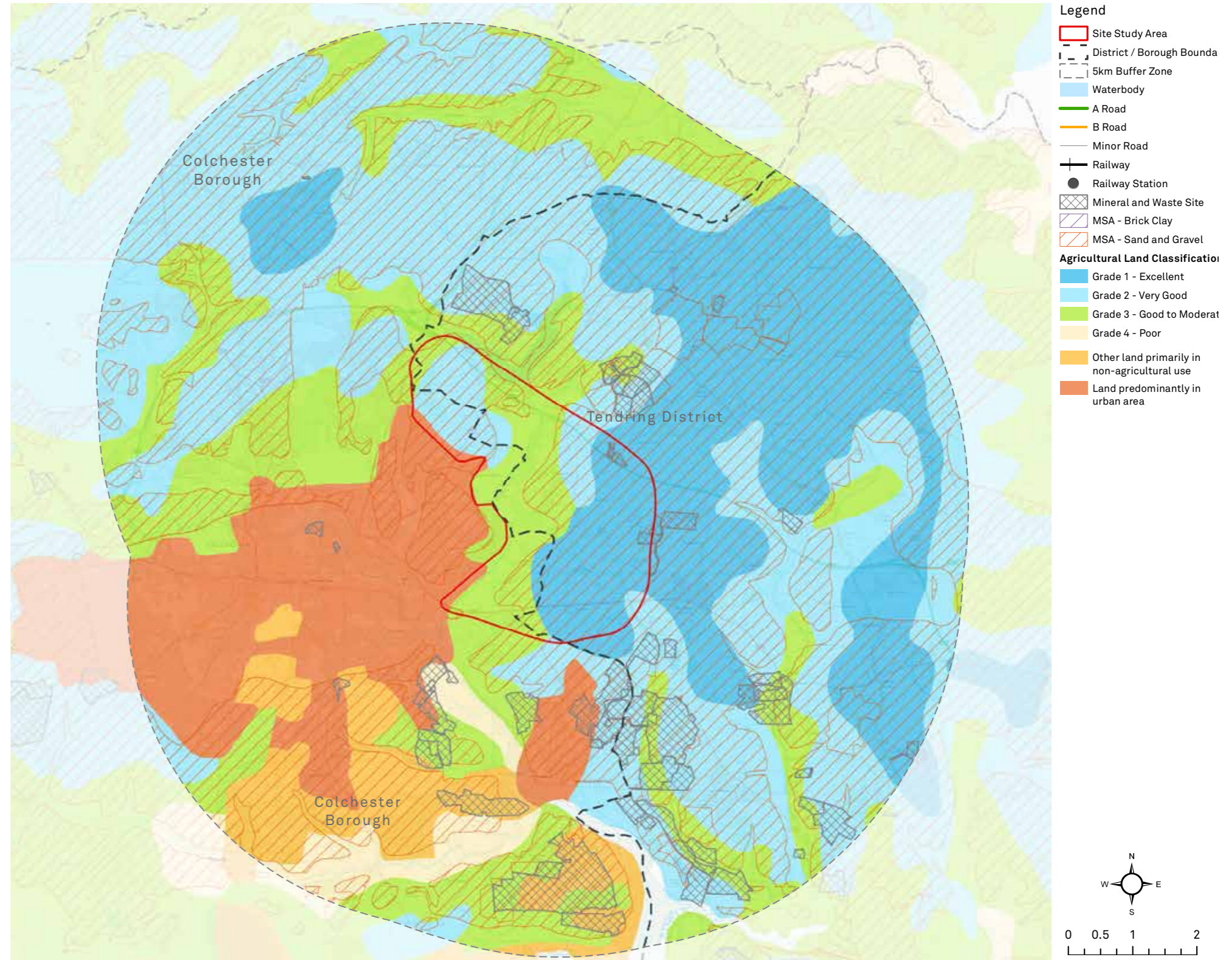
Sources

- Natural England, National Character Areas - GIS Digital Boundary Datasets
- OS Terrain 50
- Environment Agency Geostore
- Soilscape, National Soil Resources Institute (accessed through magic.co.uk)
- Colchester Borough Council East Colchester Growth Area Option Environmental Audit (November 2015)
- Strategic Flood Risk Assessment Appendix C Colchester Supplementary Report (February 2008)
- Colchester Borough Landscape Character Assessment (November 2005) and Colchester Borough Council East Colchester Growth Area Option Environmental Audit (November 2015)

2.8 Agricultural Land Classifications and Mineral Safeguarding Areas

Key Findings

- Predominately, the Site Study Area is within agricultural land, with a small sliver of land, along the western edge, part is part of the urban area that makes up Colchester Town.
- The quality of agricultural land is predominantly Good to Moderate (through the centre of the Site Study Area) or Excellent (Western portion of the Site Study Area).
- In addition, sand and gravel Mineral Safeguarding Area covers the majority of the site. This does not prevent future development within East of Colchester, however the designation ensures that mineral resources are considered in making land-use planning decisions.



Sources

- Natural England, National Character Areas - GIS Digital Boundary

Figure 42: East Colchester / West Tendring Agricultural Land Classifications and Mineral Safeguarding Areas. Source: Natural England / Mineral Safeguarding Zones Received from Essex County Council

2.9 Ecological Designations

Key Findings

- There are no international designations on site, but within the 5km buffer zone to the south of the site there are numerous designations associated with the estuary network. The Colne Estuary (Mid-Essex Coast Phase 2) is a RAMSAR site and Special Protection Area (SPA) of international and national importance for various birds. Here erosion is considered to be a major impact and pollution from fertilisers and pesticides are also issues. The Essex Estuaries are designated special areas of conservation home to unusual flora and fauna including sublittoral invertebrates. Because of relative proximity, development of the Site Study Area could create pressures on the RAMSAR and SPA, and could therefore be subject to appropriate assessment and the need for Suitable Alternative Green Space (SANGs) to be provided.
- Bullock Wood SSSI (1) sits to the north-west of the site and is considered to be of favourable condition. Within the 5km buffer zone there are numerous SSSIs particularly to the south of the site. This includes marshes associated with Upper Colne the majority of which are in healthy condition except the 45ha Hythe Marshes which are in recovery. Specific areas of the Colne Estuary are also SSSI's which show mixed character with some recovering from increased erosion through habitat re-creation. Other SSSIs including the Roman River to the south and Ardleigh and Wivenhoe Gravel Pits to the north of the site are of good quality.
- On site Local Nature Reserves (LNR) Welsh Wood (2) and Salary Brook (3) sit at the west and south-west of the site respectively. Welsh Wood mostly consists of mixed coppice, hazel, lime and sweet chestnut and Salary Brook is a mix of ponds, wetland and meadows which is also attracts water voles (Natural England, 2016). Within the 5km buffer zone of the site there are a number of other LNRs, particularly to the west that are species-rich.
- There are significant areas of mixed deciduous woodland including Ancient Woodland scattered throughout the site. Smaller concentrations of ancient woodland form notable Local Wildlife Sites, comprising Welsh Wood, an important area for nature conservation, Wall's Wood (4), Thousand Acres (5), Home Wood (6) & Churn Wood and Meadow (7).
- The hedgerow network is more or less intact and includes mature and veteran trees. Many of the hedgerows also have associated land drains.
- Due to the varied habitats within the area of investigation, the site has the potential to support a number of protected species and other species of conservation importance.

Sources

- Natural England, National Character Areas - GIS Digital Boundary Datasets
- OS Terrain 50

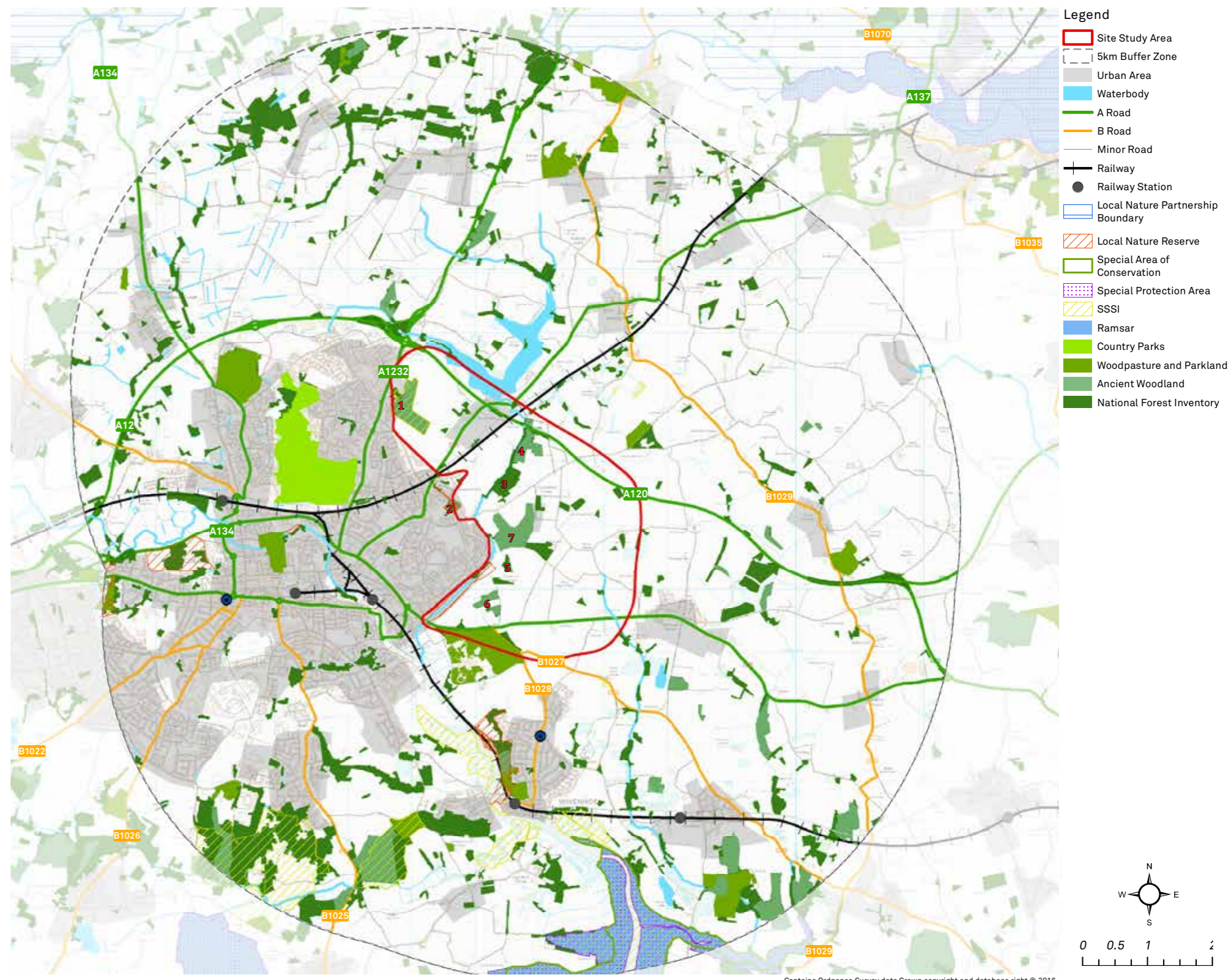


Figure 43: East Colchester / West Tendring Ecological Designations. Source: Natural England / Environment Agency

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2.10 Parks, Recreation and Historic Environment

Key Findings

- Wivenhoe Park **(1)**, a registered Grade II Historic Park and Garden, is located immediately south of the area of investigation, across the A133. This is adjacent to the University of Essex Colchester Campus. Wivenhoe Hall itself is a 4-star hotel.
- The landscape provides a comprehensive network of Public Rights of Way offering access to the countryside throughout the site.
- There are several Grade II listed buildings within the area of investigation and a few scattered around the site boundaries. There is a cluster of listed buildings along the A137 where it cuts through the site **(2)**. In addition, there are two Grade II listed buildings located in the centre of the site to the east of the A137, along Chapel Lane.
- Compared to other areas within the 5km buffer the Site Area itself is relatively free of historic features, especially clusterings of historic interest.

Sources

- Colchester Borough Council Country Parks and LNRs (accessed through <http://www.colchester.gov.uk/article/11794/Country-Parks-and-Local-Nature-Reserves>)
- OS Terrain 50
- Natural England GIS Digital Boundary Datasets
- Historic England

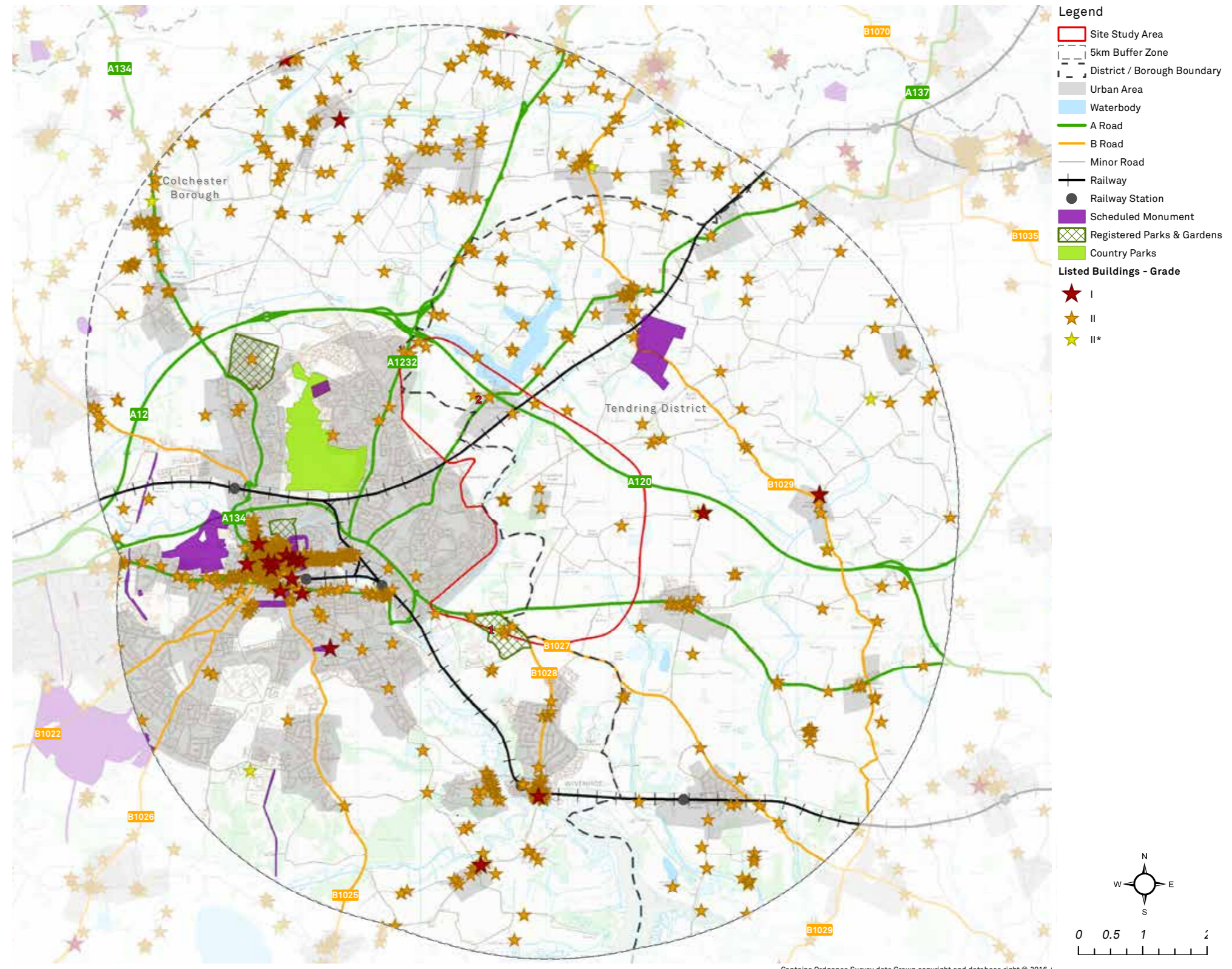


Figure 44: East Colchester / West Tendring Recreational and Heritage Assets. Source: English Heritage / Natural England

2.11 Water Cycle

Key Findings

- The Environment Agency's Flood Zone mapping identified localised areas of flood risk along the length of the Salary Brook, which crosses the site but this is classified as very low. This becomes more pronounced with a wider flood plain (Flood Zone 3) as the Brook passes the eastern edge of Colchester and connects with the Colne River. Within Flood Zone 3 only water compatible uses should be developed within the area, in which highly vulnerable uses are discouraged.
- The geology of the site, with clay, silt, sand and gravel has led to the presence of a secondary aquifer beneath the majority of the site (SFRA 2008).
- Surface water networks are at capacity and potential new developments would need to deal with their surface run-off in a way that does not impose any additional load on the system. In practice, this means that surface water cannot be discharged to the existing disposal network. The use of infiltration SuDS may be restricted due to impedance from the soil structure. This could be beneficial for on-site water storage for reuse.
- The site sits within both surface and groundwater nitrate vulnerability zones, in which future development will need to ensure that land use does not increase the level of nitrate in groundwater and mitigate any potential affects on groundwater supply.
- Salary Brook is a highly modified water course with moderate ecological potential. It is at risk from further ecological deterioration.
- The north eastern part of the site is within a surface water Safeguard Zone with particular risk from pesticides, in which future development could be required to mitigate pollution into water sources.

Sources

- Natural England - GIS Digital Boundary Datasets
- OS Terrain 50
- Environment Agency Geostore

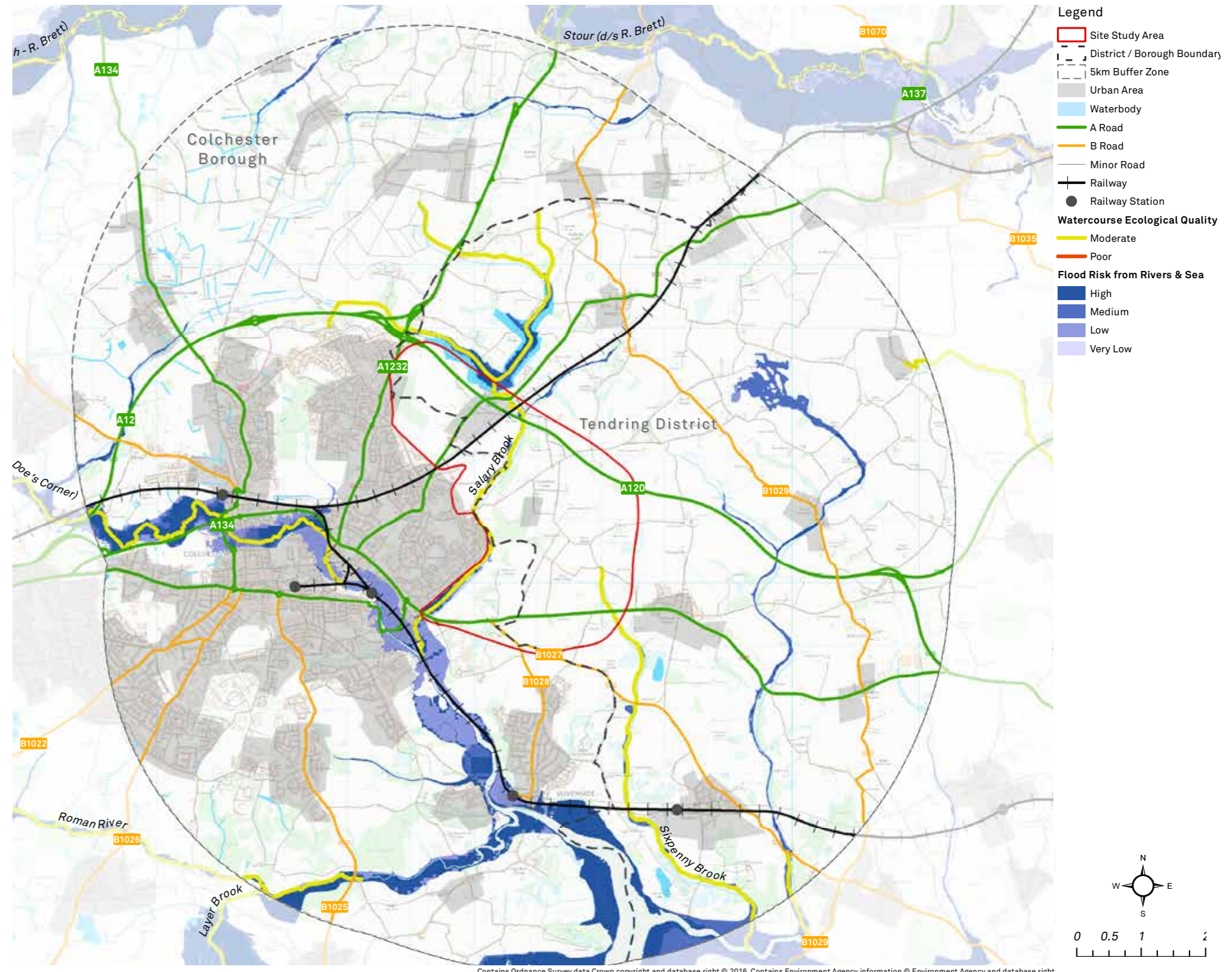


Figure 45: East Colchester / West Tendring Water Cycle. Source: Environment Agency

2.12 Movement and Connectivity

Key Findings

- The Site Area benefits from a well-defined primary road network to the south, north, west and east.
- The A133 Clacton Road runs along the southern edge of the site, the A120 to the north eastern boundary, whilst the A137 and Bromley Road provide radial routes from Colchester town centre. CBC (email dated 07.03.16) identify current traffic constraints / congestion 'hotspots' surrounding the site including issues at the A120/A1232 Ipswich Road junction, A120/A137 Harwich Road junction and A133 Greenstead roundabout. In addition to this, Highways England in their A12 / A120 Route Based Strategy March 2013' identify that the section of the A12 at Junctions 28/29 experiences high volumes of congestion. Improvements to the A12 are proposed along this section through DfT funding which will see widening to 3 lane both directions.
- Local bus routes operate within the vicinity of the site at a relative high frequency, whilst routes SX133 and NEX 484 provide low frequency inter urban bus connections.
- The University of Essex site is accessed from the A133 to the far south of the site.
- Hythe Rail station, on the Sunshine Coast Line (a branch of the GEML provides 1tph in either direction between London Liverpool Street and Clacton-on-Sea and 1tph in either direction between Colchester mainline station and Walton-on-the-Naze. The GEML which serves Colchester mainline Station, provides a frequency of 10tph towards London.
- Good pedestrian footway links are in place on the A133 linking the University site, west towards the town centre. Eastwards, pedestrian footway provision is more limited.
- Passing close to the south the long distance cycle route - NCN 51 -passes through Oxfordshire, Buckinghamshire, Bedfordshire, Cambridgeshire, Suffolk and Essex. The section between Harwich and Colchester forms part of the North Sea Cycle Route, also known as EuroVelo 12. The route passes in close proximity to the south east boundary of the site.

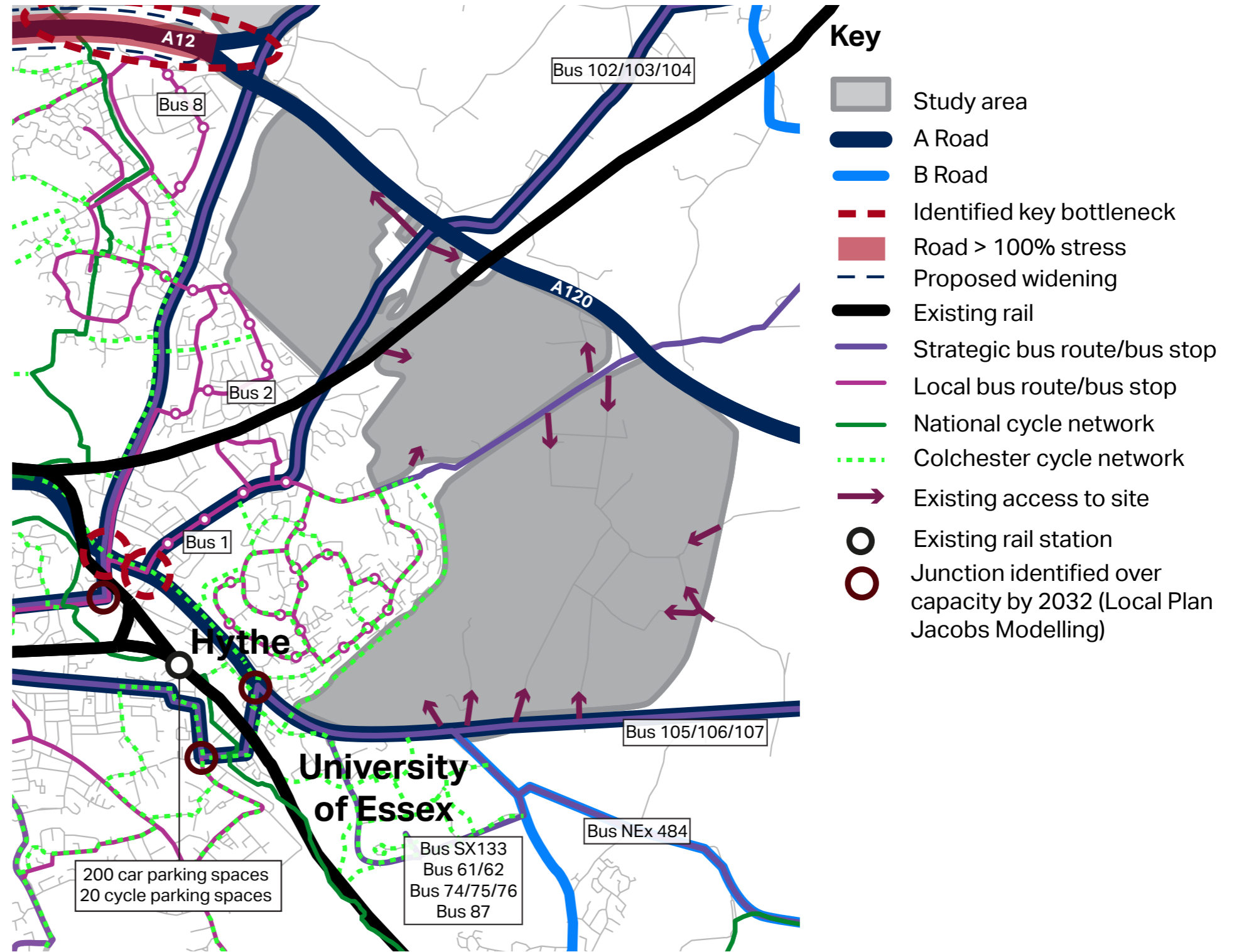


Figure 46: East Colchester / West Tendring Movement Network. AECOM.

SWOT - Strategic network

	Strengths	Weaknesses	Opportunities	Constraints
A120	Close proximity to the A120	Level of noise and pollution from road network. No direct access/junctions Existing congestion on Ipswich road	New junction between the site and the A120 Proposed new link road between A133 and A120	Impact on the role of the strategic highway infrastructure
A133	Option for direct access from a number of locations	Level of noise and pollution from network. Currently only rural lanes provide access to the A133 Severance between site and university campus	New junction between the site and the A133 Proposed new link road between A133 and A120 New crossing/land bridges to integrate site with existing university campus	Severance between the site and the university if crossings over the A133 are not provided Impact on the role of the strategic highway infrastructure
Sunshine Coast line	Through service to Colchester, Chelmsford and London (westbound), Clacton and coastal towns (eastbound).	Low frequent services Not public transport link between site and Station	Develop a coherent public transport and cycle/pedestrian network to allow promote access to the station. New University of Essex rail station, close to the site. Improve frequency on the line.	Car orientated development to occur if site isn't connected to a rail network
Bus network	Interurban connections to Colchester, Chelmsford, Clacton and Tendring coastal towns Local bus services in close proximity of the site.	Bus connectivity across the site as a whole is currently understandably poor, concentrated to the existing residential development to the West and University Site	Increase the number of existing services to provide greater frequency. Integrate bus services within the site - all parts of the development located within walking distance of a stop	A car orientated development will prevail if a bus network through the site and connections to rail based transport
Cycle network	Existing Colchester cycle network and NCN 51 in close proximity to the site	Connectivity across A133 for cycling and pedestrians is poor	Develop a comprehensive walking and cycling network within the site Improve linkages between site and existing Colchester cycle network Provide cycle/pedestrian crossings over the A133	A car orientated development will prevail with short distance trips dominated by car use without clear integration of cycle and pedestrian infrastructure

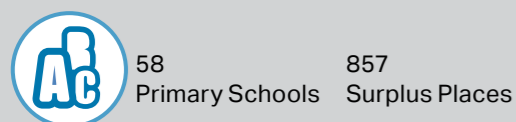
2.13 Social Infrastructure - Education

Essex County Council has developed a Commissioning School Places in Essex 2015-2020, published in February 2016. This provides information related to future pupil numbers and where further expansion will be required to meet housing demands.

The 5km boundary of East of Colchester/West of Tendring overlaps two local authorities (Colchester and Tendring). For the following social infrastructure review, both local authorities will be considered in assessing the current situation, committed infrastructure and future issues.

Key Findings - Primary

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

Within Tendring, there is no planned primary school infrastructure, however within Colchester there are 3 identified projects within the 5km radius.

FE	Location	Delivery Commitment	Mechanism
2FE (420 pupils)	Severalls Hospital Development Site	Committed (Sept 2016)	S106
-	North Colchester Growth Area	No Commitment	S106
3FE (630 pupils)	Expansion of St John's Green Primary School	No Commitment	S106

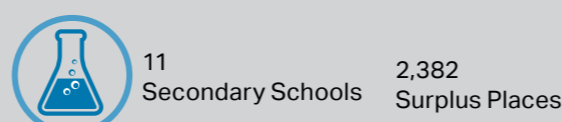
Table 10: Committed Primary Infrastructure. Source: Commissioning School Places in Essex 2015-2016

Future and Wider Issues

- The Commissioning Plan forecasts an increase of 190 primary school pupils for Tendring and an increase of 1,369 pupils for Colchester between 2015-2020. With the additional pupils, this translates to a forecast surplus of 358 places across Tendring and 890 places across Colchester by 2020.
- Proposed growth at East Colchester/West Tendring would create a significant requirement for primary school places, therefore proposals coming forward would need to consider the delivery of future education infrastructure provision.
- Essex County Council are seeking contributions from housing developers towards the cost of providing the additional places required for the pupils generated by new housing.

Key Findings - Secondary

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

- There are no secondary schools committed for Tendring, instead it appears there will be school closures with the closing of Tendring Enterprise Studio School. The closure of the school will reduce the number of places available for Years 10, 11, 12 and 13 in Tendring area.
- Within Colchester there is 1 planned primary school within the 5km radius of East of Colchester/West of Tendring

FE	Location	Delivery Commitment	Mechanism
-	North Colchester Growth Area	Committed	S106

Table 11: Committed Primary Infrastructure. Source: Commissioning School Places in Essex 2015-2016

Future and Wider Issues

- The Commissioning Plan forecasts an increase of 182 secondary school pupils for Tendring and an increase of 406 pupils for Colchester between 2015-2020. With the additional secondary pupils, this translates to a forecast surplus of 346 places across Tendring and 954 places across Colchester to 2020.
- Pupil numbers across the remaining secondary schools are forecast to remain relatively stable over the next 5 years. While new housing will be monitored, it appears that there are sufficient school places to meet increase demand.
- Essex County Council are seeking contributions from housing developers towards the cost of providing the additional places required for the pupils generated by new housing.

Key Findings - Further Education

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

- There is no Further Education infrastructure identified within the 5km radius of East of Colchester/West of Tendring

Future and Wider Issues

- The minimum age at which young people in England can leave learning increased in 2013, requiring young people to continue education or training to the end of the academic year in which they turn 17. This has been followed with a policy beginning in 2015 where all young people must remain in learning to their 18th birthday, This is referred to as Raising the Participation Age (RPA).
- This puts more pressure on the local authorities to ensure and provide options for young people to learn the skills required. Local authorities have the duty to:
 - Promote effective participation in education or training to young people;
 - Ensure that sufficient places are available to meet the reasonable needs of all young people and encourage them to participate; and
 - Make available to young people support that will allow them to participate in education or training.

Sources

- Department of Education, Edubase Portal (May 2016)
- Commissioning School Places in Essex 2015-2020

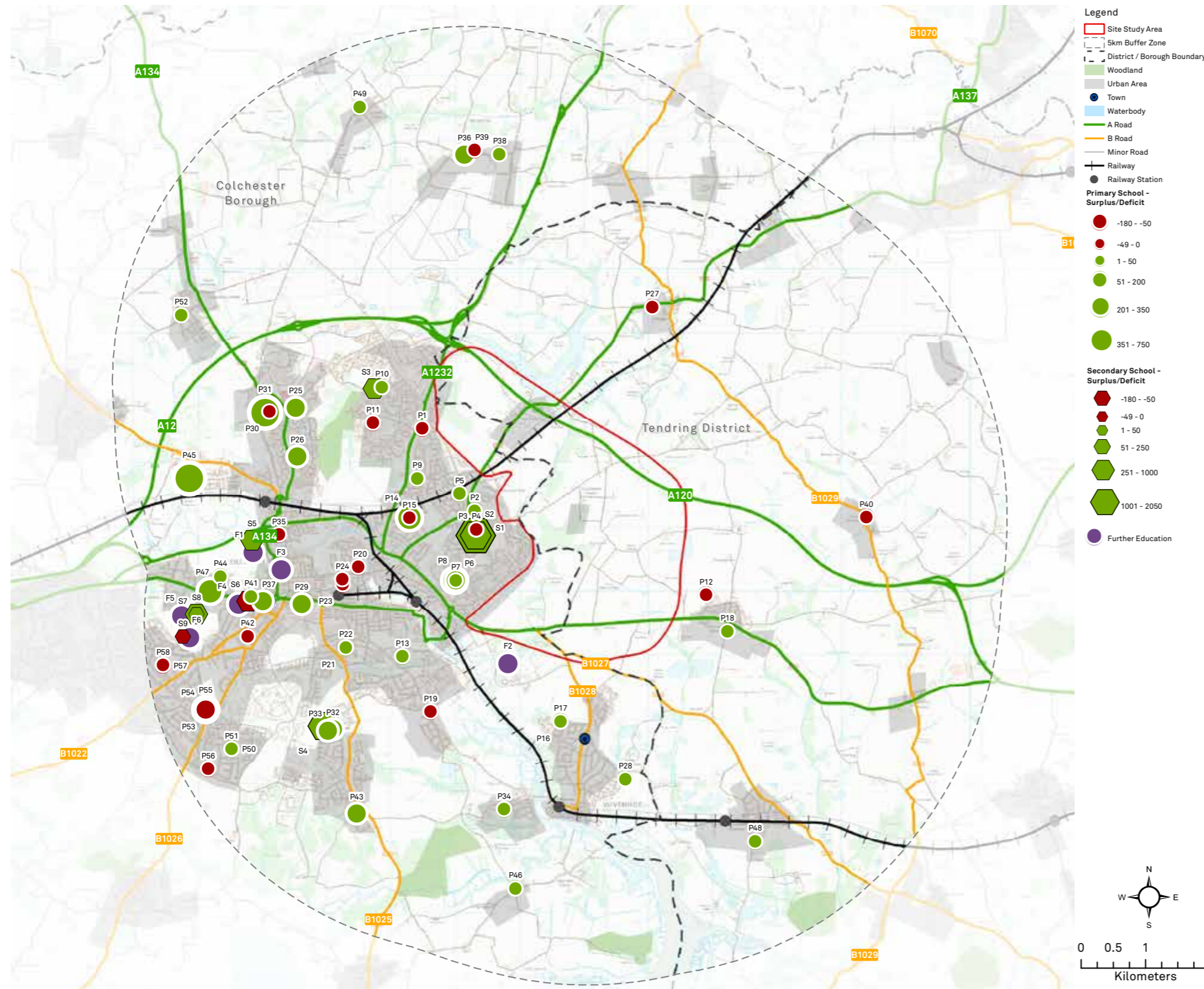


Figure 47: East Colchester / West Tendring Education Context. Source: Edubase (2016)

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Primary School Capacity Analysis			
Primary School Name	Capacity	Surplus / Deficit	Label
St John's CofE Primary School	210	-31	P1
Roach Vale Primary School	210	15	P2
Hazelmere Junior School	240	42	P3
Hazelmere Infant School and Nursery	180	-25	P4
Parsons Heath CofE Primary School	210	8	P5
Greenstead, St Andrew's Nursery and Infant School	180	180	P6
Unity Primary Academy	420	31	P7
St Andrew's Junior School	243	243	P8
Friars Grove Primary School	420	4	P9
Brinkley Grove Primary School	421	2	P10
Highwoods Community Primary School	420	-30	P11
Elmstead Primary School	208	-5	P12
Kendall CofE Primary School	211	13	P13
St Anne's Primary School and Nursery	280	280	P14
Willow Brook Primary School and Nursery	210	-31	P15
Broomgrove Infant School	180	3	P16
Broomgrove Junior School	240	6	P17
Market Field School	200	2	P18
Old Heath Community Primary School	210	0	P19
St James' CofE Primary School	390	-5	P20
St George's New Town Junior School	360	10	P21
St George's Infant School and Nursery	326	6	P22
St Mary's Convent School	0	0	P23
St Thomas More's Catholic Primary School, Colchester	210	0	P24
TOTAL	6,179	718	

Secondary School Capacity Analysis			
Secondary School Name	Capacity	Surplus / Deficit	Label
Sir Charles Lucas Arts College	1,226	1,226	S1
Colchester Academy	1,200	551	S2
The Gilbert School	1,500	157	S3
The Thomas Lord Audley School	1,050	304	S4
St Helena School	1,000	176	S6
Colchester Royal Grammar School	777	-79	S7
St Benedict's Catholic College	840	17	S9
Colchester County High School for Girls	874	65	S10
Philip Morant School and College	1,602	-35	S11
TOTAL	10,069	2,382	

Further Education Facility	Label
Colchester Institute	F1
University of Essex	F2
The Sixth Form College Colchester	F3
Colchester Royal Grammar School (Sixth Form)	F4
Colchester County High School for Girls (Sixth Form)	F5
Philip Morant School and College (Sixth Form)	F6

Social Infrastructure - Health

Key Findings

Current Situation within 5km Boundary (May 2016)



GPs

- There are 16 GP practices identified within 5km of East Colchester / West Tendring. These facilities are all located to the west of the development area, within Colchester, with no facilities within the redline boundary.
- There is an overall surplus in provision of GPs across the wider 5km buffer zone with 19,604 patient spaces. However, this is a theoretical assessment, and the actual pressures are more pressing. It can be seen that at least 6 of the current facilities have a poor patient to GP ratio, in which further development will put increased pressure on existing capacity.

Hospitals

- There are currently four hospitals identified within 5km of East of Colchester, of which one is located in close proximity to the area of investigation.

Sources

- NHS England, MyNHS Portal dataset (May 2016)
- Health and Social Care Information Centre (HSCIC) dataset (January 2016)

Key Findings

Committed Infrastructure within 5km Boundary

- Following a review of the Tendring Infrastructure Delivery Plan (2013), there are no identified healthcare infrastructure projects within a 5km radius of East of Colchester/West of Tendring
- A further review of the Colchester Community Infrastructure Levy Evidence Base (2011) identified that all projects in the pipeline that are related to healthcare infrastructure have been abandoned, so at present there are no identified healthcare infrastructure projects.

Sources

- Tendring Infrastructure Delivery Plan (2013)
- Colchester Community Infrastructure Levy (2011)

Key Findings

Future and Wider Issues

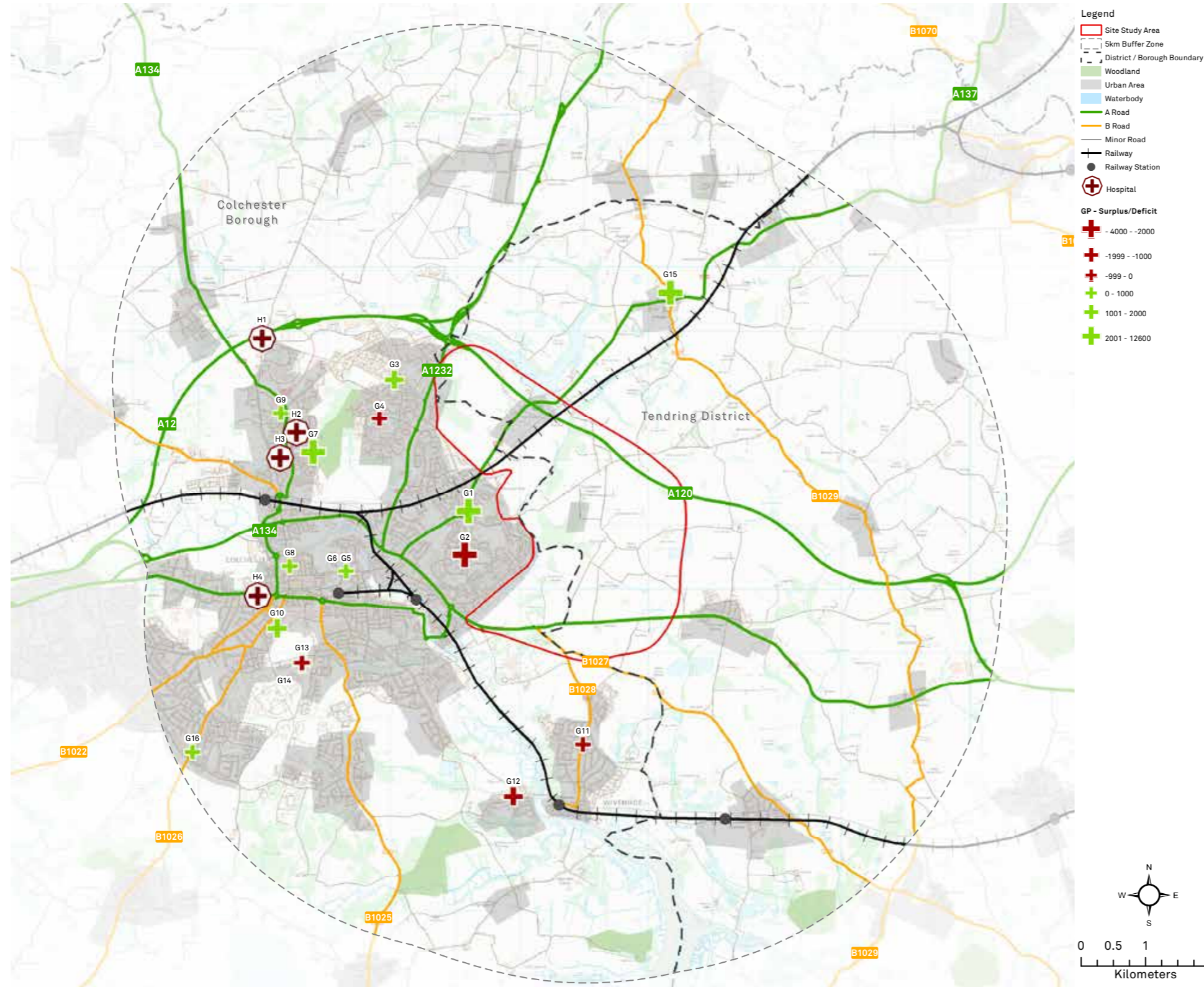
- East of Colchester/West of Tendring sits within North Essex Clinical Commissioning Group, which is an NHS organisation set up by the Health and Social Care Act 2012 to organise the delivery of NHS services in England.
- The CCGs receives funding and are commissioned by NHS England to provide primary care services (including GPs), in turn the CCGs commission most services in their areas to trusts that include hospital and community healthcare.
- This assessment will review the strategy for North East Essex CCG to understand the future issues facing healthcare in Essex.

North Essex Clinical Commissioning Group

- North Essex CCG 5-year plan will look to put people at the centre by commissioning around the needs of people, rather than the service.
- It is projected that demand for older people's services over the next 5-10 years will increase by roughly 20,000 people (those over the age of 55).
- In addition, the health and social care system faces considerable financial challenges over the coming years. The CCG will look to commission integrated health and social care services, promote prevention and early intervention, and promoting self-care to begin diminishing the burden.

Sources

- North Essex Clinical Commissioning Group



GP Capacity Analysis					
Practice Name	Full Time Equivalent GP's	Patients	Capacity	Surplus / Deficit	Label
Parsons Heath Medical Centre	7	10,774	12,600	1,826	G1
Hawthorn Surgery	2	4,778	2,700	-2,078	G2
Bluebell Surgery	3	3,226	4,752	1,526	G3
Highwoods Surgery	3	6,092	5,400	-692	G4
East Hill Surgery	5	8,662	9,000	338	G5
Colchester Medical Practice	5	8,662	9,000	338	G6
North Colchester Healthcare Centre	4	4,480	7,200	2,720	G7
North Hill Medical Group	8	13,272	13,950	678	G8
Mill Road Surgery	7	11,792	12,600	808	G9
Creffield Medical Centre	7	11,446	12,600	1,154	G10
Wivenhoe Surgery	5	8,377	8,100	-277	G11
Rowhedge Surgery	5	10,964	9,000	-1,964	G12
Portland Medical Practice	7	10,917	12,600	1,683	G13
Abbey Field Medical Centre	2	3,014	2,952	-62	G14
The Ardleigh Surgery	5	6,832	9,000	2,168	G15
Layer Road Surgery	4	5,884	6,552	668	G16
TOTAL	77	129,172	138,006	8,834	

Hospitals	
Hospital Name	Label
Cambian Fairview Hospital	H1
Colchester General Hospital	H2
Oaks Hospital	H3
Essex County Hospital	H4

Figure 48: East Colchester / West Tendring Social Infrastructure Context. Source: MyNHS, HSCIC

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Social Infrastructure - Community Facilities and Emergency Services

Key Findings

Current Situation within 5km Boundary (May 2016)



Emergency Services

- Across the 5km radius, the analysis identified 1 ambulance station, 1 police station and 2 fire stations. All four facilities are located within Colchester urban area, which is adjacent to the East of Colchester/West of Tendring site.

Libraries

- There are two libraries within Colchester that are within the 5km wider area of East of Colchester. One of the libraries is located in close proximity to the site.

Youth Centres

- There are two youth centres within 5km of East of Colchester. One of the youth centres is within close proximity to the north of the site.

Community Centres

- There are an abundance of community centres within 5km of the development. These centres range in services provided, but are largely stand alone centres with one room.

Sources

- East of England Ambulance Services, Essex Police, Essex County Fire & Rescue Services
- Google maps to identify community facilities, libraries and youth centres

Key Findings

Committed Emergency Infrastructure within 5km Boundary

A review of Tendring's Infrastructure Delivery Plan (2013) has not identified any future projects within the 5km radius of East of Colchester/West of Tendring as it relates to community facilities and emergency services within Tendring.

In the absence of an Infrastructure Delivery Plan in Colchester, a review of the Community Infrastructure Levy Evidence Base (2011) has identified several projects related to community facilities:

Infrastructure Item	Source	Location	Cost (£m)	Delivery Body
Sports & Recreation Facility	CIL Evidence Base (2011)	North Colchester	6.9	Developer / Colchester BC
Sports & Recreation Facility	CIL Evidence Base (2011)	Colchester Town	9.3	Developer / Colchester BC
Community Hall and New Community Centre	CIL Evidence Base (2011)	North Growth Area	1.6	Developer / Colchester BC
Sports & Recreation Facility	CIL Evidence Base (2011)	East Colchester	3	Developer / Colchester BC

Sources

- Tendring IDP (2013)
- Colchester Community Infrastructure Levy (2011)

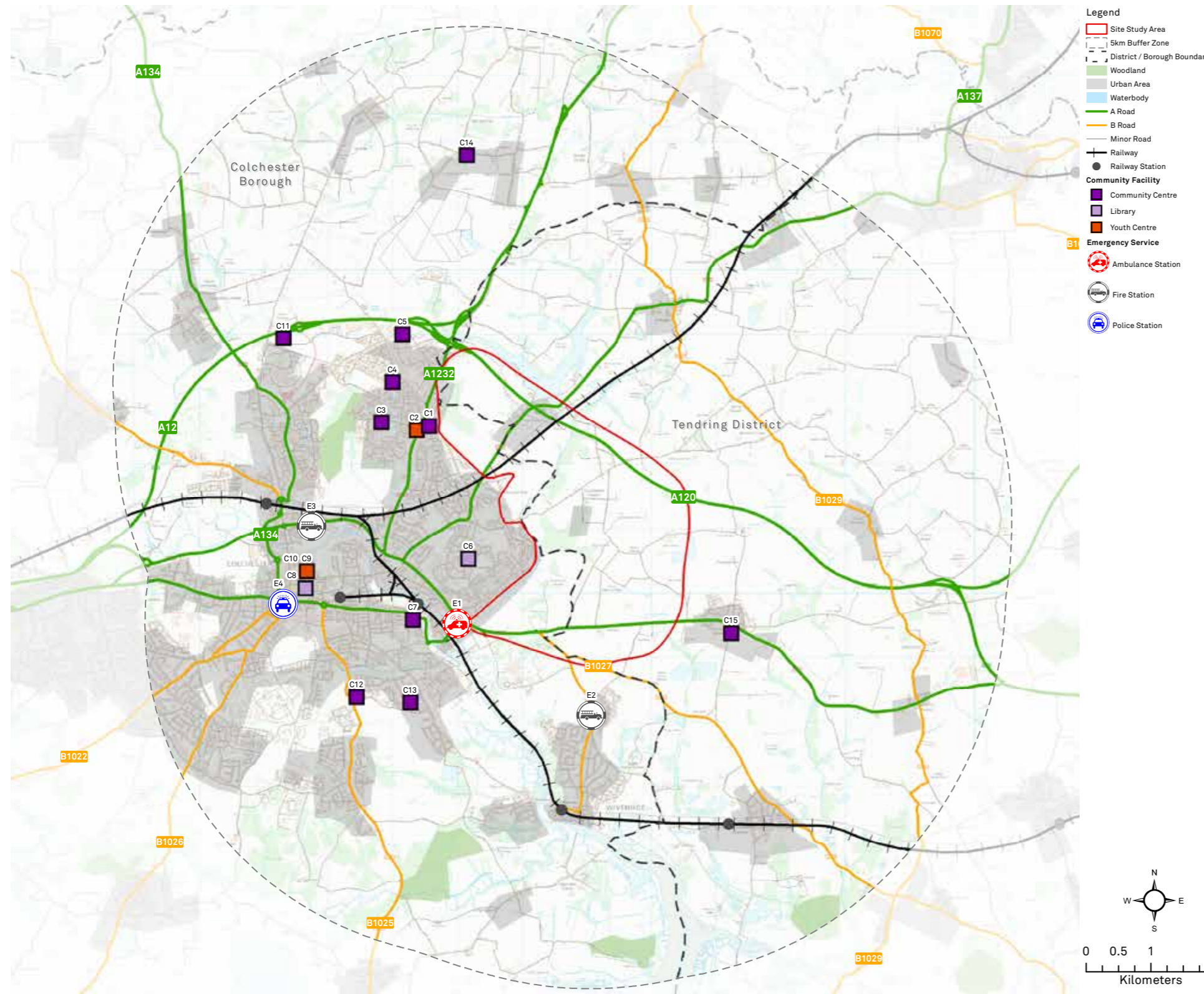
Key Findings

Future and Wider Issues

- A review of ambulance services has identified a change in the future model of ambulance provision by the early 2020s within the East of England's Ambulance Services. This involves a hub and spoke service in order to meet demand from existing population. Traditional ambulance stations act as the main hubs of service, with smaller 24/7 posts acting as the spoke.
- Further work will need to determine whether the capacity of the existing emergency services can cope with the forecast increase in population.
- Further work will need to determine whether the capacity of the existing community facilities can cope with the forecast increase in population. However, it is likely that future development at East of Colchester/West of Tendring would need to provide some community offer.

Sources

- East of England Ambulance Services
- Essex Police
- Essex County Fire & Rescue Services



Community Service Facilities		
Name of Facility	Type	Label
St John's Church Community Centre	Community Centre	C1
Highwoods Youth Centre	Youth Centre	C2
Highwoods Community Centre	Community Centre	C3
Barnardo's Childrens Centre	Community Centre	C4
The Centre	Community Centre	C5
Greenstead Library	Library	C6
Hythe Community Centre Association	Community Centre	C7
Colchester Library	Library	C8
North East Area Hub	Youth Centre	C9
Colchester Townhouse	Youth Centre	C10
Weston Homes Community Stadium	Community Centre	C11
The Community Hall	Community Centre	C12
Old Heath Community Centre	Community Centre	C13
Langham Community Centre	Community Centre	C14
Elmstead Community Centre	Community Centre	C15

Emergency Service Facilities		
Name of Facility	Type	Label
Colchester Ambulance Service	Ambulance	E1
Station 21 Wivenhoe	Fire	E2
Station 10 Colchester	Fire	E3
Colchester Police Station	Police	E4

Figure 49: East Colchester / West Tendring Community Facilities and Emergency Services. Source: East Of England Ambulance Services, Essex Police, Essex County Fire & Rescue Services, Google Maps to Identify Community Facilities, Libraries and Youth Centres
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