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Chelmsford City Council

Chelmsford Local Plan Review - Infrastructure Delivery Plan

Stage 1: High-level Assessment of the Issues and Options Spatial Approaches

Reference: Final for Issue

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1. Introduction

1.1 Overview

In August 2023, Chelmsford City Council (referred to throughout as 'CCC' or 'the Council') commissioned Ove Arup & Partners Limited ('Arup') to prepare an Infrastructure Delivery Plan (IDP) for the Chelmsford local authority area.

The Chelmsford Local Plan 2013-2036 was adopted in May 2020. Strategic Policy 13 of the Local Plan committed to a 'full or focused formal review' of the Plan within two years from its adoption. Accordingly, the Council has commenced the Local Plan Review undertaking a 6-week Regulation 18 consultation on 'Issues and Options' between August and October 2022. Consultation on the Preferred Options (Regulation 18) Local Plan Review is timetabled for Quarter 2 2024.

Once adopted, the new Local Plan will cover the period to 2041 and will supersede the current Local Plan. It will set out site allocations as well as new policies for the determination of planning applications.

The IDP will form a key element of the Council's evidence base to support the Local Plan Review. The importance of infrastructure is a key theme set out in the Issues and Options consultation document. This clear recognition at an early stage of the plan making process will help the Council respond to infrastructure constraints and address the need for infrastructure in new development at the earliest stage possible.

This first stage of the study involves a high-level assessment of the five spatial approaches set out in the Issues and Options consultation document. It focuses on the level of growth and the broad locations identified within the five spatial approaches and provides a high-level overview of the infrastructure issues and opportunities associated with these spatial approaches, including any significant infrastructure constraints that should be taken into account. The assessment is broad and high-level at this stage given that the exact locations and the distribution of development across these locations is not yet known. This assessment will be used by the Council to inform the Preferred Options Consultation Document. In order to undertake this assessment, the existing infrastructure capacity has been assessed to establish a baseline position.

Following on from Stage 1, the full draft IDP will be developed to support the Preferred Options (Regulation 18) consultation in Quarter 2 2024.

1.2 Role of the Infrastructure Delivery Plan

The purpose of this Study is to inform the preparation of the new Local Plan for Chelmsford, and form evidence underpinning and justifying the Local Plan as it progresses towards its Examination in Public. It will also be capable of use by the Council as part of the Development Management process, to underpin CIL charging and negotiations for developer contributions, to inform the whole-plan viability assessment, as well as the ongoing monitoring and prioritisation of projects through the Infrastructure Funding Statement.

1.3 Document Structure

This document is structured as follows:

- Chapter 2 sets out the relevant local and national policy context;
- Chapter 3 sets out the scope and methodology of this stage of the IDP; and
- Chapter 4 sets out the finding of the baseline infrastructure capacity review and provides a high-level assessment of the five spatial approaches set out in the Issues and Options consultation document. The baseline infrastructure capacity position for those infrastructure types which are linked to the location of growth are included in the accompanying appendices.

2. Understanding the Policy Context

2.1 Introduction

The following section outlines the national and local planning policy context for infrastructure planning within Chelmsford.

2.2 National Planning Policy Context

The National Planning Policy Framework (NPPF) and its supporting Planning Practice Guidance strongly underline the need for the proper planning and delivery of infrastructure as part of the plan making process.

2.2.1 National Planning Policy Framework (2023)

The latest version of the NPPF was published in December 2023. The NPPF is founded on the need to deliver and achieve sustainable development. This means supporting strong and healthy communities, protecting and enhancing our built, natural and historic environment and contributing to building a strong, responsive and competitive economy by identifying and coordinating development requirements, including the provision of infrastructure.

The NPPF identifies the crucial role of the Local Plan process in planning appropriately to meet infrastructure needs, including those arising as a result of new development. Paragraph 20 states that:

"*Strategic policies should set out an overall strategy for the pattern, scale and design quality of places, and make sufficient provision for:*

a) housing (including affordable housing), employment, retail, leisure and other commercial development;

b) infrastructure for transport, telecommunications, security, waste management, water supply, wastewater, flood risk and coastal change management, and the provision of minerals and energy (including heat);

c) community facilities (such as health, education and cultural infrastructure); and

d) *conservation and enhancement of the natural, built and historic environment, including landscapes and green infrastructure, and planning measures to address climate change mitigation and adaptation*."

Specific references to infrastructure provision also run as a thread through the individual topic chapters throughout the NPPF. These include:

- Chapter 6, Building a strong, competitive economy – Paragraph 86: "*Planning policies should seek to address potential barriers to investment, such as inadequate infrastructure, services or housing, or a poor environment*."
- Chapter 8, Promoting healthy and safe communities – Paragraph 96: "*Planning policies and decisions should aim to achieve healthy, inclusive and safe places which…promote social interactions…are safe and accessible…enable and support healthy lifestyles.*" Paragraph 97 adds that planning policies and decisions should "…*plan positively for the provision and use of shared spaces, community facilities (such as local shops, meeting places, sports venues, open space, cultural buildings, public houses and places of worship) and other local services to enhance the sustainability of communities and residential environments*."
- Chapter 9, Promoting sustainable transport – Paragraph 108: "*Transport issues should be considered from the earliest stages of plan-making and development proposals, so that: a) the*

potential impacts of development on transport networks can be addressed; b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated; c) opportunities to promote walking, cycling and public transport use are identified and pursued; d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.

- Chapter 10, Supporting high quality communications – Paragraph 118: "*Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks.*"

The NPPF also identifies the need for local authorities to work collaboratively to deliver new infrastructure. At Paragraph 16 it sets out the requirement for Local Plans to be "*shaped by early, proportionate and effective engagement*" with infrastructure providers and operators. At Paragraph 26, it also states that:

"*Effective and on-going joint working between strategic policy-making authorities and relevant bodies is integral to the production of a positively prepared and justified strategy. In particular, joint working should help to determine where additional infrastructure is necessary, and whether development needs that cannot be met wholly within a particular plan area could be met elsewhere*."

The NPPF also outlines the importance of the Local Plan process in the delivery of infrastructure – and at Paragraph 34 highlights the challenges of balancing infrastructure requirements with development viability: "*Plans should set out the contributions expected from development [towards infrastructure]. Such policies should not undermine the deliverability of the plan*."

The NPPF places emphasis on the importance of understanding viability at the plan-making stage, rather than on a case-by-case basis through the determination of planning applications. This allows it to be demonstrated from the outset that planning policies are realistic, and that the 'costs' to developers of those policies (such as infrastructure provision and affordable housing) do not render development unviable and unachievable. Paragraph 58 states that:

"*Where up-to-date policies have set out the contributions expected from development, planning applications that comply with them should be assumed to be viable. It is up to the applicant to demonstrate whether particular circumstances justify the need for a viability assessment at the application stage. The weight to be given to a viability assessment is a matter for the decision maker, having regard to all the circumstances in the case, including whether the plan and the viability evidence underpinning it is up to date, and any change in site circumstances since the plan was brought into force. All viability assessments, including any undertaken at the plan-making stage, should reflect the recommended approach in national planning guidance, including standardised inputs, and should be made publicly available*."

Planning obligations assist in mitigating the impact of unacceptable development to make it acceptable in planning terms. Planning obligations may only constitute a reason for granting planning permission if they meet all the tests set out in Paragraph 57 of the NPPF and Regulation 122 of the CIL Regulations:

- necessary to make the development acceptable in planning terms;
- directly related to the development; and
- fairly and reasonably related in scale and kind to the development.

It is likely that many of the schemes identified within the IDP will be funded in part, or in whole, through Section 106 agreements with developers.

2.2.2 National Planning Practice Guidance

National Planning Practice Guidance expands on the policy set out in the NPPF and provides an additional layer of advice in relation to the delivery of infrastructure. Paragraph 059 of the guidance on Plan-Making states the following:

"*A plan is an opportunity for the strategic policy-making authority to set out a positive vision for the area, but the plan should also be realistic about what can be achieved and when. This means paying careful attention to providing an adequate supply of land, identifying what infrastructure is required and how it can be funded and brought forward. At an early stage in the plan-making process strategic policy-making authorities will need to work alongside infrastructure providers, service delivery organisations, other strategic bodies such as Local Enterprise Partnerships, developers, landowners and site promoters. A collaborative approach is expected to be taken to identifying infrastructure deficits and requirements, and opportunities for addressing them. In doing so they will need to:*

assess the quality and capacity of infrastructure, and its ability to meet forecast demands. Where deficiencies are identified, policies should set out how those deficiencies will be addressed; and take account of the need for strategic infrastructure, including nationally significant infrastructure, within their areas." (Reference: Plan-making, Paragraph 059 – Reference ID: 61-026-20190315)

The Planning Practice Guidance also reflects an emphasis on the understanding of viability of development at the plan-making stage. Paragraph 001 of the guidance on Viability states that "*policy requirements should be informed by evidence of infrastructure and affordable housing need, and a proportionate assessment of viability that takes into account relevant policies, and local and national standards, including the cost implications of the Community Infrastructure Levy and Section 106*." (Reference: Viability, Paragraph 001 – Reference ID: 10-001-20190509)

Paragraph 002 of the guidance on viability emphasises the collaborative nature of this process – "*it is the responsibility of site promoters to engage in plan making, take into account any costs including their own profit expectations and risks, and ensure that proposals for development are policy compliant*." (Reference: Viability, Paragraph 002 – Reference ID: 10-002-20190509)

Accordingly, local planning authorities and dev elopers should both be able to emerge from the plan making process with certainty about each party's requirements and commitments in terms of the funding of new infrastructure. The conclusions of the IDP will therefore form a key input to the viability assessment for the Local Plan Review.

2.3 Local Policy Context

The Development Plan for Chelmsford City Council currently consists of the following documents:

- Chelmsford Adopted Local Plan (2020)
- Essex and Southend-on-Sea Waste Local Plan 2017
- Essex Minerals Local Plan 2014
- South East Inshore Marine Plan 2021
- Little Baddow Neighbourhood Plan 2023

Sandon Neighbourhood Plan 2023

South Woodham Ferrers Neighbourhood Plan 2021

Writtle Neighbourhood Plan 2021

2.3.1 Chelmsford Local Plan (adopted May 2020)

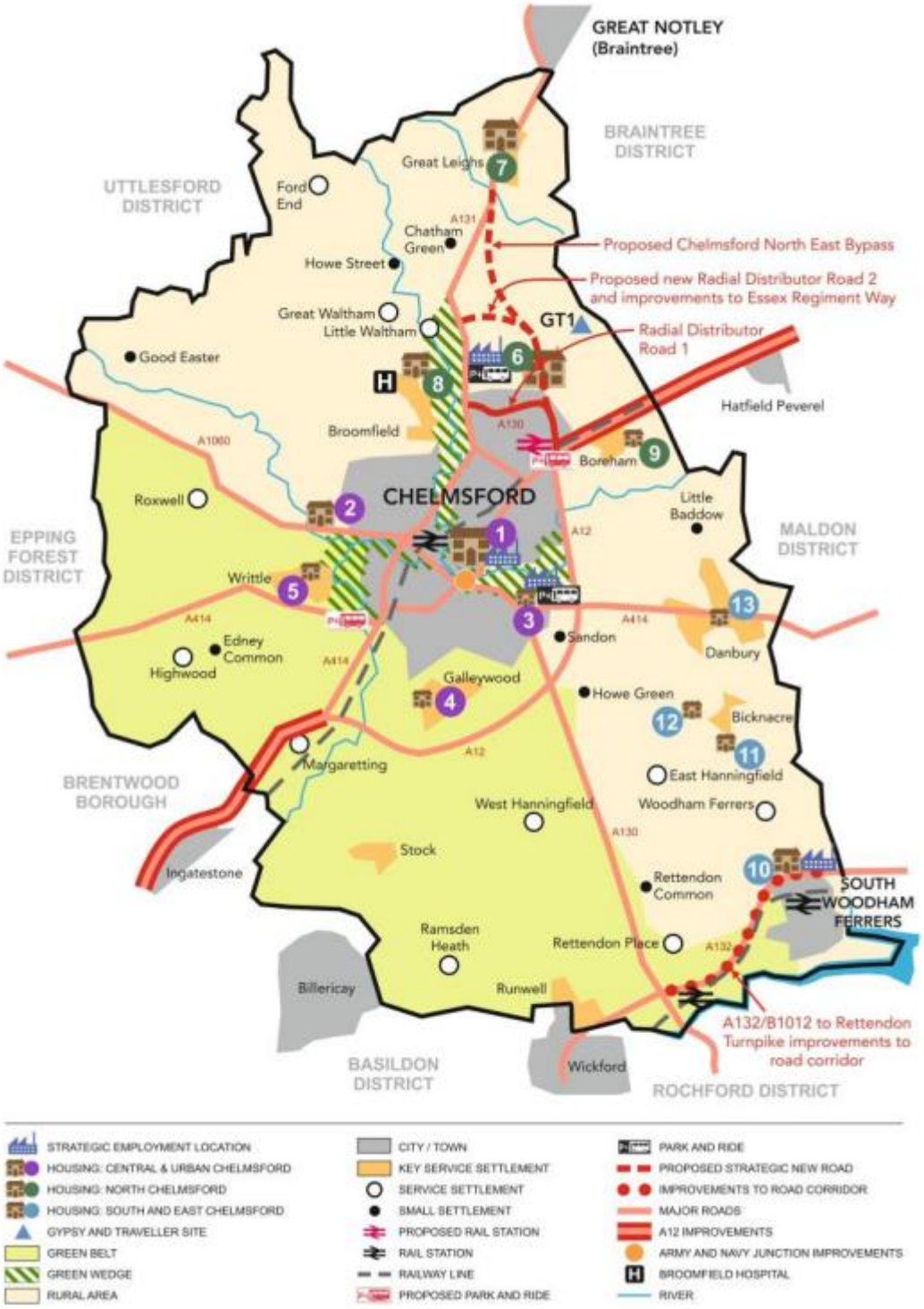
The Chelmsford Local Plan was adopted in May 2020 and includes a variety of strategic spatial policies and allocations to guide development in the district up to 2036. Strategic Policy S6 – Housing and Employment Requirements sets out the minimum housing requirement of 18,515 new

homes for the 23 years from 2013 to 2036, at a rate of 805 dwellings per year. An additional 20% supply buffer was set above this target to provide flexibility in the supply of housing sites and to boost supply, making up a total housing requirement of 21,843 new homes.

Strategic Policy S6 states that in order to meet the forecast growth in total employment of 725 jobs per annum during the plan period, the Local Plan allocates development sites to accommodate a minimum of 55,000sqm of new business floorspace (Use Classes B1-B8) in addition to existing commitments. In order to meet future convenience retail growth, the Local Plan makes provision for 11,500sqm of floorspace.

In order to meet the identified development needs, Strategic Policy 7 – The Spatial Strategy identifies the most sustainable locations to accommodate growth. New housing allocations within the Local Plan were focused on the three Growth Areas of Central and Urban Chelmsford, North Chelmsford, and South and East Chelmsford. These areas are shown on the accompanying Key Diagram (see Figure 1).

Figure 1. Adopted Local Plan Key Diagram



As part of the evidence base for the adopted Local Plan and to assess the infrastructure required to support the Local Plan growth, the Council prepared the Chelmsford Infrastructure Delivery Plan (prepared in January 2018 and updated in June 2018 and July 2019).

Adopted Local Plan Strategic Policy S9 – Infrastructure Requirements sets out the infrastructure requirements to support new development across Chelmsford. A list of required transport and highways infrastructure is included as well as infrastructure considerations relating to flood risk management, community facilities, green infrastructure and natural environment, historic environment, and utilities.

2.3.2 Local Plan Review 2022

Strategic Policy 13 of the adopted Local Plan committed to a 'full or focused formal review' of the Plan within two years from its adoption. Accordingly, the Council has commenced the Local Plan Review undertaking a 6-week Regulation 18 consultation on 'Issues and Options' between August and October 2022.

The Local Plan Review seeks to identify new allocations and/or extend sites which are already allocated to accommodate the growth required until 2041. The Issues and Options consultation documents set out the requirement for an additional 7,966 homes during the new plan period.

In order to distribute this growth, five spatial approaches have been developed and are set out in the Issues and Options consultation document. Paragraph 6.37 confirms that the approaches all set out the same amount of growth but use different elements of the locations for potential growth. These approaches have been carefully scrutinised for their impact and contribution to sustainable development through the Integrated Impact Assessment. They have also been assessed in relation to their traffic impact, how they meet needs for providing additional facilities, and using other evidence such as air quality, landscape and other environmental considerations.

Table 1 below sets out the five spatial approaches and the distribution of growth.

Table 1. Spatial Approaches set out in the Issues and Options consultation document

	Approach A: Growing the existing strategy	Approach B: Growth in urban areas	Approach C: Wider strategy	Approach D: Growth along transport corridors	Approach E: New settlements
Chelmsford urban area	1,000	2,500	1,000	1,000	1,000
Edge of Chelmsford extension (west / east)	1,500*	1,500*	1,500*	500*	
North of South Woodham Ferrers	500	500	500	500	
North East Chelmsford Garden Community	3,500**	3,500**	3,500**	4,500**	3,000**
Key Service Settlements (Bicknacre, Boreham, Broomfield, Danbury, Great Leighs)	1,500*		1,000*		
Service Settlements (East Hanningfield, Ford End, Great Waltham, Little Waltham, Rettendon Place, Woodham Ferrers)			500*		
Settlements with good proximity to transport Corridors (Chatham Green, Howe Green, Rettendon Common)				1,500*	
New Strategic Settlement/Garden Community (Hammonds Farm)					4,000

** Split across one or more locations or settlements*
*** Includes the 2,500 homes to be included in the existing allocation area but not programmed for delivery within the adopted Local Plan period up to 2036*

In relation to the North East Chelmsford Garden Community (CGC), the adopted Local Plan allocates a site for a new garden community at North East Chelmsford (Strategic Growth Site Policy 6). This is nationally recognised by the Government and is supported by Homes England and will follow the Town and Country Planning Association (TCPA) Garden City Principles. The

adopted Local Plan allocates 3,000 homes and 45,000sqm of employment space to be delivered on the site by 2036, but the allocated site is large enough to accommodate around 2,500 further homes. The 2,500 additional homes are therefore included within the existing allocation area but not programmed for delivery within the adopted Local Plan period up to 2036.

The CGC Developer Consortium comprises Countryside, L&Q, Ptarmigan Land and Halley Developments, working in partnership with Chelmsford City Council and Essex County Council. The Consortium have prepared a masterplan (Development Framework Document (DFD)) and accompanying Infrastructure Delivery Plan (IDP) for 5,500 homes across the whole site. This was consulted on in 2022 and was approved by Cabinet on 24 January 2023, subject to the completion of a legal Planning Framework Agreement.

The development proposed in Spatial Approaches A to E (ranging from 3,000 to 4,500 homes) is in addition to the 3,000 homes already allocated in the current Local Plan period. This means development within CGC would exceed the 5,500 homes in the DFD and IDP, namely by 1,000 homes for Spatial Approach A-C (totalling 6,500 homes), by 2,000 homes for Spatial Approach D (totalling 7,500 homes) and by 500 homes for Spatial Approach E (totalling 6,000 homes).

The DFD/IDP sets the framework for the three separate outline planning applications being prepared by Countryside L and Q, Ptarmigan Land and Halley Developments. Two planning applications for Chelmsford Garden Community Zone 1 were submitted to Chelmsford City Council in October 2022 by Ptarmigan Land (Ref: 22/01950/FUL and 22/01950/OUT). An outline planning application (23/01751/OUT) for Chelmsford Garden Community Zone 2 was submitted to Chelmsford City Council in October 2023 and the consortium submitted a hybrid planning application (23/00124/OUT AND 23/00124/FUL) for Zone 3 and the Northern Radial Distributor Road (23/00114/FUL) in January 2023. These three applications now total 6,250 new homes, 750 homes more than set out in the DFD.

In relation to the New Strategic Settlement/Garden Community (Hammonds Farm), paragraph 6.33 of the Issues and Options consultation document states that a large new settlement would need to be self-contained by providing its own infrastructure including jobs, education (including secondary school), health and community facilities, and transport links, but also very well linked to existing key centres. It is envisaged that this will be delivered in the form of a garden village or garden community, similar to the approach being adopted for CGC. The document recognises that this is a long-term approach which will need to provide key infrastructure in the early phases to prevent unsustainable trips to services and facilities.

Consultation responses to the Issues and Options consultation have been reviewed and are set out in the Issues and Options Consultation Document Feedback Report (February 2023).

Consultation on the Preferred Options (Regulation 18) Local Plan Review is timetabled for Quarter 2 2024.

3. Study Methodology

3.1 Scope of Study

The IDP incorporates a wide range of infrastructure types in its scope. These are set out in Table 2 below.

Table 2. Infrastructure Categories and Types included in the Study.

Infrastructure Category	Infrastructure Type
Highways, access and transport	Highways
	Rail services
	Bus services
	Active travel and cycling provision
Flood protection and water management	Flood and water management
	Water supply
	Sewerage
Green infrastructure, recreation and leisure	Parks and gardens
	Amenity greenspace
	Provision for children and young people
	Indoor sports facilities
	Outdoor sports facilities
Environmental mitigation	Site specific environmental mitigation
Digital infrastructure	Broadband coverage
Minerals and waste management	Recycling centres
	Waste transfer
Provision of energy	Gas
	Electricity
Early years, childcare and education	Early years
	Primary education
	Secondary education
	Special educational needs
	Further education
Health and social wellbeing	Primary healthcare
	Secondary healthcare
	Social and care services
	Ambulance services
	Police services
	Fire services
Social and community facilities	Youth services
	Libraries
	Community halls
	Cemeteries
	Places of worship
Public realm and public art	Site specific provision
Security	CCTV
	Safety initiatives

3.2 Assessing the Baseline Infrastructure Capacity

In order to assess the infrastructure issues and opportunities associated with the locations set out in the five spatial approaches, it is first necessary to understand the baseline infrastructure capacity position in Chelmsford.

For each infrastructure type, we have undertaken the following:

- Consider the overarching policy and strategy context;
- Identify current levels of provision; and
- Establish the implications for future growth.

The following sections set out the approach taken.

3.2.1 Review of Existing Evidence and Strategy

We have carried out a thorough desk-based review of relevant published evidence base documents and strategies from the full breadth of infrastructure providers and public-sector agencies. Importantly, this has provided a broad understanding of the local infrastructure picture, in order to establish the issues we are likely to need to explore further throughout the IDP. Specifically, we have sought to understand:

- The methodology used to assess future infrastructure requirements;
- The adequacy of baseline provision and whether there is an existing deficit or oversupply; and
- Whether any infrastructure interventions or improvements are proposed, the timeframes of these proposals, and whether they adequately provide for the levels of growth envisaged.

3.2.2 Engagement with Infrastructure Stakeholders

Our experience producing other infrastructure studies demonstrates the value of consultation with infrastructure stakeholders, both in the private or public sector. This approach is generally successful in drawing out important evidence and reflects the emphasis in Planning Practice Guidance.

As part of this study, and to inform the baseline infrastructure findings, we have therefore sought to engage with stakeholders (through meetings or email correspondence). A number of stakeholders had already provided a consultation response to the Issues and Options consultation, and this was considered sufficiently detailed to not require further engagement at this stage of the process.

The full list of relevant infrastructure stakeholders is set out below (infrastructure categories/types in brackets):

- Essex County Council (*highways, rail service, bus services, active travel and cycling, flood protection and water management, minerals and waste management, digital infrastructure, early years, childcare and education, social and care services, and libraries*)
- Chelmsford City Council (*youth services, community halls, cemeteries, public realm and public art, and security*)
- National Highways (*highways*)
- Natural England (*environmental mitigation*)
- Mid and South Essex Integrated Care Board (*primary healthcare, secondary healthcare*)
- East of England Ambulance Trust (*ambulance services*)
- Sport England (*indoor sports facilities, outdoor sports facilities*)
- Network Rail (*rail*)

- Cadent Gas (*gas*)
- UK Power networks (*electricity*)
- Essex and Suffolk Water (*water*)
- Anglian Water (*sewerage*)
- Essex Police (*police services*)
- Essex Fire and Rescue (*fire services*)
- Environment Agency (*green infrastructure, environmental mitigation*)
- National Grid (*electricity*)
- National Gas (*gas*)
- Arriva (*bus services*)
- First (*bus services*)

Where engagement with stakeholders could not be undertaken prior to the completion of this report, the baseline analysis for the corresponding infrastructure types is therefore based on published strategies and information otherwise already available in the public domain, as well as their response to the Issues and Options consultation (where applicable).

Further engagement will be undertaken with all infrastructure stakeholders during the next stage of the IDP.

3.2.3 Engagement with Duty-to-Cooperate Local Authorities

It is recognised that infrastructure provision does not respect administrative boundaries. The successful cross-boundary resolution of infrastructure matters is a key requirement of national policy, and also essential to demonstrate compliance with the Duty-to-Cooperate. The following neighbouring authorities directly adjoin Chelmsford:

- Uttlesford District council
- Brentwood Borough Council
- Basildon Borough Council
- Epping Forest District Council
- Rochford District Council
- Braintree District council
- Maldon District Council

As part of this study, we have reviewed the Issues and Options consultation responses provided by these neighbouring authorities and we have sought to engage with the neighbouring authorities to understand the key cross-boundary infrastructure issues which should be taken into consideration. Further engagement with all of the neighbouring authorities will be undertaken as the IDP progresses.

3.3 High-level Assessment of the Five Spatial Approaches

Using the baseline analysis of infrastructure capacity, we have identified the infrastructure types which are likely to be linked to the location of growth. Focusing on these infrastructure types, we have then assessed the five spatial approaches set out in the Issues and Options consultation document to identify infrastructure issues and opportunities associated with these spatial approaches, including any significant infrastructure constraints that should be taken into account.

The assessment is broad and high-level at this stage given that the exact locations and the distribution of development across these locations is not yet known. This assessment will assist the Council in identifying their Preferred Options.

Although the assessment is focused on the infrastructure types which are likely to be linked to the location of growth, we have assessed all infrastructure types as part of the baseline analysis and the remaining infrastructure types will be considered in more detail as the IDP progresses.

4. Stage 1 Infrastructure Capacity Findings

4.1 Baseline Infrastructure Capacity Summary

Across the 12 infrastructure categories and 38 individual infrastructure types, we have undertaken a baseline analysis of infrastructure capacity. This has involved a review of the relevant policy and context, the baseline levels of provision, and the implications for future growth. As a result of this baseline analysis, we have sought to categorise each infrastructure type into one of four categories:

1. Linked to location of growth, and constrained / not significantly constrained.
2. Could affect location of growth, and constrained / not significantly constrained.
3. Will not affect location of growth.
4. Not assessed at this stage as site dependent.

At this stage of the process, it was not possible to assess implications for certain infrastructure types until specific sites are known – these types are categorised as 'not assessed as this stage'.

Table 3. Growth Considerations by Infrastructure Type

Infrastructure Category	Infrastructure Type	Relevance to Growth Conclusions
Highways, access and transport	Highways	Linked to location of growth, and constrained
	Rail services	Linked to location of growth, and not significantly constrained
	Bus services	Could affect location of growth and not significantly constrained
	Active travel and cycling provision	Will not affect location of growth
Flood protection and water management	Flood and water management	Could affect location of growth, and not significantly constrained
	Water supply	Could affect location of growth, and constrained
	Sewerage	Could affect location of growth, and not significantly constrained
Green infrastructure, recreation and leisure	Parks and gardens	Will not affect location of growth
	Amenity greenspace	Will not affect location of growth
	Provision for children and young people	Will not affect location of growth
	Indoor sports facilities	Will not affect location of growth
	Outdoor sports facilities	Will not affect location of growth
	Allotments	Will not affect location of growth
Environmental mitigation	Site specific environmental mitigation	Not assessed at this stage as site dependent
Digital infrastructure	Broadband coverage	Will not affect location of growth
Minerals and waste management	Recycling centres	Will not affect location of growth
	Waste transfer	Will not affect location of growth
Provision of energy	Gas	Could affect location of growth, and not significantly constrained
	Electricity	Could affect location of growth, and constrained
Early years, childcare and education	Early years	Could affect location of growth, and constrained
	Primary education	Linked to location of growth, and constrained

	Secondary education	Linked to location of growth, and constrained
	Special educational needs	Will not affect location of growth
	Further education	Will not affect location of growth
Health and social wellbeing	Primary healthcare	Linked to location of growth, and constrained
	Secondary healthcare	Will not affect location of growth
	Social and care services	Will not affect location of growth
	Ambulance services	Will not affect location of growth
	Police services	Will not affect location of growth
	Fire services	Will not affect location of growth
Social and community facilities	Youth services	Will not affect location of growth
	Libraries	Will not affect location of growth
	Community halls	Will not affect location of growth
	Cemeteries	Will not affect location of growth
	Places of worship	Will not affect location of growth
Public realm and public art	Site specific provision	Not assessed at this stage as site dependent
Security	CCTV	Not assessed at this stage as site dependent
	Safety initiatives	Not assessed at this stage as site dependent

Focusing on the infrastructure types which are linked to the location of growth or could affect the location of growth, the baseline infrastructure capacity position of these infrastructure types is provided in the following accompanying appendices:

Appendix A - Highways, rail services and bus services

Appendix B – Flood protection and water management

Appendix C – Provision of energy

Appendix D – Early years, primary education and secondary education

Appendix E – Primary healthcare

The baseline position has fed into the high-level assessment of the five spatial approaches which is set out in the following section. The remaining infrastructure types not included in the accompanying appendices will be included in the next stage as part of the full draft IDP.

4.2 High-level Assessment of the Five Spatial Approaches

Based on the infrastructure types which are linked to the location of growth or could affect the location of growth, this section provides a high-level assessment of the infrastructure issues and opportunities associated with these spatial approaches, including any significant infrastructure constraints that should be taken into account.

It should be made clear that although some infrastructure types have been identified as not affecting the location of growth, these infrastructure types will still need to be provided for and will be considered in further detail as the IDP progresses.

Overarching comments relating to highways, active travel and cycling provision, flood protection, water supply, sewerage, electricity, gas, primary healthcare, and green infrastructure are provided below as these apply across all spatial approaches. Each spatial approach is then considered in turn identifying specific issues and opportunities relating to the infrastructure types which are linked to the location of growth.

Highways - The baseline analysis indicates there are existing capacity issues on the current road network which causes incidents, congestion and journey time reliability. There are a number of proposed interventions and improvements by ECC and National Highways (see Table A1) however additional interventions are likely to be required to accommodate the planned level of growth across the spatial approaches. Junction capacity on the A12 is a particular area of concern for National Highways as junctions 16, 17, 18 and 19 are operating close to capacity at present. As such, a monitor and manage strategy is therefore required to address developing issues on the A12 and modelling of the Preferred Option may identify the need for large scale improvements. This applies across all spatial approaches.

Active travel and cycling provision - Although this infrastructure type has been identified as not affecting the location of growth, it will be important that all growth locations build on and/or provide new and/or enhanced sustainable transport provision to reduce car use and maximise walking, cycling and use of public transport. Development will need to be located in the most sustainable locations, or in locations which can be made sustainable through appropriate infrastructure provision. Furthermore, individual schemes will need to fund interventions linked to additional demand they create.

Flood and water management – Although the provision of flood risk management infrastructure - where required - is critical, the need for new or improved flood defences is not necessarily directly related to the location of development. New development across the spatial approaches within surface water flood risk areas or Critical Drainage Areas (CDAs) will be required to reduce runoff volumes from the site and mitigate runoff pollution through sustainable drainage systems (SuDS). New development will be required to be integrated into the existing development, its wider surroundings and appropriately designed with the necessary water/drainage infrastructure combining multifunctional green space, amenity, recreation and wildlife benefits.

Water supply - The baseline analysis indicates that across Essex and the wider East of England, there will be a significant water deficit by 2050, as identified in the Water Resources East Regional Plan which will require a range of interventions at the local and wider geography including demand management measures; transfer schemes; new reservoirs (South Lincs and the Fens); and next generation desalination. At this stage of the process, it is difficult to conclude on the implications of growth on water supply and further engagement with Essex and Suffolk Water will be undertaken on this as the IDP progresses.

Sewerage – The baseline analysis indicates that in high-growth areas, there may be a need to expand sewage treatment capacity at Water Recycling Centres (WRCs) to minimise impact on receiving watercourses. Anglian Water has a long-term strategy to 2050 of process optimisation and increased capacity at Chelmsford Water Recycling Centre, based on projected population growth in the catchment area. However, they note that the proposed level of growth in the Issues and Options consultation document, combined with the existing planned growth in the adopted Local Plan may lead to a higher population growth than originally planned for which would have implications for their medium and long-term strategy. They also noted that dependent on the spatial approach taken, there could be implications for growth at South Woodham Ferrers and Great Leighs WRCs. Anglian Water recommends a whole life carbon assessment is undertaken to inform the optimal spatial distribution of growth.

Gas – The baseline analysis indicates that given the Government's decarbonisation agenda, and indications from Cadent Gas that demand is expected to stay relatively stable, it is not anticipated that there will be any adverse implications for future growth. The implementation of the Government's Future Homes Standard requiring that all new homes built after 2035 can no longer install gas boilers will need to be monitored. CCC are planning to implement policies through the review of the Local Plan for new development to be fossil fuel free and net-zero carbon in operation.

Electricity – The demands on the electricity network resulting from the proposed level of growth will need to be considered in the wider context of the Government's decarbonisation agenda. The increasing emphasis on electrification for heating and transportation means that it is very likely that the electricity network will require reinforcement and upgrades. This transition signifies a significant

shift in energy consumption patterns, and the current infrastructure may require improvements to accommodate these changes. Further discussions on this will be undertaken with UKPN as the IDP progresses.

Primary healthcare - In relation to primary healthcare infrastructure, it is not possible to confirm the exact requirements across the spatial approaches at this stage, however data provided by Mid and South Essex Integrated Care Board (ICB) confirms that all of the Primary Care Networks (PCNs) serving Chelmsford are operating over capacity. As such, additional primary healthcare provision is likely to be required across all of five spatial approaches. This is likely to be a combination of expansion of existing facilities and new facilities providing primary, community and acute services for the planned population. Discussions with the ICB confirmed that the five spatial approaches were workable in terms of primary healthcare provision however the ICB's preference is for larger concentrated developments as these can be more effectively served by existing or proposed infrastructure, compared to many small developments or development scattered throughout villages. The ICB confirmed that approximately 4,000 new homes would trigger the need for a new GP surgery. The ICB emphasised that whatever the location of development, affordable and active transport options are essential to link existing and new residents to health and wellbeing infrastructure. In addition, it will be important for Local Plan policies to be positive about development that supports the delivery of healthcare services for the resident of Chelmsford.

Green infrastructure - Although this infrastructure type has been identified as not affecting the location of growth, it will be fundamental across all spatial approaches that development provides multi-functional green infrastructure and achieves biodiversity net-gain.

4.2.1 Spatial Approach A: Growing the existing strategy

Spatial Approach A includes the following locations and levels of growth:

Chelmsford urban area: 1,000 homes

Edge of Chelmsford extension (west/east): 1,500 homes

North of South Woodham Ferrers: 500 homes

North East Chelmsford Garden Community: 3,500 homes[1]

Key Service Settlements (Bicknacre, Boreham, Broomfield, Danbury, Great Leighs): 1,500 homes

Spatial Approach A - Chelmsford urban area

Highways, rail services and bus services

The highway network within the urban area has limited spare capacity and therefore sustainable travel opportunities will need to be maximised.

Early years, primary education, and secondary education[2]

In terms of primary education provision, the level of growth proposed in the urban area as part of Spatial Approach A will generate the need for additional places equivalent to a two form entry (2FE)[3] primary school. A single development site of the necessary scale to accommodate a new co-located primary school (2.1ha site) is unlikely to come forward within the urban area. ECC has

[1] This includes the 2,500 homes to be included in the existing allocation area but not programmed for delivery within the adopted Local Plan period up to 2036.

[2] It is noted that this assessment represents a worst-case scenario assuming that all dwellings are built as houses however it is likely that a high proportion of dwellings in the urban area will be flats which is likely to lower the demand for places. A more detailed assessment will be undertaken the support the Preferred Options.

[3] This refers to a two form entry primary school consisting of 420 places.

however identified school expansion options to provide 2FE of additional places (subject to future scenario testing).

In terms of early years and childcare provision, the level of growth proposed will likely generate the need for the equivalent of a new 56 place nursery and developer contributions (90 places). This will need to be confirmed by scenario testing which will take into account early years provision being delivered as part of the allocation of Strategic Growth Site 2 (West Chelmsford) in the adopted Local Plan.[4]

With regard to secondary education, Spatial Approach A will generate approximately 1.3FE which will need to be accommodated through the expansion of the relevant secondary schools and potentially funded through developer contributions.

Spatial Approach A - Edge of Chelmsford extension (west/east)

Highways, rail services and bus services

For development on the edge of Chelmsford, all approaches will need to include good walking and cycling connectivity and investigation of bus priority measures into the city centre and other key destinations building on the sustainable transport packages already being provided in the adopted Local Plan.[5] Any development should also build upon and consider the improvements being provided at Sandon Park and Ride and wider afield through the Army and Navy Sustainable Transport Package.

Further development in this location will also require local junction improvements to be identified and funded by the development. In particular, the impact of development on the Chignal/Roxwell Road junction and any additional traffic movements through Writtle would need particular consideration in future modelling.

Early years, primary education, and secondary education

In terms of primary education provision, if the growth is located in West Chelmsford, this may increase the viability of the new primary school forming part of the West Chelmsford allocation in the adopted Local Plan (Strategic Site 2). If the growth is located in East Chelmsford alongside the existing allocations of approximately 400 homes (Strategic Sites 3a, 3c and 3d), a potential combined growth of around 1,900 homes in East Chelmsford may potentially require a new co-located primary school but this would be clarified by ECC through a later scenario test for any preferred approach, which would also consider any capacity at nearby existing schools.

In terms of early years provision, growth of 1,500 homes could generate 135 places therefore a single allocation of 1,500 homes is likely to require the provision of two new 56 place nurseries with land and a developer contribution for remaining places.[6]

With regard to secondary education, Spatial Approach A will generate approximately 2FE. This will need to be accommodated through the expansion of the relevant secondary schools and potentially funded through developer contributions.

Spatial Approach A - North of South Woodham Ferrers

Highways, rail services and bus services

[4] Adopted Local Plan Strategic Growth Site 2 (West Chelmsford) is presently subject to a planning application (880 homes) and provides a land option for a new co-located 2FE (420 place) primary school/56 place early years nursery. Any scenario test will need consider the potential to accommodate some pupils generated by additional development in the urban area and/or further expansion on the west edge of Chelmsford.

[5] In particular, Strategic Growth Site Policy 2 (West Chelmsford) and Strategic Growth Site Policies 3a – d (East Chelmsford).

[6] This has been considered in the context of early years provision included in the adopted Local Plan at Strategic Growth Site 2 and 3b however due to the level of growth proposed in this spatial approach, any spare capacity from these sites is unlikely to be able to accommodate the places required.

This Spatial Approach will need to consider the impact of an additional 500 homes on the link and junction capacity and safety along the B1012 Lower Burnham Road to the A132 South Woodham Ferrers to the A130 including key junctions, Ferrers Road and Rettendon Turnpike.

It is noted that the planned growth in the adopted Local Plan to the north of South Woodham Ferrers is already providing some improvements to the B1418/Burnham Road Junction; increasing the extent of the taper on the A132 west of the Burnham Road/Ferrers Road/Willow Lane Junction; pedestrian and cycle crossings; potential speed limit reduction along the A132 and travel plan and other sustainable measures. However, ECC states that capacity is limited along this route and there is concern about additional dwellings in the locality unless the future modelling demonstrates that it can be satisfactorily accommodated on the network.

Any additional traffic growth arising from the Maldon Local Plan Review and potentially Bradwell B (presently paused) would need to be considered as part of any modelling.

Consideration should also be given to enhancing bus service frequency to Chelmsford, Broomfield Hospital, and the shuttle service to Wickford and Basildon, along with a demand responsive service for local destinations in South Woodham Ferrers.

In terms of rail services, the railway station at South Woodham Ferrers provides access to the Southminster Branch Line (also known as the Crouch Valley Line) offering a key sustainable mode of travel. New trains provide significant additional passenger seating capacity of some 66% in the off peak and at peak times a new 10 car train has about 12% additional seating capacity than the old 12 car train. However, due to imposed speed limits and the number of crossings on the line, one train every 40 minutes is the best timetable that can presently be offered. Improvements to increase this to two trains per hour would require significant investment which is unlikely to be funded by Local Plan growth to 2041. Based on the level of growth proposed as part of this spatial approach, it is unlikely that this will place any significant additional pressure on the line capacity in isolation.

Early years, primary education, and secondary education

In terms of primary education provision, the proposed growth of 500 homes to the north of South Woodham Ferrers would generate a need for approximately 0.7FE. ECC has confirmed that it is likely that this need could be accommodated by the new co-located primary school option proposed as part of Strategic Growth Site Policy 10 (North of South Woodham Ferrers) in the adopted Local Plan.[7] Such an approach is also likely to make a new primary school more viable.

In terms of early years provision, this spatial approach would generate the need for 45 places. Again, this could be accommodated by the nursery provision being delivered by Strategic Growth Site Policy 10 however a developer contribution may well be sought.

With regard to secondary education, this Spatial Approach will generate approximately 0.7FE. The Secondary School Planning Group at South Woodham Ferrers includes Ormiston Academy (which is in the Maldon District administrative area at Burnham on Crouch) and William de Ferrers in South Woodham Ferrers. The current forecasts suggest an additional 2FE (300 places) is required to meet peak demand and schemes are in place to provide these extra places. William de Ferrers will increase its admission number by 30 places within its existing accommodation in 2023/24. A further 1FE expansion is feasible but would be expensive given site constraints. Any future housing scenario test will also need to consider any planned growth in the emerging Maldon Local Plan. Any expansion of these schools will need to be funded through developer contributions.

[7] Strategic Growth Site Policy 10 (North of South Woodham Ferrers) provides a policy requirement for a potential co-located new primary school with 56 place nursery, and an additional stand-alone nursery; or two stand-alone nurseries. The site is presently subject to two planning applications totalling 1,220 homes, which is 220 homes more than the adopted Local Plan. In responding to the Bellway application (200 homes/60 places), ECC has sought a proportionate developer contribution towards the co located primary school. In responding to the Countryside application (1,020 homes/306 places), ECC has sought the provision of land to deliver the co-located primary school/56 place nursery and land for the stand-alone nursery along with proportionate developer contributions.

Spatial Approach A - North East Chelmsford Garden Community

Highways, rail services and bus services

A Movement and Access Strategy has been developed for CGC. As such, any additional development will be required to consider and build upon the principles and proposals therein. Key considerations will include the Essex Regiment Way Sustainable Transport Corridor, and the potential for White Hart Lane and Broomfield Road to become sustainable transport corridors.

In terms of highways interventions, the Chelmsford North East Bypass (CNEB) Phase 1A is planned to be delivered by March 2026. This phase will be funded via the Housing Infrastructure Fund and will also deliver Beaulieu Park railway station in full. Phase 1B and 2 will primarily be funded through developer contributions and delivered later as new development comes forward.

In relation to rail services, the new Beaulieu Park railway station is a key transport and economic component of CGC. Construction of the station commenced in March 2023 and the station is expected to be open by the end of 2025.

Early years, primary education, and secondary education

Spatial Approach A proposes 1,000 additional homes (beyond the 5,500 in the CGC DFD).[8] In relation to primary education provision, this would generate a requirement for 1.4FE. ECC has confirmed that Great Belsteads School (2.4ha) may be able to accommodate some of the growth by its temporary expansion from 2FE to 3FE however further consideration will need to be given to any additional growth generated above the 1FE and this will need to be subject to further demographic modelling and consideration of the build rates achieved.

The location of the additional homes in CGC will need to be considered against the existing and proposed education provision. If the additional homes were to be provided through the further expansion of the Garden Community, this would need to consider the housing mix and specific location in relation to, and any available capacity of, the schools being provided in the DFD. Safe direct walking and cycling routes would need to be provided from the new development.

If the new allocation at CGC were not suitably related to the existing schools, then Spatial Approach A could be required to provide a new 2.1ha primary school site.

In relation to early years provision, if it is assumed that the additional growth is to be provided by allocating additional land to CGC, then Spatial Approach A would generate 90 additional places requiring one to two additional 56 place nurseries (preferably co-located with any new primary school).

In relation to secondary education provision, Spatial Approach A will generate an additional 1.3FE which could be accommodated through expansions once any bulge from the initial development has subsided. It should be noted that the new Beaulieu Park School and new school at Park Farm will serve wider areas than just the Garden Community and this needs to be considered within the future scenario test.

Spatial Approach A - Key Service Settlements

Highways, rail services and bus services

Future development in the key service settlements will need to be subject to highway modelling and be required to be supported by a substantive sustainable transport package with good walking and cycling connectivity within the development and wider afield.

[8] The CGC DFD (5,500 homes) includes the following education provision: An all through school (12.1 ha) including secondary school and 6th form, and new primary school co-located with 56 place early years and childcare at Park Farm Village; a new Primary School (2.4ha) co-located with 56 place early years at Great Belstead Village; a new Primary School (2.1ha) co-located with 56 place early years at Willow Hill Village; a new Primary School (2.1ha) co-located with 56 place early years at Hawthorne Village; 1 x 56 stand alone nursery at Great Belsteads Village Centre; and 1 x 56 stand alone nursery at Park Farm Village Centre. The DFD states there is flexibility for two further nurseries at the village centres if demand arises.

A key issue at Great Leighs is the connectivity across the A131 including via Chase Side bridge and via the Dog and Partridge underpass. These routes will require upgrading to provide a safe and compliant pedestrian and cycle route. Other off-site walking and cycling facilities will also need to be provided including a cycle route along London Road to link to Great Notley, Horizon 120 and Skyline 120 to the east, and connections to routes to the south to CGC. Any future development should consider and, where possible, enhance the highway mitigation being considered in the adopted Local Plan (Strategic Growth Sites 7a – d).

With regards to Danbury, any future highway modelling will need to take account of growth in the emerging Maldon Local Plan along the A414 route through Danbury to the A12 junction 18; the pre-signals at the Eves Corner junction installed to manage Maldon District Local Development Plan growth to 2029; and any potential implications arising from Bradwell B in terms of worker and freight movements (presently paused).

In terms of rail services, once the new Beaulieu Park railway station is operational in late 2025, both Boreham and Broomfield will have rail access. Bicknacre, Danbury, and Great Leighs do not have access to rail services.

Early years, primary education, and secondary education

Once individual development sites have been identified, ECC will need to undertake a full housing scenario test to assess the impact and suitability of these sites in terms of available school capacity, need for new schools, expansion of existing schools, and any need for school transport (which ECC will resist).

In relation to primary education provision, the growth proposed in the key service settlements in Spatial Approach A would generate the need for approximately 2.1FE.

Based on the baseline analysis there is either limited or no capacity within the schools in Bicknacre, Boreham, Broomfield, Danbury and Great Leighs. Priory Primary School in Bicknacre has limited spare capacity. Boreham Primary School has no spare capacity and there is no scope to expand it. Any allocation in Boreham is unlikely to be sustainable in education terms due to a lack of alternative accessible provision. Broomfield Primary School has some limited capacity but this is required to meet demand from housing allocated in the adopted Local Plan and the school cannot be expanded due to site constraints. The schools in Danbury have no spare capacity. In addition, Danbury is preparing a Neighbourhood Plan, which is required to allocate sites for 100 homes, and this will need to be factored into any future scenario test. Great Leighs Primary School is full in most year groups and is expected to remain so. However Strategic Growth Site Policy 7a (Great Leighs) in the adopted Local Plan includes a policy requirement to provide land for a new co-located primary school and nursery (2.1 ha). Further growth could assist delivery, but cross border demand must also be considered. The future scenario test will need to consider the ability of the new school to serve any of the additional homes.

With regards to early years provision, Spatial Approach A would generate some 135 places. A new 56 place nursery is being delivered as part of Strategic Growth Site Policy 8 (North of Broomfield)[9] in the adopted Local Plan therefore any additional growth in the vicinity of this is likely to be accommodated at this new facility. As mentioned above, a new 56 place nursery is also being provided at Great Leighs, which may have limited spare capacity. Once further detail is provided on the likely location and distribution of growth within the key service settlements, a more detailed assessment will be undertaken by ECC.

In terms of secondary school provision, any growth at Bicknacre, Boreham, Broomfield and Danbury will need to be accommodated through the expansion of the relevant secondary schools and funded through developer contributions, including potential school transport costs. However, ECC notes that developments which are beyond the statutory walking distances[10] to schools are

[9] Outline planning permission (subject to S106 and link road) was approved for this site in August 2022 for up to 512 homes and 0.13 hectares of land for a stand-alone 56 place early years nursery and developer contributions.

[10] Two miles for children under the age of 8 and three miles for older children via a safe route.

unsustainable and will be resisted. The nearest secondary schools to Great Leighs are located in Braintree town. ECC has confirmed that any further growth in Braintree, beyond the adopted plan period of 2033, will likely require a new secondary school, and will need to be considered as part of its review process.

Spatial Approach A - Cross-boundary issues

Maldon District Council has raised concerns regarding the capacity of the road network and the potential impacts on their district as a result of Spatial Approach A and the proposed level of development in South Woodham Ferrers, Bicknacre and Danbury. This will need to be considered as part of the transport modelling work. In addition, Basildon Borough Council has identified the potential for impacts on their borough as a result of the proposed growth at South Woodham Ferrers. Close working on strategic cross boundary issues with all neighbouring authorities will be undertaken as the IDP progresses.

4.2.2 Spatial Approach B: Growth in urban areas

Spatial Approach B includes the following locations and levels of growth:

Chelmsford urban area: 2,500 homes

Edge of Chelmsford extension (west/east): 1,500 homes

North of South Woodham Ferrers: 500 homes

North East Chelmsford Garden Community: 3,500 homes[11]

Spatial Approach B - Chelmsford urban area

Highways, rail services and bus services

The highway network within the urban area has limited spare capacity and therefore sustainable travel opportunities will need to be maximised.

Early years, primary education, and secondary education[12]

In terms of primary education provision, the level of growth proposed in the urban area as part of Spatial Approach B would generate approximately 3.6FE. A single development site of the necessary scale to accommodate this is unlikely to come forward within the urban area and school expansion options could be more difficult to accommodate for this level of growth compared to the other spatial approaches. The feasibility of this would require further detailed investigation through a future full housing scenario test.

In terms of early years provision, the level of growth proposed will generate the need for the equivalent of four new 56 place nurseries. This will need to be confirmed by scenario testing which will take into account early years provision being delivered as part of the allocation of Strategic Growth Site 2 (West Chelmsford) in the adopted Local Plan.[13]

With regard to secondary education, Spatial Approach B will generate approximately 3.3FE which will need to be accommodated through the expansion of the relevant secondary schools and potentially funded through developer contributions.

[11] This includes the 2,500 homes to be included in the existing allocation area but not programmed for delivery within the adopted Local Plan period up to 2036.

[12] It is noted that this assessment represents a worst-case scenario assuming that all dwellings are built as houses however it is likely that a high proportion of dwellings in the urban area will be flats which is likely to lower the demand for places. A more detailed assessment will be undertaken the support the Preferred Options.

[13] Adopted Local Plan Strategic Growth Site 2 (West Chelmsford) is presently subject to a planning application (880 homes) and provides a land option for a new co-located 2FE (420 place) primary school/56 place early years nursery. Any scenario test will need consider the potential to accommodate some pupils generated by additional development in the urban area and/or further expansion on the west edge of Chelmsford.

Spatial Approach B - Edge of Chelmsford extension (west/east)

Highways, rail services and bus services

For development on the edge of Chelmsford, all approaches will need to include good walking and cycling connectivity and investigation of bus priority measures into the city centre and other key destinations building on the sustainable transport packages already being provided in the adopted Local Plan.[14] Any development should also build upon and consider the improvements being provided at Sandon Park and Ride and wider afield through the Army and Navy Sustainable Transport Package.

Further development in this location will also require local junction improvements to be identified and funded by any development. In particular, the impact of development on the Chignal/Roxwell Road junction and any additional traffic movements through Writtle would need particular consideration in future modelling.

Early years, primary education, and secondary education

In terms of primary education provision, if the growth is located in West Chelmsford, this may increase the viability of the new primary school forming part of the West Chelmsford allocation in the adopted Local Plan (Strategic Site 2). If the growth is located in East Chelmsford alongside the existing allocations of approximately 400 homes (Strategic Sites 3a, 3c and 3d), a potential combined growth of around 1,900 homes in East Chelmsford may potentially require a new co-located primary school but this would be clarified by ECC through a later scenario test for any preferred approach, which would also consider any capacity at nearby existing schools.

In terms of early years provision, growth of 1,500 homes could generate 135 places therefore a single allocation of 1,500 homes is likely to require the provision of two new 56 place nurseries with land and a developer contribution for remaining places.[15]

With regard to secondary education, Spatial Approach B will generate approximately 2FE. This will need to be accommodated through the expansion of the relevant secondary schools and potentially funded through developer contributions.

Spatial Approach B - North of South Woodham Ferrers

Highways, rail services and bus services

Spatial Approach will need to consider the impact of an additional 500 homes on the link and junction capacity and safety along the B1012 Lower Burnham Road to the A132 South Woodham Ferrers to the A130 including key junctions, Ferrers Road and Rettendon Turnpike.

It is noted that the planned growth in the adopted Local Plan to the north of South Woodham Ferrers is already providing some improvements to the B1418/Burnham Road Junction; increasing the extent of the taper on the A132 west of the Burnham Road/Ferrers Road/Willow Lane Junction; pedestrian and cycle crossings; potential speed limit reduction along the A132 and travel plan and other sustainable measures. However, ECC states that capacity is limited along this route and there is concern about additional dwellings in the locality unless the future modelling demonstrates that it can be satisfactorily accommodated on the network.

Any additional traffic growth arising from the Maldon Local Plan Review and potentially Bradwell B (presently paused) would need to be considered as part of any modelling.

Consideration should also be given to enhancing bus service frequency to Chelmsford, Broomfield Hospital, and the shuttle service to Wickford and Basildon, along with a demand responsive service for local destinations in South Woodham Ferrers.

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[14] In particular, Strategic Growth Site Policy 2 (West Chelmsford) and Strategic Growth Site Policies 3a – d (East Chelmsford).

[15] This has been considered in the context of early years provision included in the adopted Local Plan at Strategic Growth Site 2 and 3b however due to the level of growth proposed in this spatial approach, any spare capacity from these sites is unlikely to be able to accommodate the places required.

In terms of rail services, the railway station at South Woodham Ferrers provides access to the Southminster Branch Line (also known as the Crouch Valley Line) offering a key sustainable mode of travel. New trains provide significant additional passenger seating capacity of some 66% in the off peak and at peak times a new 10 car train has about 12% additional seating capacity than the old 12 car train. However, due to imposed speed limits and the number of crossings on the line, one train every 40 minutes is the best timetable that can presently be offered. Improvements to increase this to two trains per hour would require significant investment which is unlikely to be funded by Local Plan growth to 2041. Based on the level of growth proposed as part of this spatial approach, it is unlikely that this will place any significant additional pressure on the line capacity in isolation.

Early years, primary education, and secondary education

In terms of primary education provision, the proposed growth of 500 homes to the north of South Woodham Ferrers would generate a need for approximately 0.7FE. ECC has confirmed that it is likely that this need could be accommodated by the new co-located primary school option proposed as part of Strategic Growth Site Policy 10 (North of South Woodham Ferrers) in the adopted Local Plan.[16] Such an approach is also likely to make a new primary school more viable.

In terms of early years provision, this spatial approach would generate the need for 45 places. Again, this could be accommodated by the nursery provision being delivered by Strategic Growth Site Policy 10 however a developer contribution may well be sought.

With regard to secondary education, this Spatial Approach will generate approximately 0.7FE. The Secondary School Planning Group at South Woodham Ferrers includes Ormiston Academy (which is in the Maldon District administrative area at Burnham on Crouch) and William de Ferrers in South Woodham Ferrers. The current forecasts suggest an additional 2FE (300 places) is required to meet peak demand and schemes are in place to provide these extra places. William de Ferrers will increase its admission number by 30 places within its existing accommodation in 2023/24. A further 1FE expansion is feasible but would be expensive given site constraints. Any future housing scenario test will also need to consider any planned growth in the emerging Maldon Local Plan. Any expansion of these schools will need to be funded through developer contributions.

Spatial Approach B - North East Chelmsford Garden Community

Highways, rail services and bus services

A Movement and Access Strategy has been developed for CGC. As such, any additional development will be required to consider and build upon the principles and proposals therein. Key considerations will include the Essex Regiment Way Sustainable Transport Corridor, and the potential for White Hart Lane and Broomfield Road to become sustainable transport corridors.

In terms of highways interventions, the CNEB Phase 1A is planned to be delivered in 2026. This phase will use the Housing Infrastructure Fund and will also deliver Beaulieu Park railway station in full. Phase 1B and 2 will primarily be funded through developer contributions and delivered later as new development comes forward.

In relation to rail services, the new Beaulieu Park railway station is a key transport and economic component of CGC. Construction of the station commenced in March 2023 and the station is expected to be open by the end of 2025.

Early years, primary education, and secondary education

[16] Strategic Growth Site Policy 10 (North of South Woodham Ferrers) provides a policy requirement for a potential co-located new primary school with 56 place nursery, and an additional stand-alone nursery; or two stand-alone nurseries. The site is presently subject to two planning applications totalling 1,220 homes, which is 220 homes more than the adopted Local Plan. In responding to the Bellway application (200 homes/60 places), ECC has sought a proportionate developer contribution towards the co located primary school. In responding to the Countryside application (1,020 homes/306 places), ECC has sought the provision of land to deliver the co-located primary school/56 place nursery and land for the stand-alone nursery along with proportionate developer contributions.

Spatial Approach B proposes 1,000 additional homes (beyond the 5,500 in the CGC DFD).[17] In relation to primary education provision, this would generate a requirement for 1.4FE. ECC has confirmed that Great Belsteads School (2.4ha) may be able to accommodate some of the growth by its temporary expansion from 2FE to 3FE however further consideration will need to be given to any additional growth generated above the 1FE and this will need to be subject to further demographic modelling and consideration of the build rates achieved.

The location of the additional homes in CGC will need to be considered against the existing and proposed education provision. If the additional homes were to be provided through the further expansion of the Garden Community, this would need to consider the housing mix and specific location in relation to, and any available capacity of, the schools being provided in the DFD. Safe direct walking and cycling routes would need to be provided from the new development.

If the new allocation at CGC were not suitably related to the existing schools, then Spatial Approach B could be required to provide a new 2.1ha primary school site.

In relation to early years provision, if it is assumed that the additional growth is to be provided by allocating additional land to CGC, then Spatial Approach B would generate 90 additional places requiring one to two additional 56 place nurseries (preferably co-located with any new primary school).

In relation to secondary education provision, Spatial Approach B will generate an additional 1.3FE which could be accommodated through expansions once any bulge from the initial development has subsided. It should be noted that the new Beaulieu Park School and new school at Park Farm will serve wider areas than just the Garden Community and this needs to be considered within the future scenario test.

Spatial Approach B - Cross-boundary issues

Maldon District Council has raised concerns regarding the capacity of the road network and the potential impacts on their district as a result of Spatial Approach B due to the proposed level of development in South Woodham Ferrers. This will need to be considered as part of the transport modelling work. In addition, Basildon Borough Council has identified the potential for impacts on their borough as a result of the proposed growth at South Woodham Ferrers. Close working on strategic cross boundary issues with all neighbouring authorities will be undertaken as the IDP progresses.

4.2.3 Spatial Approach C: Wider strategy

Spatial Approach C includes the following locations and levels of growth:

Chelmsford urban area: 1,000 homes

Edge of Chelmsford extension (west/east): 1,500 homes

North of South Woodham Ferrers: 500 homes

North East Chelmsford Garden Community: 3,500 homes[18]

Key Service Settlements (Bicknacre, Boreham, Broomfield, Danbury, Great Leighs): 1,000 homes

[17] The CGC DFD (5,500 homes) includes the following education provision: An all through school (12.1 ha) including secondary school and 6th form, and new primary school co-located with 56 place early years and childcare at Park Farm Village; a new Primary School (2.4ha) co-located with 56 place early years at Great Belstead Village; a new Primary School (2.1ha) co-located with 56 place early years at Willow Hill Village; a new Primary School (2.1ha) co-located with 56 place early years at Hawthorne Village; 1 x 56 stand alone nursery at Great Belsteads Village Centre; and 1 x 56 stand alone nursery at Park Farm Village Centre. The DFD states there is flexibility for two further nurseries at the village centres if demand arises.

[18] This includes the 2,500 homes to be included in the existing allocation area but not programmed for delivery within the adopted Local Plan period up to 2036.

Service Settlements (East Hanningfield, Ford End, Great Waltham, Little Waltham, Rettendon Place, Woodham Ferrers): 500 homes

Spatial Approach C - Chelmsford urban area

Highways, rail services and bus services

The highway network within the urban area has limited spare capacity and therefore sustainable travel opportunities will need to be maximised.

Early years, primary education, and secondary education[19]

In terms of primary education provision, the level of growth proposed in the urban area as part of Spatial Approach C will generate the need for additional places equivalent to 2FE primary school. A single development site of the necessary scale to accommodate a new co-located primary school (2.1ha site) is unlikely to come forward within the urban area. ECC has however identified school expansion options to provide 2FE of additional places (subject to future scenario testing).

In terms of early years provision, the level of growth proposed will likely generate the need for the equivalent of a new 56 place nursery and developer contributions (90 places). This will need to be confirmed by scenario testing which will take into account early years provision being delivered as part of the allocation of Strategic Growth Site 2 (West Chelmsford) in the adopted Local Plan.[20]

With regard to secondary education, Spatial Approach C will generate approximately 1.3FE which will need to be accommodated through the expansion of the relevant secondary schools and potentially funded through developer contributions.

Spatial Approach C - Edge of Chelmsford extension (west/east)

Highways, rail services and bus services

For development on the edge of Chelmsford, all approaches will need to include good walking and cycling connectivity and investigation of bus priority measures into the city centre and other key destinations building on the sustainable transport packages already being provided in the adopted Local Plan.[21] Any development should also build upon and consider the improvements being provided at Sandon Park and Ride and wider afield through the Army and Navy Sustainable Transport Package.

Further development in this location will also require local junction improvements to be identified and funded by any development. In particular, the impact of development on the Chignal/Roxwell Road junction and any additional traffic movements through Writtle would need particular consideration in future modelling.

Early years, primary education, and secondary education

In terms of primary education provision, if the growth is located in West Chelmsford, this may increase the viability of the new primary school forming part of the West Chelmsford allocation in the adopted Local Plan (Strategic Site 2). If the growth is located in East Chelmsford alongside the existing allocations of approximately 400 homes (Strategic Sites 3a, 3c and 3d), a potential combined growth of around 1,900 homes in East Chelmsford may potentially require a new co-located primary school but this would be clarified by ECC through a later scenario test for any preferred approach, which would also consider any capacity at nearby existing schools.

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[19] It is noted that this assessment represents a worst-case scenario assuming that all dwellings are built as houses however it is likely that a high proportion of dwellings in the urban area will be flats which is likely to lower the demand for places. A more detailed assessment will be undertaken the support the Preferred Options.

[20] Adopted Local Plan Strategic Growth Site 2 (West Chelmsford) is presently subject to a planning application (880 homes) and provides a land option for a new co-located 2FE (420 place) primary school/56 place early years nursery. Any scenario test will need consider the potential to accommodate some pupils generated by additional development in the urban area and/or further expansion on the west edge of Chelmsford.

[21] In particular, Strategic Growth Site Policy 2 (West Chelmsford) and Strategic Growth Site Policies 3a – d (East Chelmsford).

In terms of early years provision, growth of 1,500 homes could generate 135 places therefore a single allocation of 1,500 homes is likely to require the provision of two new 56 place nurseries with land and a developer contribution for remaining places.[22]

With regard to secondary education, Spatial Approach C will generate approximately 2FE. This will need to be accommodated through the expansion of the relevant secondary schools and potentially funded through developer contributions.

Spatial Approach C - North of South Woodham Ferrers

Highways, rail services and bus services

This Spatial Approach will need to consider the impact of an additional 500 homes on the link and junction capacity and safety along the B1012 Lower Burnham Road to the A132 South Woodham Ferrers to the A130 including key junctions, Ferrers Road and Rettendon Turnpike.

It is noted that the planned growth in the adopted Local Plan to the north of South Woodham Ferrers is already providing some improvements to the B1418/Burnham Road Junction; increasing the extent of the taper on the A132 west of the Burnham Road/Ferrers Road/Willow Lane Junction; pedestrian and cycle crossings; potential speed limit reduction along the A132 and travel plan and other sustainable measures. However, ECC states that capacity is limited along this route and there is concern about additional dwellings in the locality unless the future modelling demonstrates that it can be satisfactorily accommodated on the network.

Any additional traffic growth arising from the Maldon Local Plan Review and potentially Bradwell B (presently paused) would need to be considered as part of any modelling.

Consideration should also be given to enhancing bus service frequency to Chelmsford, Broomfield Hospital, and the shuttle service to Wickford and Basildon, along with a demand responsive service for local destinations in South Woodham Ferrers.

In terms of rail services, the railway station at South Woodham Ferrers provides access to the Southminster Branch Line (also known as the Crouch Valley Line) offering a key sustainable mode of travel. New trains provide significant additional passenger seating capacity of some 66% in the off peak and at peak times a new 10 car train has about 12% additional seating capacity than the old 12 car train. However, due to imposed speed limits and the number of crossings on the line, one train every 40 minutes is the best timetable that can presently be offered. Improvements to increase this to two trains per hour would require significant investment which is unlikely to be funded by Local Plan growth to 2041. Based on the level of growth proposed as part of this spatial approach, it is unlikely that this will place any significant additional pressure on the line capacity in isolation.

Early years, primary education, and secondary education

In terms of primary education provision, the proposed growth of 500 homes to the north of South Woodham Ferrers would generate a need for approximately 0.7FE. ECC has confirmed that it is likely that this need could be accommodated by the new co-located primary school option proposed as part of Strategic Growth Site Policy 10 (North of South Woodham Ferrers) in the adopted Local Plan.[23] Such an approach is also likely to make a new primary school more viable.

[22] This has been considered in the context of early years provision included in the adopted Local Plan at Strategic Growth Site 2 and 3b however due to the level of growth proposed in this spatial approach, any spare capacity from these sites is unlikely to be able to accommodate the places required.

[23] Strategic Growth Site Policy 10 (North of South Woodham Ferrers) provides a policy requirement for a potential co-located new primary school with 56 place nursery, and an additional stand-alone nursery; or two stand-alone nurseries. The site is presently subject to two planning applications totalling 1,220 homes, which is 220 homes more than the adopted Local Plan. In responding to the Bellway application (200 homes/60 places), ECC has sought a proportionate developer contribution towards the co located primary school. In responding to the Countryside application (1,020 homes/306 places), ECC has sought the provision of land to deliver the co-located primary school/56 place nursery and land for the stand-alone nursery along with proportionate developer contributions.

In terms of early years provision, this spatial approach would generate the need for 45 places. Again, this could be accommodated by the nursery provision being delivered by Strategic Growth Site Policy 10 however a developer contribution may well be sought.

With regard to secondary education, this Spatial Approach will generate approximately 0.7FE. The Secondary School Planning Group at South Woodham Ferrers includes Ormiston Academy (which is in the Maldon District administrative area at Burnham on Crouch) and William de Ferrers in South Woodham Ferrers. The current forecasts suggest an additional 2FE (300 places) is required to meet peak demand and schemes are in place to provide these extra places. William de Ferrers will increase its admission number by 30 places within its existing accommodation in 2023/24. A further 1FE expansion is feasible but would be expensive given site constraints. Any future housing scenario test will also need to consider any planned growth in the emerging Maldon Local Plan. Any expansion of these schools will need to be funded through developer contributions.

Spatial Approach C - North East Chelmsford Garden Community

Highways, rail services and bus services

A Movement and Access Strategy has been developed for CGC. As such, any additional development will be required to consider and build upon the principles and proposals therein. Key considerations will include the Essex Regiment Way Sustainable Transport Corridor, and the potential for White Hart Lane and Broomfield Road to become sustainable transport corridors.

In terms of highways interventions, the CNEB Phase 1A is planned to be delivered in 2026. This phase will use the Housing Infrastructure Fund and will also deliver Beaulieu Park railway station in full. Phase 1B and 2 will primarily be funded through developer contributions and delivered later as new development comes forward.

In relation to rail services, the new Beaulieu Park railway station is a key transport and economic component of CGC. Construction of the station commenced in March 2023 and the station is expected to be open by the end of 2025.

Early years, primary education, and secondary education

Spatial Approach C proposes 1,000 additional homes (beyond the 5,500 in the CGC DFD).[24] In relation to primary education provision, this would generate a requirement for 1.4FE. ECC has confirmed that Great Belsteads School (2.4ha) may be able to accommodate some of the growth by its temporary expansion from 2FE to 3FE however further consideration will need to be given to any additional growth generated above the 1FE and this will need to be subject to further demographic modelling and consideration of the build rates achieved.

The location of the additional homes in CGC will need to be considered against the existing and proposed education provision. If the additional homes were to be provided through the further expansion of the Garden Community, this would need to consider the housing mix and specific location in relation to, and any available capacity of, the schools being provided in the DFD. Safe direct walking and cycling routes would need to be provided from the new development.

If the new allocation at CGC were not suitably related to the existing schools, then Spatial Approach C could be required to provide a new 2.1ha primary school site.

In relation to early years provision, if it is assumed that the additional growth is to be provided by allocating additional land to CGC, then Spatial Approach C would generate 90 additional places requiring 1-2 additional 56 place nurseries (preferably co-located with any new primary school).

[24] The CGC DFD (5,500 homes) includes the following education provision: An all through school (12.1 ha) including secondary school and 6th form, and new primary school co-located with 56 place early years and childcare at Park Farm Village; a new Primary School (2.4ha) co-located with 56 place early years at Great Belstead Village; a new Primary School (2.1ha) co-located with 56 place early years at Willow Hill Village; a new Primary School (2.1ha) co-located with 56 place early years at Hawthorne Village; 1 x 56 stand alone nursery at Great Belsteads Village Centre; and 1 x 56 stand alone nursery at Park Farm Village Centre. The DFD states there is flexibility for two further nurseries at the village centres if demand arises.

In relation to secondary education provision, Spatial Approach C will generate an additional 1.3FE which could be accommodated through expansions once any bulge from the initial development has subsided. It should be noted that the new Beaulieu Park School and new school at Park Farm will serve wider areas than just the Garden Community and this needs to be considered within the future scenario test.

Spatial Approach C - Key Service Settlements

Highways, rail services and bus services

Any future development in the key service settlements will need to be subject to highway modelling and be required to be supported by a substantive sustainable transport package with good walking and cycling connectivity within the development and wider afield.

A key issue at Great Leighs is the connectivity across the A131 including via Chase Side bridge and via the Dog and Partridge underpass. These routes will require upgrading to provide a safe and compliant pedestrian and cycle route. Other off-site walking and cycling facilities will also need to be provided including a cycle route along London Road to link to Great Notley, Horizon 120 and Skyline 120 to the east, and connections to routes to the south to CGC. Any future development should consider and, where possible, enhance the highway mitigation being considered in the adopted Local Plan (Strategic Growth Sites 7a – d).

With regards to Danbury, any future highway modelling will need to take account of growth in the emerging Maldon Local Plan along the A414 route through Danbury to the A12 junction 18; the pre-signals at the Eves Corner junction installed to manage Maldon District Local Development Plan growth to 2029; and any potential implications arising from Bradwell B in terms of worker and freight movements (presently paused).

In terms of rail services, once the new Beaulieu Park railway station is operational in late 2025, both Boreham and Broomfield will have rail access. Bicknacre, Danbury, and Great Leighs do not have access to rail services.

Early years, primary education, and secondary education

Once individual development sites have been identified, ECC will need to undertake a full housing scenario test to assess the impact and suitability of these sites in terms of available school capacity, need for new schools, expansion of existing schools, and any need for school transport (which ECC will resist).

In relation to primary education provision, the growth proposed in the key service settlements in Spatial Approach C would generate the need for approximately 1.4FE.

Based on the baseline analysis there is either limited or no capacity within the schools in Bicknacre, Boreham, Broomfield, Danbury and Great Leighs. Priory Primary School in Bicknacre has limited spare capacity. Boreham Primary School has no spare capacity and there is no scope to expand it. Any allocation in Boreham is unlikely to be sustainable in education terms due to a lack of alternative accessible provision. Broomfield Primary School has some limited capacity but this is required to meet demand from housing allocated in the adopted Local Plan and the school cannot be expanded due to site constraints. The schools in Danbury have no spare capacity. In addition, Danbury is preparing a Neighbourhood Plan, which is required to allocate sites for 100 homes, and this will need to be factored into any future scenario test. Great Leighs Primary School is full in most year groups and is expected to remain so however Strategic Growth Site Policy 7a (Great Leighs) in the adopted Local Plan includes a policy requirement to provide land for a new co-located primary school and nursery (2.1 ha). Further growth could assist delivery, but cross border demand must also be considered. The future scenario test will need to consider the ability of the new school to serve any of the additional homes.

With regards to early years provision, Spatial Approach C would generate some 90 places. A new 56 place nursery is being delivered as part of Strategic Growth Site Policy 8 (North of Broomfield)[25] in the adopted Local Plan therefore any additional growth in the vicinity of this is likely to be accommodated at this new facility. As mentioned above, a new 56 place nursery is also being provided at Great Leighs, which may have limited spare capacity. Once further detail is provided on the likely location and distribution of growth within the key service settlements, a more detailed assessment will be undertaken by ECC.

In terms of secondary school provision, any growth at Bicknacre, Boreham, Broomfield and Danbury will need to be accommodated through the expansion of the relevant secondary schools and funded through developer contributions, including potential school transport costs. However, ECC notes that developments which are beyond the statutory walking distances[26] to schools are unsustainable and will be resisted. The nearest secondary schools to Great Leighs are located in Braintree town. ECC has confirmed that any further growth in Braintree, beyond the adopted plan period of 2033, will likely require a new secondary school, and will need to be considered as part of its review process.

Spatial Approach C - Service Settlements

Early years, primary education, and secondary education

In relation to primary education provision, Spatial Approach C proposes 500 homes in the service settlements which equates to approximately 0.7FE. ECC confirms that this could be accommodated if distributed evenly amongst the named settlements however a single allocation of 500 homes would need more detailed assessment.

With regard to early years provision, Spatial Approach C would generate some 45 places. Once further detail is provided on the likely location and distribution of growth within the service settlements, a more detailed assessment will be undertaken by ECC.

In relation to secondary school provision, Spatial Approach C will generate approximately 0.7FE which ECC confirms could most likely be accommodated at the relevant secondary schools and/or accommodated through the expansion of the relevant secondary schools and funded through developer contributions.

As with development in the key service settlements, ECC notes that developments which are beyond the statutory walking distances[27] to schools are unsustainable and will be resisted.

Spatial Approach C - Cross-boundary issues

Maldon District Council has raised concerns regarding the capacity of the road network and the potential impacts on their district as a result of Spatial Approach C and the proposed level of development in South Woodham Ferrers, Bicknacre, Danbury, and Woodham Ferrers. This will need to be considered as part of the transport modelling work. In addition, Basildon Borough Council has identified the potential for impacts on their borough as a result of the proposed growth at South Woodham Ferrers. Close working on strategic cross boundary issues with all neighbouring authorities will be undertaken as the IDP progresses.

4.2.4 Spatial Approach D: Growth along transport corridors

Spatial Approach D includes the following locations and levels of growth:

Chelmsford urban area: 1,000 homes

[25] Outline planning permission (subject to S106 and link road) was approved for this site in August 2022 for up to 512 homes and 0.13 hectares of land for a stand-alone 56 place early years nursery and developer contributions.

[26] Two miles for children under the age of 8 and three miles for older children via a safe route.

[27] Two miles for children under the age of 8 and three miles for older children via a safe route.

Edge of Chelmsford extension (west/east): 500 homes

North of South Woodham Ferrers: 500 homes

North East Chelmsford Garden Community: 4,500 homes[28]

Settlements with good proximity to transport Corridors (Chatham Green, Howe Green, Rettendon Common): 1,500 homes

Spatial Approach D - Chelmsford urban area

Highways, rail services and bus services

The highway network within the urban area has limited spare capacity and therefore sustainable travel opportunities will need to be maximised.

Early years, primary education, and secondary education[29]

In terms of primary education provision, the level of growth proposed in the urban area as part of Spatial Approach D will generate the need for additional places equivalent to 2FE primary school. A single development site of the necessary scale to accommodate a new co-located primary school (2.1ha site) is unlikely to come forward within the urban area. ECC has however identified school expansion options to provide 2FE of additional places (subject to future scenario testing).

In terms of early years provision, the level of growth proposed will likely generate the need for the equivalent of a new 56 place nursery and developer contributions (90 places). This will need to be confirmed by scenario testing which will take into account early years provision being delivered as part of the allocation of Strategic Growth Site 2 (West Chelmsford) in the adopted Local Plan.[30]

With regard to secondary education, Spatial Approach D will generate approximately 1.3FE which will need to be accommodated through the expansion of the relevant secondary schools and potentially funded through developer contributions.

Spatial Approach D - Edge of Chelmsford extension (west/east)

Highways, rail services and bus services

For development on the edge of Chelmsford, all approaches will need to include good walking and cycling connectivity and investigation of bus priority measures into the city centre and other key destinations building on the sustainable transport packages already being provided in the adopted Local Plan.[31] Any development should also build upon and consider the improvements being provided at Sandon Park and Ride and wider afield through the Army and Navy Sustainable Transport Package.

Further development in this location will also require local junction improvements to be identified and funded by any development. In particular, the impact of development on the Chignal/Roxwell Road junction and any additional traffic movements through Writtle would need particular consideration in future modelling.

Early years, primary education, and secondary education

[28] This includes the 2,500 homes to be included in the existing allocation area but not programmed for delivery within the adopted Local Plan period up to 2036.

[29] It is noted that this assessment represents a worst-case scenario assuming that all dwellings are built as houses however it is likely that a high proportion of dwellings in the urban area will be flats which is likely to lower the demand for places. A more detailed assessment will be undertaken the support the Preferred Options.

[30] Adopted Local Plan Strategic Growth Site 2 (West Chelmsford) is presently subject to a planning application (880 homes) and provides a land option for a new co-located 2FE (420 place) primary school/56 place early years nursery. Any scenario test will need consider the potential to accommodate some pupils generated by additional development in the urban area and/or further expansion on the west edge of Chelmsford.

[31] In particular, Strategic Growth Site Policy 2 (West Chelmsford) and Strategic Growth Site Policies 3a – d (East Chelmsford).

In terms of primary education provision, if the growth is located in West Chelmsford, this may increase the viability of the new primary school forming part of the West Chelmsford allocation in the adopted Local Plan (Strategic Site 2). If the 500 homes are located in East Chelmsford, alongside the existing allocations for approximately 400 homes (Strategic Sites 3a, 3c and 3d), it may be difficult to accommodate this growth as the existing allocation is likely to take up most, if not all of the available capacity at Baddow Hall Infant and Junior School.

In terms of early years provision, the proposed growth will need to be considered in the context of early years provision in the adopted Local Plan.[32] Growth of 500 homes could generate 45 places. The new nursery at Strategic Site 3B (adopted Local Plan) is likely to have some available capacity which could accommodate some of the 45 places generated by Spatial Approach D.

With regard to secondary education, Spatial Approach D will generate just over 0.5FE. This will need to be accommodated through the expansion of the relevant secondary schools and potentially funded through developer contributions.

Spatial Approach D - North of South Woodham Ferrers

Highways, rail services and bus services

This Spatial Approach will need to consider the impact of an additional 500 homes on the link and junction capacity and safety along the B1012 Lower Burnham Road to the A132 South Woodham Ferrers to the A130 including key junctions, Ferrers Road and Rettendon Turnpike.

It is noted that the planned growth in the adopted Local Plan to the north of South Woodham Ferrers is already providing some improvements to the B1418/Burnham Road Junction; increasing the extent of the taper on the A132 west of the Burnham Road/Ferrers Road/Willow Lane Junction; pedestrian and cycle crossings; potential speed limit reduction along the A132 and travel plan and other sustainable measures. However, ECC states that capacity is limited along this route and there is concern about additional dwellings in the locality unless the future modelling demonstrates that it can be satisfactorily accommodated on the network.

Any additional traffic growth arising from the Maldon Local Plan Review and potentially Bradwell B (presently paused) would need to be considered as part of any modelling.

Consideration should also be given to enhancing bus service frequency to Chelmsford, Broomfield Hospital, and the shuttle service to Wickford and Basildon, along with a demand responsive service for local destinations in South Woodham Ferrers.

In terms of rail services, the railway station at South Woodham Ferrers provides access to the Southminster Branch Line (also known as the Crouch Valley Line) offering a key sustainable mode of travel. New trains provide significant additional passenger seating capacity of some 66% in the off peak and at peak times a new 10 car train has about 12% additional seating capacity than the old 12 car train. However, due to imposed speed limits and the number of crossings on the line, one train every 40 minutes is the best timetable that can presently be offered. Improvements to increase this to two trains per hour would require significant investment which is unlikely to be funded by Local Plan growth to 2041. Based on the level of growth proposed as part of this spatial approach, it is unlikely that this will place any significant additional pressure on the line capacity in isolation.

Early years, primary education, and secondary education

In terms of primary education provision, the proposed growth of 500 homes to the north of South Woodham Ferrers would generate a need for approximately 0.7FE. ECC has confirmed that it is likely that this need could be accommodated by the new co-located primary school option

[32] Within the adopted Local Plan, Strategic Growth Site 2 (West Chelmsford) provides a land option for a new co-located 2FE (420 place) primary school/56 place early years nursery. Strategic Growth Site 3b (East of Chelmsford – Land North of Maldon Road (Employment)) will provide and fund the provision of a new 56 place nursery adjacent to Sandon park and ride.

proposed as part of Strategic Growth Site Policy 10 (North of South Woodham Ferrers) in the adopted Local Plan.[33] Such an approach is also likely to make a new primary school more viable.

In terms of early years provision, this spatial approach would generate the need for 45 places. Again, this could be accommodated by the nursery provision being delivered by Strategic Growth Site Policy 10 however a developer contribution may well be sought.

With regard to secondary education, this Spatial Approach will generate approximately 0.7FE. The Secondary School Planning Group at South Woodham Ferrers includes Ormiston Academy (which is in the Maldon District administrative area at Burnham on Crouch) and William de Ferrers in South Woodham Ferrers. The current forecasts suggest an additional 2FE (300 places) is required to meet peak demand and schemes are currently in place to provide these extra places. William de Ferrers will increase its admission number by 30 places within its existing accommodation in 2023/24. A further 1FE expansion is feasible but would be expensive given site constraints. Any future housing scenario test will also need to consider any planned growth in the emerging Maldon Local Plan. Any expansion of these schools will need to be funded through developer contributions.

Spatial Approach D - North East Chelmsford Garden Community

Highways, rail services and bus services

A Movement and Access Strategy has been developed for CGC. As such, any additional development will be required to consider and build upon the principles and proposals therein. Key considerations will include the Essex Regiment Way Sustainable Transport Corridor, and the potential for White Hart Lane and Broomfield Road to become sustainable transport corridors.

In terms of highways interventions, the CNEB Phase 1A is planned to be delivered in 2026. This phase will use the Housing Infrastructure Fund and will also deliver Beaulieu Park railway station in full. Phase 1B and 2 will primarily be funded through developer contributions and delivered later as new development comes forward.

In relation to rail services, the new Beaulieu Park railway station is a key transport and economic component of CGC. Construction of the station commenced in March 2023 and the station is expected to be open by the end of 2025.

Early years, primary education, and secondary education

Spatial Approach D proposes 2,000 additional homes (beyond the 5,500 in the CGC DFD).[34] In relation to primary education provision, this would generate a requirement for 2.8FE.

The location of the additional homes in CGC will need to be considered against the existing and proposed education provision. If the additional homes were to be provided through the further expansion of the Garden Community, this would need to consider the housing mix; development phasing and specific location in relation to, and any available capacity. A revised demographic study for the Garden Community would be required. If the new allocation at CGC were not suitably related to the existing schools which are forecast to have sufficient capacity, then Spatial Approach D would be required to provide a new 2.1ha primary school site.

[33] Strategic Growth Site Policy 10 (North of South Woodham Ferrers) provides a policy requirement for a potential co-located new primary school with 56 place nursery, and an additional stand-alone nursery; or two stand-alone nurseries. The site is presently subject to two planning applications totalling 1,220 homes, which is 220 homes more than the adopted Local Plan. In responding to the Bellway application (200 homes/60 places), ECC has sought a proportionate developer contribution towards the co located primary school. In responding to the Countryside application (1,020 homes/306 places), ECC has sought the provision of land to deliver the co-located primary school/56 place nursery and land for the stand-alone nursery along with proportionate developer contributions.

[34] The CGC DFD (5,500 homes) includes the following education provision: An all through school (12.1 ha) including secondary school and 6th form, and new primary school co-located with 56 place early years and childcare at Park Farm Village; a new Primary School (2.4ha) co-located with 56 place early years at Great Belstead Village; a new Primary School (2.1ha) co-located with 56 place early years at Willow Hill Village; a new Primary School (2.1ha) co-located with 56 place early years at Hawthorne Village; 1 x 56 stand alone nursery at Great Belsteads Village Centre; and 1 x 56 stand alone nursery at Park Farm Village Centre. The DFD states there is flexibility for two further nurseries at the village centres if demand arises.

In relation to early provision, if it is assumed that the additional growth is to be provided by allocating additional land to CGC, then Spatial Approach D would generate 180 additional places requiring three additional 56 place nurseries (preferably co-located with any new primary school).

In relation to secondary education provision, Spatial Approach D will generate an additional 2.7FE which could be accommodated through expansions once any bulge from the initial development has subsided. It should be noted that the new Beaulieu Park School and new school at Park Farm will serve wider areas than just the Garden Community and this needs to be considered within the future scenario test.

Spatial Approach D - Settlements with good proximity to transport corridors

Highways, rail services and bus services

The settlements of Chatham Green, Howe Green and Rettendon Common are all located along the main north-south transport corridor (A131/A130)

Chatham Green is located near to the A131 Braintree Road and the new Chelmsford North-East Bypass south of Great Leighs. Howe Green is near to the A12, junction 17 with the A130 and Rettendon Common is located near to the A130 but would gain access via the Rettendon Turnpike junction to the south. Both the Howe Green and Rettendon Turnpike junctions presently experience operational issues and will be subject to future highway modelling. The A12/A130 (Junction 17) Howe Green junction is currently at capacity and unlikely to sufficiently accommodate predicted growth in traffic flow by 2040. This junction is on a link of the A12, Junction 15-19 which was not considered as part of RIS1 or the present A12 widening proposals. Junction modelling undertaken by ECC demonstrated that a do-nothing scenario was likely to result in almost all of the arms of the junction exceeding capacity by 2040. The study concluded that future traffic conditions at the junction would likely be viewed as unacceptable given the strategic nature of the junction which connects the south of the County to the A12 corridor.

ECC states that should a recommended scheme for Howe Green be developed, it is envisaged that a potential bottleneck at the junction would be improved and movements between the A12 and A130 would be better accommodated, increasing the flow of strategic movements along both the A12 and the A130 and beyond.

Early years, primary education, and secondary education

Chatham Green and Howe Green do not have their own primary or secondary school.

The proposed level of growth of 1,500 homes would generate a need for approximately 2FE for primary and secondary provision. Chatham Green and Howe Green do not have their own primary school and the level of growth proposed is unlikely to make the provision of a new school viable. Any development at Rettendon Common may be able to be accommodated at Rettendon Primary School depending on scale of growth however this would need to be subject to future scenario testing.

There is no existing secondary school in Chatham Green, Howe Green and Rettendon Common and it would therefore be necessary to transport pupils to nearby secondary schools which ECC would not be supportive of. ECC notes that developments which are beyond the statutory walking distances[35] to schools are unsustainable and will be resisted.

With regard to early years provision, Spatial Approach D would generate some 135 places. Once further detail is provided on the likely location and distribution of growth within these settlements, a more detailed assessment will be undertaken by ECC.

Spatial Approach D - Cross-boundary issues

Maldon District Council has raised concerns regarding the capacity of the road network and the potential impacts on their district as a result of Spatial Approach D due to the proposed level of

[35] Two miles for children under the age of 8 and three miles for older children via a safe route.

development in South Woodham Ferrers. This will need to be considered as part of the transport modelling work. In addition, Basildon Borough Council has identified the potential for impacts on their borough as a result of the proposed growth at South Woodham Ferrers and Rettendon Common. Close working on strategic cross boundary issues with all neighbouring authorities will be undertaken as the IDP progresses.

4.2.5 Spatial Approach E: New settlements

Spatial Approach E includes the following locations and levels of growth:

Chelmsford urban area: 1,000 homes

North East Chelmsford Garden Community: 3,500 homes[36]

New Strategic Settlement/Garden Community (Hammonds Farm): 4,000 homes

Spatial Approach E - Chelmsford urban area

Highways, rail services and bus services

The highway network within the urban area has limited spare capacity and therefore sustainable travel opportunities will need to be maximised.

Early years, primary education, and secondary education[37]

In terms of primary education provision, the level of growth proposed in the urban area as part of Spatial Approach E will generate the need for additional places equivalent to 2FE primary school. A single development site of the necessary scale to accommodate a new co-located primary school (2.1ha site) is unlikely to come forward within the urban area. ECC has however identified school expansion options to provide 2FE of additional places (subject to future scenario testing).

In terms of early years provision, the level of growth proposed will likely generate the need for the equivalent of a new 56 place nursery and developer contributions (90 places). This will need to be confirmed by scenario testing which will take into account early years provision being delivered as part of the allocation of Strategic Growth Site 2 (West Chelmsford) in the adopted Local Plan.[38]

With regard to secondary education, Spatial Approach E will generate approximately 1.3FE which will need to be accommodated through the expansion of the relevant secondary schools and potentially funded through developer contributions.

Spatial Approach E - North East Chelmsford Garden Community

Highways, rail services and bus services

A Movement and Access Strategy has been developed for CGC. As such, any additional development will be required to consider and build upon the principles and proposals therein. Key considerations will include the Essex Regiment Way Sustainable Transport Corridor, and the potential for White Hart Lane and Broomfield Road to become sustainable transport corridors.

In terms of highways interventions, the CNEB Phase 1A is planned to be delivered in 2026. This phase will use the Housing Infrastructure Fund and will also deliver Beaulieu Park railway station in

[36] This includes the 2,500 homes to be included in the existing allocation area but not programmed for delivery within the adopted Local Plan period up to 2036.

[37] It is noted that this assessment represents a worst-case scenario assuming that all dwellings are built as houses however it is likely that a high proportion of dwellings in the urban area will be flats which is likely to lower the demand for places. A more detailed assessment will be undertaken the support the Preferred Options.

[38] Adopted Local Plan Strategic Growth Site 2 (West Chelmsford) is presently subject to a planning application (880 homes) and provides a land option for a new co-located 2FE (420 place) primary school/56 place early years nursery. Any scenario test will need consider the potential to accommodate some pupils generated by additional development in the urban area and/or further expansion on the west edge of Chelmsford.

full. Phase 1B and 2 will primarily be funded through developer contributions and delivered later as new development comes forward.

In relation to rail services, the new Beaulieu Park railway station is a key transport and economic component of CGC. Construction of the station commenced in March 2023 and the station is expected to be open by the end of 2025.

Early years, primary education, and secondary education

Spatial Approach E proposes 500 additional homes (beyond the 5,500 in the CGC DFD).[39] In relation to primary education provision, this would generate a requirement for 0.7FE. ECC has confirmed that Great Belsteads School (2.4ha) may be able to accommodate some of the growth by its temporary expansion from 2FE to 3FE however this will need to be subject to further demographic modelling and consideration of the build rates achieved.

The location of the additional homes in CGC will need to be considered against the existing and proposed education provision. If the additional homes were to be provided through the further expansion of the Garden Community, this would need to consider the housing mix and specific location in relation to, and any available capacity of, the schools being provided in the DFD. Safe direct walking and cycling routes would need to be provided from the new development.

If the new allocation at CGC were not suitably related to the existing schools, then Spatial Approach E would more than likely be accommodated at the nearest primary school with safe direct walking and cycling routes secured. ECC note that any new school would also need financial contributions which will be clarified through any future full housing scenario test.

In relation to early years provision, if it is assumed that the additional growth is to be provided by allocating additional land to CGC, then Spatial Approach E would generate 45 additional places requiring 1 additional 56 place nursery (preferably co-located with any new primary school).

In relation to secondary education provision, Spatial Approach E will generate an additional 0.7FE which could be accommodated through expansions once any bulge from the initial development has subsided. It should be noted that the new Beaulieu Park School and new school at Park Farm will serve wider areas than just the Garden Community and this needs to be considered within the future scenario test.

Spatial Approach E - New Strategic Settlement/Garden Community

Spatial Approach E includes the provision of a new large settlement/garden community located at Hammonds Farm to the east of A12 and north of A414. The proposed level of growth of 4,000 new homes would equate to a population of around 9,600.

The Council envisages that the new settlement will be delivered in the form of a garden village or garden community, similar to the approach being taken at Chelmsford Garden Community. In order for the new settlement to become a genuinely sustainable location for new development, it is important that it is supported by as much infrastructure as possible on site. This will ensure that residents do not need to travel to other nearby centres for their day-to-day needs. It will also be crucial to ensure the appropriate phasing of infrastructure, given the period of time necessary to build out a new settlement of this size.

Highways, rail services and bus services

The new settlement will need to provide for the full array of transport infrastructure types. The development will need to provide adequate and safe access points. Access from the north will

[39] The CGC DFD (5,500 homes) includes the following education provision: An all through school (12.1 ha) including secondary school and 6th form, and new primary school co-located with 56 place early years and childcare at Park Farm Village; a new Primary School (2.4ha) co-located with 56 place early years at Great Belstead Village; a new Primary School (2.1ha) co-located with 56 place early years at Willow Hill Village; a new Primary School (2.1ha) co-located with 56 place early years at Hawthorne Village; 1 x 56 stand alone nursery at Great Belsteads Village Centre; and 1 x 56 stand alone nursery at Park Farm Village Centre. The DFD states there is flexibility for two further nurseries at the village centres if demand arises.

need to consider the relationship to the proposals being implemented by National Highways at Boreham Interchange (A12 Junction 19) and from the south any impacts along Maldon Road to the A12 Junction 18 and onwards towards Great Baddow and Army and Navy. An internal spine road will be required within the new settlement to support sustainable modes of transport and offer an alternative route to the A12 for local trips.

The scope of the supporting Transport Assessment will need to be agreed with ECC and National Highways and would need to consider potential scenarios/sensitivity tests in relation to Boreham Interchange with regards the planned Beaulieu/National Highways improvements, the proposed single carriageway CNEB and the potential dualling of the CNEB and its phasing. Any modelling would need to take account of growth in the emerging Maldon Local Plan Review along the A414 route through Danbury to the A12 junction 18 including the pre-signals at the Eves Corner junction to manage Malon District Council's Local Plan growth to 2029, and the potential implications arising from Bradwell B in terms of worker and freight movements (presently paused). Any modelling will also need to consider other nearby junctions on the A12, namely junction 17 (Howe Green) and 18 (Sandon) which have capacity issues. It should be noted that the A12 is only being widened to 3 lanes north of junction 19. Any modelling undertaken to support the development should be consistent with the methodology implemented for recent work undertaken to inform the Chelmsford North East Bypass; Army and Navy Interchange and the Chelmsford Local Plan Review to 2041.

The provision of an additional park and ride or the relocation of the existing Sandon Park and Ride would not be supported by ECC. However, connectivity to the Sandon Park and Ride by safe and attractive walking and cycling links would be necessary either through enhanced and/or new links. Land is safeguarded in the adopted Local Plan for expansion and the Army and Navy Sustainable Transport Package will provide for expansion to the west of the site by 350 places to 1,760 spaces along with improved access arrangements, internal circulation improvements, and pedestrian and cycling infrastructure.

In terms of rail services, the nearest station to the new settlement will be new Beaulieu Park railway station which will be operational in late 2025. It will be necessary to provide frequent public transport services which connect the settlement to the station.

As with all of the spatial approaches, the new settlement should actively promote modal shift through active and sustainable travel however the new settlement also provides the added opportunity to design development to discourage travel by private car from the outset and ensure sustainable and active travel modes are easily accessible. In particular, the new settlement should improve active travel infrastructure including bus service provision, walking and cycling links through segregated active travel routes, and should consider the Chelmer and Blackwater Navigation to maximise its usage for sustainable trips whilst protecting its conservation area, natural and historic environment.

Sewerage

The new settlement provides significant opportunities for a sustainable, zero carbon community where integrated water management can be delivered from the outset to help make the development more water efficient. Infrastructure such as large-scale community rainwater harvesting and water reuse that could be designed to be water neutral could be considered, whilst also capitalising on positive environmental outcomes.

Electricity

The large size and comprehensive nature of a new settlement would allow on site energy needs to be fully addressed from the outset. This could potentially include more significant infrastructure such as combined heat and power solutions and new primary electricity substations, also helping to ensure that constraints on the network around the district are not exacerbated by the new settlement.

Early years, primary education, and secondary education

The new settlement will need to provide educational infrastructure as part of the settlement.

A new settlement of 4,000 homes (approximately 6FE) would potentially generate the need for three new co-located primary schools (2.1ha) with 56 place nurseries. The phasing of the first school would be important given its separation from the Chelmsford urban area particularly by the A12 and lack of safe direct walking and cycling routes. The developer would need to fund school transport in the early years of the development and possibly temporary accommodation at an existing school.

With regard to early years provision, the new settlement will generate the need for six new 56 place early years nurseries, of which three would be expected to be co-located with a primary school. Developer contributions are also likely to be required.

In terms of secondary education provision, the new settlement could potentially generate 5.3FE which would be unlikely to sustain a new viable secondary school. The threshold at which ECC would look to establish a new secondary school is 6FE (including sixth form) (i.e. the pupils arising from approximately 4,500 new or existing houses or 9,000 two or more bedroom flats). This proposed level of growth could not be accommodated at the nearest secondary school at Sandon. In addition, there is presently a lack of safe direct walking and cycling routes between the site and Sandon School.

Any new secondary school, and its phasing would need to be viable and will need to be subject to a full housing scenario test to determine if, and where, the new settlement can deliver land for new provision. A new secondary school would need to be of sufficient scale given the ambition for the development to meet Garden City principles and be `self-sufficient' in education terms. Alternative solutions such as reviewing school priority admission areas, and the potential expansion of other secondary schools within and adjacent to the plan area may require investigation.

The developer will be required to commission and submit a year-by-year demographic study to inform the education infrastructure requirements.

Primary healthcare

Primary healthcare infrastructure will need to be provided for within the new settlement. The ICB has confirmed that approximately 4,000 new homes would trigger the need for a new GP surgery.

Spatial Approach E - Cross-boundary issues

Maldon District Council has raised concerns regarding the capacity of the road network and the potential impacts on their district as a result of Spatial Approach E, particularly given the proposed level of development in the new settlement at Hammonds Farm. This will need to be considered as part of the transport modelling work. Close working on strategic cross boundary issues with all neighbouring authorities will be undertaken as the IDP progresses.

4.3 Summary

The following infrastructure types are linked to the location of growth or could affect the location of growth and these have been considered as part of the high-level assessment of the five spatial approaches:

Highways, rail services and bus services

Flood protection and water management

Provision of energy

Early years, primary education and secondary education

Primary healthcare

Across all of the spatial approaches, there will be significant infrastructure requirements relative to the proposed levels of growth and the existing infrastructure capacity. For some locations and infrastructure types, this will take the form of entirely new infrastructure whereas for others, some

of this additional growth could be accommodated through existing or emerging infrastructure or through planned or new extensions to existing facilities.

Overall, the assessment does not indicate that there will be a fundamental inability to accommodate the likely levels of growth and locations of growth anticipated over the new plan period however secondary school provision will require further consideration in the assessment of the Preferred Options. Whilst varying degrees of infrastructure improvement and investment will be needed to mitigate the impacts of development, at a high level these are considered to be feasible and deliverable.

Certain growth locations will have more significant requirements than others, and further modelling and scenario testing of the cumulative impact will need to be undertaken when more detail is known on the overall scale of growth, its distribution, and the specific site allocations (including their scale) across the plan area. These matters will be considered as the IDP progresses.

Appendix A

Highways, Rail Services and Bus Services

A.1 Highways, Rail Services and Bus Services

A.1.1 Overview

This section sets out the baseline analysis for the following transport infrastructure types:

- Highways
- Rail services
- Bus services

As this stage of the IDP focuses on the infrastructure types which are linked to the location of growth or could affect the location of growth, the baseline infrastructure capacity position for active travel and cycling provision has not been included in this report, however it will be included in the next stage as part of the full draft IDP.

Transport infrastructure of one form or another is likely to be utilised by most residents on a daily basis, as well as by every visitor to the city. It therefore has a crucial impact on how Chelmsford operates – on its economy, and on quality of life.

The national policy backdrop has changed significantly over the last few years with focus on social equity, health and decarbonisation gaining prominence with a need to grow the economy around sustainable and greener development principles leading a policy transformation and the production of new standards. These are reflected in key policy documents as follows:

- The 2018 Road to Zero, the Government's carbon reduction strategy for road transport and the publication in July 2021 of the Transport Decarbonisation Plan.
- The Future of Mobility: Urban Strategy 2019 and the complementary Rural Strategy (currently in development).
- Publication of Gear Change, the Government's vision for walking and cycling, and new guidance on the design of cycle infrastructure (e.g., Local Transport Note (LTN) 1/20).
- New approaches to rail and bus service delivery contained within Bus Back Better and the Williams-Shapps Plan for Rail published in 2021.
- New guidance for Local Transport Plans (LTPs) and accompanying Quantified Carbon Reduction Guidance (awaited).
- The publication of a revised Manual for Streets.

In 2021 the Government published Decarbonising Transport Plan: A Better Greener Britain which recognised that transport is not just how you get around, it shapes towns, cities, countryside, living standards, health, and quality of life. It commits to embedding transport decarbonisation principles in spatial planning and making public transport, cycling and walking the natural first choice for all.

There are a number of strategy and policy documents specific to the individual transport infrastructure types listed above, reviewed in the corresponding sections of this chapter. This section covers strategic transport policy documents relevant to all transport modes.

Essex Transport Policy

Essex's Local Transport Plan 3 was published in June 2011 and set out ECC's strategy for future transport provision. Given policy evolution since the adoption of LTP3, at the national, sub regional and local level, the current ECC transport policy is comprised of the following:

- the Local Transport Plan (2011) is the Essex Transport Strategy (LTP3).
- the recommendations of the Essex Climate Action Commission (ECAC) in their report Net Zero: Making Essex Carbon Neutral (ECAC) and

- the Transport East: Transport Strategy (endorsed by ECC in July 2022)

Transport East is the sub-national Transport Body for Norfolk, Suffolk, Essex, Southend and Thurrock, and published its Transport Strategy to 2050 in July 2022. This Strategy sets comprises four priorities regarding reducing demand by making it easier for people to access services locally or by digital means; supporting people to switch from private car to active and passenger transport, and goods to more sustainable modes like rail; switch fuel for vehicles to net zero carbon fuels at the earliest opportunity; and to encourage zero carbon growth by supporting authorities and developers to plan, locate and design new development that reduces the need for people to make carbon intensive transport trips.

ECC has commenced the preparation of LTP4 which will reflect and formally incorporate the revised policy framework contained within Net Zero: Making Essex Carbon Neutral (ECAC) and the Transport East: Transport Strategy. These place a greater emphasis upon the provision and use of sustainable transport and the need to address the impacts arising from climate change.

Chelmsford's Future Transport Network

The Chelmsford's Future Transport Network document was published in February 2017. The document has set out the vision for Chelmsford to 2036 to become 'best in class' rivalling similar cities across the UK offering enhanced connectivity, and access to opportunities for residents, visitors and businesses to support the sustainable economic growth of the city.

To achieve the vision seven objectives have been set to judge all potential schemes against. This will make sure that any new scheme is effective and contributes to achieving the vision:

- Sustainable and economic growth
- Improved transport network reliability
- Improved connectivity
- Sustainable Transport
- Attractive Environment
- Healthier Environment
- Safe transport network and environment

The strategy implements a zonal approach which has been successfully implemented through the adopted Local Plan for considering schemes and proposals, which incorporates an:

- Outer zone – to remove as much traffic as possible from the outskirts of the City and beyond utilising the existing and potential future Park and Rides; encourage rail use to access Chelmsford, efficient utilisation of the strategic route network to direct people onto the most appropriate routes into the City Centre;
- Mid zone – to encourage trips originating within Chelmsford to be made by sustainable modes; and
- Central zone – to improve the pedestrian environment for walking trips and shoppers and visitors, utilise the network to its best advantage by directing trips onto the most appropriate route, and direct the remaining car trips to the most appropriate car park.

A.1.2 Highways

Policy and Context

Highways within Chelmsford are the responsibility of two organisations. National Highways manages the strategic road network, comprising motorways and major A roads. Essex County Council manages the remainder of the borough's A roads, as well as all B roads and unclassified

roads. The key policies and strategies of these organisations are set out across the following documents.

National Highways' Strategic Business Plan 2020-2025 sets out the approach to modernising maintaining and operating the strategic road network. Planning for the future, National Highways is working in the road sector and beyond to prepare for a fully digital age, aiming to integrate digital technology into every aspect of their project life cycles. National Highways will invest in their digital capabilities to drive fundamental shifts the three core areas:

- Digital for customers - providing better information directly to customers based on real-time data
- Digital operations - increase in remote asset monitoring
- Digital design and construction - further efficiencies in project design and delivery

ECC's transport policy is described in the section above. A key policy objective for ECC, Transport East and National Highways is to ensure the safe and efficient operation of the strategic and main road networks so that they support development and enable the delivery of economic growth, improve journey time reliability, and minimise the impacts of climate change arising from transport. The SRN should be considered as part of the wider multimodal network involving connection to local junctions and network and areas of economic activity.

In relation to parking, the Parking Partnership brings together all street-based parking services in Essex. The service is Council-run and is a partnership between ECC and Colchester Council in relation to the North Essex Parking Partnership (NEPP) and ECC and Chelmsford Council in relation to the South Essex Parking Partnership (SEPP). The aim is to administer the parking rules to a fair, proportionate, and consistent standard in order to provide a service in a reasonable and responsible way.

Current Levels of Provision

Chelmsford benefits from good road accessibility to London and the wider region including Braintree, Cambridge and South Essex. The principal roads that connect the City to the rest of the strategic road network are the A12, an important economic link which connects to the M25 and London, Colchester and Ipswich, the A131 to Braintree and via the A120 to London Stansted Airport, the A130 to the A13 and via the A127 to London Southend Airport and Basildon and the A414 linking Maldon and Harlow.

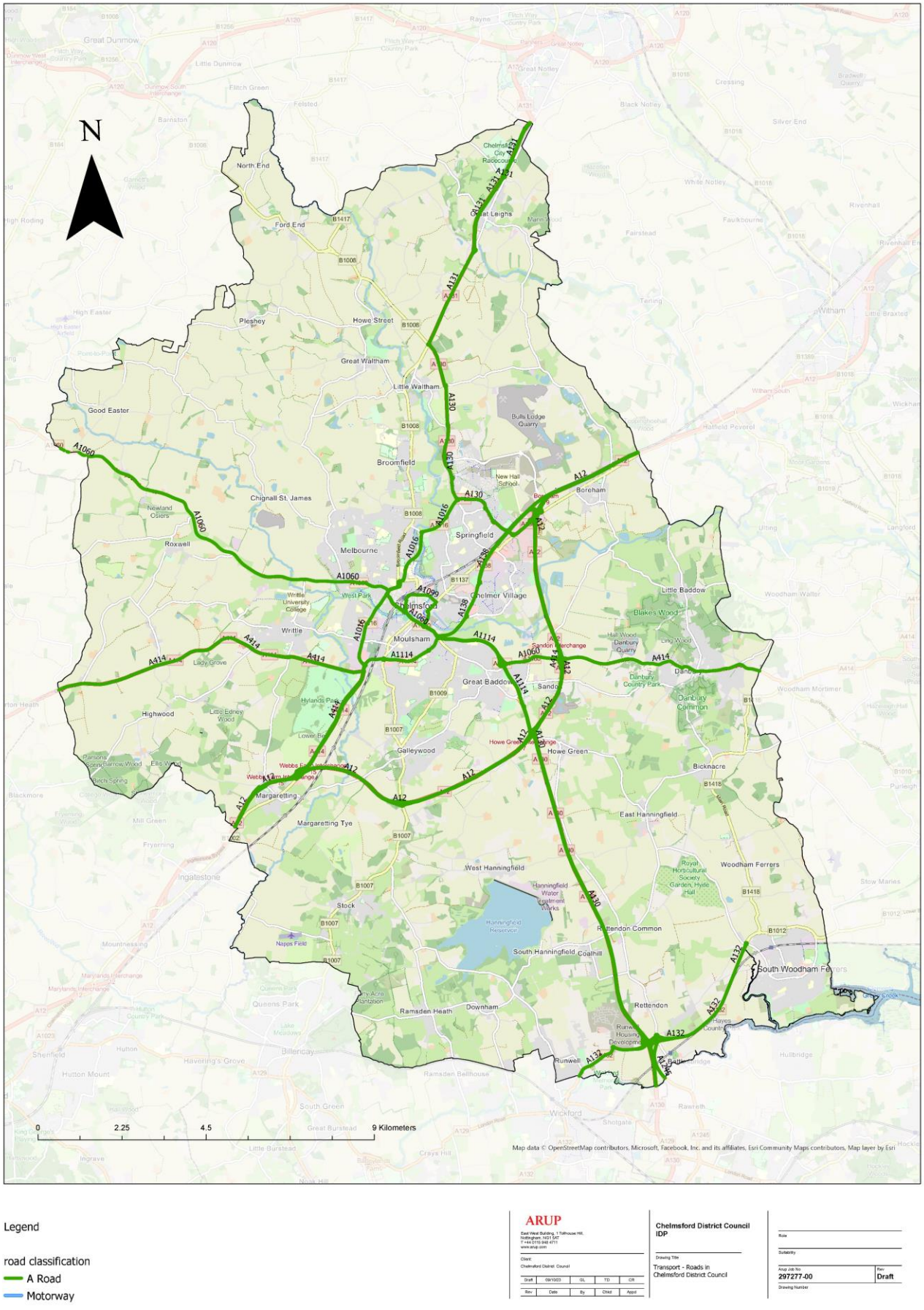
There are congestion issues at peak hour on the strategic road network on the A12 between junctions 15 and 19, and the A414 east of the A12, particularly if there are incidents on the A12. This is due to Chelmsford being heavily reliant on the A12 junctions providing connections across the city, especially to the south. The A12 NSIP scheme is only being widened to 3 lanes north of junction 19 and does not include junctions to the south, including junction 17 (Howe Green) and 18 (Sandon).

Some of the main roads through the city centre are at, or near to, capacity, operating at 96% capacity at peak times, providing limited resilience to incidents, reduced journey time reliability, and contributing to poor air quality. This occurs most notably around the Army and Navy junction and along Parkway, Baddow Road and Broomfield Road, Springfield Road, New London Road and Waterhouse

Lane. Some cycleway, junction improvements and traffic management measures have already been implemented as part of the Chelmsford Active Travel Fund.

Figure A1 below shows the network of A roads within Chelmsford.

Figure A1. Network of A roads within Chelmsford



Legend

road classification
- A Road
- Motorway

ARUP

Chelmsford District Council
IDP

Transport - Roads in Chelmsford District Council

297277-00

Draft

Table A1 below provides a list of major improvements, bridge and developer schemes in Chelmsford which are either proposed, currently underway, due to begin in the near future, or recently completed.

Table A1. Proposed and completed highway improvements, bridge and developer schemes in Chelmsford (Note: this list may be subject to change)

Highway Scheme	Brief Description	Responsible Authority
A1060/A1114 Army and Navy, Chelmsford	Works to remove the Army and Navy Flyover on safety grounds. About 10,000 vehicles a day used the flyover prior to its closure. The tidal flyover carried one-way traffic (cars only) to and from the A1060/A1114 over the roundabout. **Timescales:** Completed in 2020.	ECC
A12 Chelmsford to A120 widening scheme (Junctions 19-25)	Widening of the A12 between Junction 19 (Boreham Interchange, Chelmsford) and Junction 25 (Mark Teys interchange) to ease congestion and cope with increasing traffic demands. **Timescales:** National Highways submitted the DCO Application to PINs in 2022. The Examination commenced in early 2023, closing on 12 July 2023. A decision is expected in early 2024.	National Highways
A131 Chelmsford to Braintree Route Improvements	A series of improvements to the A131 (Braintree Road) and A130 (Essex Regiment Way) which is a key strategic route linking Braintree in the north of the county to Chelmsford. **Timescales:** Completed in April 2020.	ECC
Army and Navy Sustainable Transport Package	The Army and Navy Junction is a key gateway into and out of the city. The junction is already over capacity during the morning and evening peak times. As a result, it suffers from severe congestion and bus passengers, pedestrians, cyclists and drivers regularly experience delays. This also results in it being a poor-quality environment for all road users. The Army and Navy Sustainable Transport Package was approved by ECC in March 2022 and planning applications submitted in January 2024. It includes the redesign of the junction in the form of a hamburger roundabout; improved walking and cycling facilities at the junction and on approaches; improved bus priority/bus lanes on Parkway; extension to Essex Yeomany Way bus lane; and a 350 space expansion of Sandon park and ride and 500-spaces at Chelmer Valley Park and Ride. ECC has conditionally been awarded £69m from the Government's Major Road Network (MRN) funding towards the overall £81m costs, which will also be part funded by ECC and CCC via CIL. **Timescales:** The next stage will be the submission of a planning application which will be considered on its own merits.	ECC
Boreham Capacity Improvements, Boreham, Chelmsford	Improvements to connect the Interchange to the new Relief Road, which will become the A131, together with an increase to the capacity and improvements to the Pedestrian and Cycle Routes, which run through the interchange. The works will	Countryside Properties, ECC

	also facilitate access to the planned new station at Beaulieu. **Timescales**: Completed November 2022	
Broomfield Hospital NHS Roundabout improvements	Improvements to the roundabout at the junction of B1008 Main Road and Hospital Approach to improve capacity. This is linked to the planning permissions for the extension of Broomfield Hospital. **Timescales:** The project consists of six phases. Phase 1, 2, 3, 4a, 4b were completed in 2021/22. No timescales for Phase 5 and 6.	Mid Essex Hospitals Trust, ECC
Bunny Walks, Chelmsford	Improvements to the section of cycleway along Bunny Walks between Victoria Road and Hillview Road, specifically focusing on ride quality and safety. **Timescales:** Funding has been committed to the scheme and works are planned to be delivered during 2023.	ECC
Chelmer Waterside Road Access and Bridge	The new access road and bridge will link Wharf Road and Parkway, alongside the Essex Record Office. It will replace the existing Bailey Bridge, which spans the River Chelmer. **Timescales**: Planning permission for the new bridge and access road was granted in June 2021 with construction having commenced in October 2023.	CCC
Chelmsford City Growth Package	ECC secured £15 million to be invested in sustainable transport methods designed to help alleviate pressure on Chelmsford's Road network. This included various measures including installation of cycle tracks, introduction of a safe crossing, creation of new cycle routes, improvements to signage, Admiral Park bridge replacement and creation of a dedicated bus lane. **Timescales:** Completed in 2021.	ECC
Chelmsford Garden Community – Northern Radial Distributor Road	The Northern Radial Distributor Road (NRDR) is located to the north of the development. It runs across the full width of the Chelmsford Garden Community linking into Essex Regiment Way in the east and the proposed Chelmsford North East Bypass to the west. **Timescales:** A planning application (23/00114/FUL) for the road was submitted on the 23 January 2023 with the developer submitting amended documents on 22 September 2023. The NRDR will connect to Phase 1A of the CNEB planned to be delivered in 2026.	
Chelmsford Garden Community – Radial Distributor Road 1	The Radial Distributor Road (RDR) was completed in 2022 providing a link through the consented Beaulieu Park development from Essex Regiment Way to connect into improvements at Boreham Interchange and access to the new station. The RDR will become the new A131 (signed route to Stansted Airport) allowing Colchester Road and	

	White Hart Lane to be downgraded to local roads in due course. **Timescales**: Completed in 2022.	
Chelmsford North East Bypass (CNEB)	The Chelmsford Northeast Bypass (CNEB) (and Beaulieu Railway Station – see section below) will be funded by the Housing Infrastructure Fund (HIF), South-East Local Enterprise Partnership and developer contributions enabling around 10,000 new homes in North Chelmsford and south of Braintree to come forward. The CNEB will be delivered in phases as outlined below: • Phase 1A – to connect with Beaulieu Parkway relief road in the south providing connectivity to the A12 at Boreham Interchange via Generals Lane Bridge. To the north, the CNEB will join with the Northern Radial Distributor Road being delivered as part of the Chelmsford Garden Community and will connect through to the Wheelers Hill roundabout on the A130 Essex Regiment Way. This phase will use the HIF and will also deliver Beaulieu Park station in full enabling the delivery of around 6,000 homes by 2036. A new bridge north of Beaulieu Parkway will allow for the continuation of mineral extraction at Bulls Lodge and serve as a new east-west vehicle, cycle and pedestrian route post extraction. • Phase 1B and 2 – to connect to the A131 at Chatham Green unlocking the remaining housing growth across Chelmsford including Great Leighs and Broomfield and in Braintree district at Great Notley. These sections will primarily be funded through developer contributions and delivered later as new development comes forward. **Timescales:** Phase 1A is planned to be delivered in 2026. Phase 1B and 2 is anticipated to be constructed beyond the life of the current Local Plan (ie 2036).	ECC
Paper Mill Bridge, North Hill, Little Baddow	Improvements to Paper Mill Bridge which has limited structural capacity, sub-standard parapets and is in deteriorating condition. **Timescales:** Structural assessments completed in August 2022. The next stage will involve a feasibility study.	ECC
Springfield Road / Navigation Road, Chelmsford – junction improvements	As part of the planning conditions for the 'Chelmer Waterside Peninsular' development (planning reference 16/01630/FUL), Taylor Wimpey are required to carry out highway works to improve vehicle capacity, journey times and provide formal pedestrian crossing facilities to enable the public to navigate the junction more safely. In preparation for these improvements at the junction, a number of utility companies will need to divert their underground services. **Timescales:** Utility works taking place during 2023. Remaining works proposed for 2024.	Taylor Wimpey, ECC

Victoria Road (A1099) improvements, Chelmsford	This includes waterproofing works to Victoria Road Bridge, repairs and resurfacing of Victoria Road between the junction of Springfield Road to New Street, upgrades to the existing pedestrian crossing facilities located adjacent to Victoria Road Bridge and links to the Bunny Walks, and improvements to riverside cycle routes from Victoria Road to Waterloo Lane as part of the Active Travel Fund plans. **Timescales:** Waterproofing and resurfacing works have been completed. Pedestrian crossing works completed in September 2023. No timescales for cycle route works.	ECC
Westway, Chelmsford - traffic signal renewal	Renewal of the aging traffic signals located at the junction on A1016 Westway, Writtle Road and Waterhouse Lane. **Timescales:** Completed early 2023.	ECC

Source: ECC website[40] and ECC's response to the Issues and Options consultation

Car Parking

There are 37 car parks within Chelmsford owned and operated by a variety of providers. These car parks have a combined capacity of over 9,910 spaces which represents 0.04 space per head of the district population (177,079 as of 2018).[41] CCC operates 27 of the 37 car parks, and NCP operates the railway station car park.

ECC operates two Park and Ride sites in Chelmsford, which are the Chelmer Valley Park and Ride site and the Sandon Park and Ride site respectively.

	Chelmer Valley Park and Ride	Sandon Park and Ride
Parking Space	976	1377
Disabled Parking	24	34
Charging Facility	4	2

Implications for Future Growth

The existence (or lack) of highway capacity within an area is likely to be a key factor in determining the quantum of growth that can be accommodated within it. Consideration would also be given to whether proposed levels of development can fund the highways mitigation required.

The overarching objective of ECC's policies for transport and travel across Essex is to enable a shift to more sustainable transport modes, including public transport, cycle provision, and other forms of active travel.

There are existing capacity issues on the current road network which causes incidents, congestion and unreliability. There are a number of proposed interventions and improvements by ECC and National Highways however additional interventions are likely to be required to accommodate the planned level of growth.

ECC's response to the Issues and Options consultation identifies a number of key issues which will require further consideration as the plan progresses. This includes:

[40] Available at: https://www.essexhighways.org/chelmsford-schemes

[41] Source: ECC Bus Service Improvement Plan 2021-2026 – Detailed District Review - City of Chelmsford Bus Network Rail

- A12 Chelmsford to A120 widening scheme and in particular the Junction 19 Boreham Interchange improvements, which is scoped into the highway modelling. Other nearby junctions on the A12, namely junction 17 (Howe Green) and 18 (Sandon) also experience capacity issues. It should be noted that the A12 is only being widened to 3 lanes north of junction 19.CNEB Phase 1 has permission and commenced construction in August 2022. Agreement has been reached with Homes England to revise the HIF to rephase the delivery of the CNEB with Phase 1A connecting Boreham Interchange to the A130 Essex Regiment Way via the Northern Radial Distributor Road to open by 2026. This will also deliver Beaulieu Park railway station in full. Phase 1B and 2 will be delivered later as new development comes forward. The traffic modelling will need to identify the likely trigger points for the required dualling of the CNEB beyond the current Plan period (2036).
- A414 through Danbury to the A12, Junction 18 and onwards to Great Baddow. It will be important to keep under review the progress regarding the Maldon Local Plan Review, which needs to identify an additional 4,500 homes by 2043, although no preferred spatial strategy or distribution of this growth is yet identified.
- B1012 Lower Burnham Road to the A132 South Woodham Ferrers to the A130 including key junctions, Ferrers Road and Rettendon Turnpike including any impact from growth identified in the MLPR and Bradwell B.
- Other potential transport corridors include the A131 via Great Leighs towards Braintree; A414 westwards towards Ongar and Harlow; A1060 Roxwell Road towards Hatfield Heath; B1008 westwards towards Great Dunmow and Stansted; A130 southwards towards South Woodham Ferrers including Howe Green junction; A12 Corridor north and south. These will need to be further refined as the Preferred Option and site allocations are identified and will need to be scoped into any highways assessment as appropriate.

Engagement with National Highways has raised concerns regarding junction capacity on the A12. Based on modelling work carried out so far, several junctions with the A12 will be at or above capacity towards the end of the plan period. National Highways note that some of the growth options proposed lead to more stress on the SRN than others and recommend that additional modelling work is undertaken using junction specific models, to ensure these impacts are fully understood and a suitable mitigation strategy is devised for the Council's preferred option. In particular, National Highways note that junctions 16,17, 18 and 19 are operating close to capacity at present and modelling may identify the need for large scale improvements. Funding for such mitigation will need to be considered as part of the Preferred Option. A monitor and manage strategy is therefore required to address developing issues on the A12.

Once the Preferred Options have been identified, a three-tier assessment comprising the strategic impact on trip assignment around Chelmsford, vehicle movements through the city centre, capacity impact at junctions and cross boundary movements will need to be undertaken together with a review of the necessary mitigation measures, and the impact of phasing and potentially dualling the CNEB post 2036.

A.1.3 Rail Services

Policy and Context

Rail service provision in the UK is highly complex, with a number of agencies involved. Governance and oversight are generally the responsibility of the public sector, with franchise and service specification undertaken by the Department for Transport (although there are varying degrees of opportunity for local authority involvement in this process), and regulatory oversight provided by the Office for Road and Rail.

Strategies for the usage of the network are produced by Network Rail, a public-sector organisation, which is also responsible for the day-to-day maintenance and upgrade of the network. A new public body, Great British Railways (GBR) was announced by the Government in May 2021 and

will be responsible for integrating the railways, owning the infrastructure, collecting fare revenue, running and planning the network, and setting most fares and timetables.

The operation of train services will largely remain the responsibility of a number of private-sector Train Operating Companies (TOCs) and Freight Operating Companies (FOCs), however GBR will contract private partners to operate most trains to the timetables and fares it specifies.

Current Levels of Provision

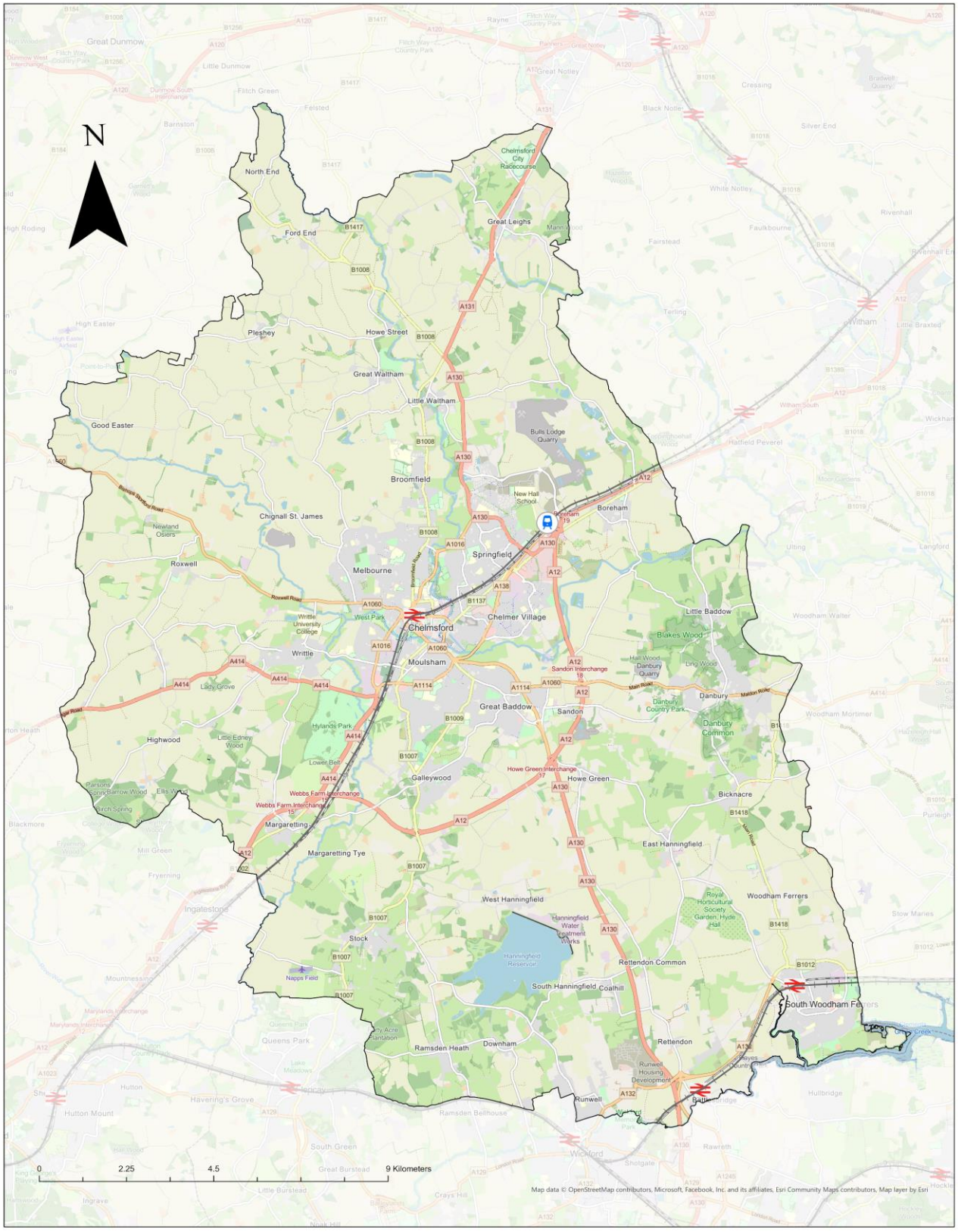
Chelmsford is covered by the Network Rail Anglia Route covering rail services of Norfolk, Suffolk, Essex and parts of Cambridgeshire, Hertfordshire and Greater London.

In Chelmsford, rail service provision centres on the Great Eastern Main Line, connecting the city to London Liverpool Street and north to Norwich.

There are three existing railway stations in the district (a shown on Figure A2 below):

- Chelmsford railway station is located in the heart of the city and is the busiest two platform station in the UK outside of London with a throughput of 4.5m travellers in 2022. The station is currently operated by Greater Anglia as part of the East Anglia franchise comprising two platforms. Southbound trains terminate at Liverpool Street and eastbound trains run to Witham connecting to the Braintree branch line, Clacton-on-Sea, Colchester Town, Ipswich and Norwich. The station was extensively refurbished between 2014 and 2016 to improve throughput and customer experience. The bus station is located adjacent to the railway station and together they act as a transport hub for people travelling into and out of the city.
- South Woodham Ferrers railway station is on the Southminster Branch Line (also known as the Crouch Valley Line) managed by Greater Anglia and comprising one platform. Given the passing loop at North Fambridge, imposed speed limits and number of crossings on the line the one train every 40 minutes is the best timetable that can presently be offered to London Liverpool Street via Wickford. New trains provide significant additional passenger seating capacity of some 66% in the off peak and at peak times a new 10 car train has about 12% additional seating capacity than the old 12 car train. Any improvement would require significant investment in the track and platforms. Other issues include connectivity issues at Wickford and onwards via Bow Junction to London Liverpool Street; and the case for investment for improvements in terms of benefits and affordability.
- Battlesbridge railway station is on the Southminster Branch Line (also known as the Crouch Valley Line) managed by Greater Anglia and comprising one platform. Since the platform is only long enough to accommodate eight carriages, any peak-hour trains formed of 12 coaches do not call at Battlesbridge. New trains provide significant additional passenger seating capacity of some 66% in the off peak and at peak times a new 10 car train has about 12% additional seating capacity than the old 12 car train. Given the passing loop at North Fambridge, imposed speed limits and number of crossings on the line, the current service of one train every 40 minutes is the best timetable that can presently be offered to London Liverpool Street via Wickford. Any improvement would require significant investment in the track and platforms. Other issues include connectivity issues at Wickford and onwards via Bow Junction to London Liverpool Street; and the case for investment for improvements in terms of benefits and affordability.

Figure A2. Railway Stations in Chelmsford



Legend
- Railway Lines
- Railway Stations
- New Station - Beaulieu

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Table A2 below shows the annual entries and exits at the three stations from 2017/18 to 2021/22. Usage of Chelmsford station and South Woodham Ferrers station was fairly consistent in the years

prior to the Covid-19 pandemic. Following the pandemic, the usage of these stations has failed to return to pre-pandemic levels and remains significantly lower (approximately 50%). On the other hand, usage of Battlesbridge station is fairly consistent with pre-pandemic levels.

Table A2. Annual station entries and exits between 2017/18 and 2021/22

Station Name	Entries and Exits (2021/22)	Entries and Exists (2020/21)	Entries and Exists (2019/20)	Entries and Exists (2018/19)	Entries and Exists (2017/18)
Chelmsford	4,595,710	1,716,828	8,606,294	8,926,576	8,619,942
South Woodham Ferrers	237,966	71,784	473,240	513,228	510,558
Battlesbridge	18,712	5,580	19,848	16,446	21,108
TOTALS	4,852,388	1,794,192	9,099,382	9,456,250	9,151,608

Source: Office of Rail and Road estimates of station usage.[42]

In order to serve the north and east of Chelmsford, a new railway station is currently under construction at Beaulieu Park (as shown on Figure A2 above). Network Rail, in collaboration with ECC and CCC and the developer Countryside Properties are working towards delivering the new Beaulieu Park railway station for Chelmsford.

The new station will serve the new Chelmsford Garden Community and the wider communities helping to deliver around 14,000 new homes in the Chelmsford to Braintree corridor. It will provide additional access to the Great Eastern Main Line (GEML) with regular connections to London (only 40 minutes from London Liverpool Street station) and other destinations in the east of England. Three platforms with a central loop and new tracks will enable stopping services to call at the station while allowing fast trains to pass through unimpeded.

It will increase reliability and relieve crowding at Chelmsford railway station and act as a transport interchange to encourage sustainable travel by bus, cycle, electric vehicles and on foot to strategic and local housing development, including the new Chelmsford Garden Community. It is the first railway station to be built on the Great Eastern main line for over 100 years.

Construction of the station commenced in March 2023 and the station is expected to be open by the end of 2025. Funding for the station has come from a number of sources - ECC, in partnership with CCC, successfully secured £218m of funding from the Government's Housing and Infrastructure (HIF) fund together with £34m contributions from the South East Local Enterprise Partnership and the developers of Beaulieu, Countryside and L&Q.

Implications for Future Growth

Chelmsford railway station will be a driver for maximising opportunities for development on previously developed land within the urban area with a key priority to provide new and/or enhanced connectivity by walking, cycling and public transport to help reduce the use of the private car. Beyond the already implemented capacity improvements created by the introduction of new rolling stock, there is limited scope to improve the station capacity and services at South Woodham and Battlesbridge stations which is a constraint on future development.

Once opened, the new Beaulieu railway station will provide residents in the north and east of Chelmsford with additional access to the Great Eastern Mainline helping to ease the pressure on the city centre station and Witham by reducing the need for people commuting into London to travel into Chelmsford by car – an estimated 900 car journeys will be removed during each

[42] Available at: https://dataportal.orr.gov.uk/statistics/usage/estimates-of-station-usage

morning peak. This, combined with the proposed phased CNEB will maximise the housing and economic growth opportunities in north Chelmsford and Braintree.

A.1.4 Bus Services

Policy and Context

Local bus services across most of the UK are generally provided by private operators. The role of ECC is to help support the provision of high quality bus services and provide passenger information. ECC published a Bus Service Improvement Plan 2021 to 2026 (BSIP)[43], setting out local issues relating to the bus network and how local authorities will tackle them.

The BSIP will aim to deliver the SGH (Safer, Greener, Healthier) vision of Essex County Council. Bus travel is safer, greener, and healthier than travel by car, both for individuals and for communities. In the BSIP, buses will help deliver the following four key objectives:

- A strong, inclusive, and sustainable economy
- A high-quality environment
- Health, wellbeing, and independence for all ages
- A good place for children and families to grow

As reflected in Annex B of the BSIP, the national personal journey percentage mode share of local bus has been decreasing since 2015-16 at 4.12% to 3.11% in both 2018-19 and 2019-20. This implies that people lack incentive to shift from other modes to buses, and a small number of passengers have shifted away from buses over the years. To achieve the SGH vision, the bus network and bus services have to be improved so that more people will use bus services. As part of the BSIP, in January 2023, ECC published detailed District Network Reviews[44] for each district in Essex providing a review of public transport services and infrastructure.

'Getting around in Essex'[45] – A bus passenger transport strategy is a 'daughter document" included in the Local Transport Plan prepared by ECC in 2015, promoting bus and other sustainable travel modes. It sets out why buses are important to Essex, how the current network buses operate and how ECC wants to make the bus network stronger such as by delivering a higher quality service and carrying more passengers when they operate:

The document highlights the importance of buses as:

1. making life better for people such as by enabling people to live independently, promoting good health and wellbeing, and
2. Supporting our economy such as by providing jobs and economic benefits, and facilitating accessibility to jobs.

In order to make bus travel better and easier, and encourage increased usage, a long term strategy for improving passenger transport (bus, minibus, taxi and community transport) services in Essex is to be provided:

- Increase passenger numbers, by working with the commercial, public and voluntary sectors, businesses and people who live and work in Essex to strengthen our ability to deliver an attractive, comprehensive, resilient and high quality bus network

[43] Available at: https://www.essexhighways.org/uploads/downloads/ecc%20bsip%202021%20to%202026.pdf

[44] Available at: https://www.essexhighways.org/uploads/downloads/Area-bus-network-reviews.zip

[45] Available at: https://www.essexhighways.org/uploads/downloads/ds14_4705_bus_strategy_web.pdf

- Maximise the economic and social benefits to people, businesses and communities across Essex – supporting Essex County Council's seven outcomes
- Ensure what we deliver is cost effective and good value for money

The National Bus Strategy for England (Bus Back Better) by Department of Transport set out the vision for the future of buses. The document highlights bus as being at the centre of the public transport network– used for twice as many journeys as trains. This document also laid out the challenges we are facing to bring bus usage back to what it was before the pandemic.

Bus journey numbers have been decreasing from 3,500 million to 2,000 million during 1980s to 2017 while private car ownership has been increasing from 15,000 million to 30,000 million over the same period of time. Also, the reduction of bus trips due to the impact of the Covid-19 pandemic has not recovered to the pre-pandemic levels. It is therefore important to increase the number of people using buses.

Improving the bus network is the easiest, cheapest and quickest way to improve our transport network, without the need for huge investment in long-term construction projects such as railway infrastructure. To increase patronage and raise the modal share of buses, we have to ensure that buses are an attractive alternative to the car for far more people.

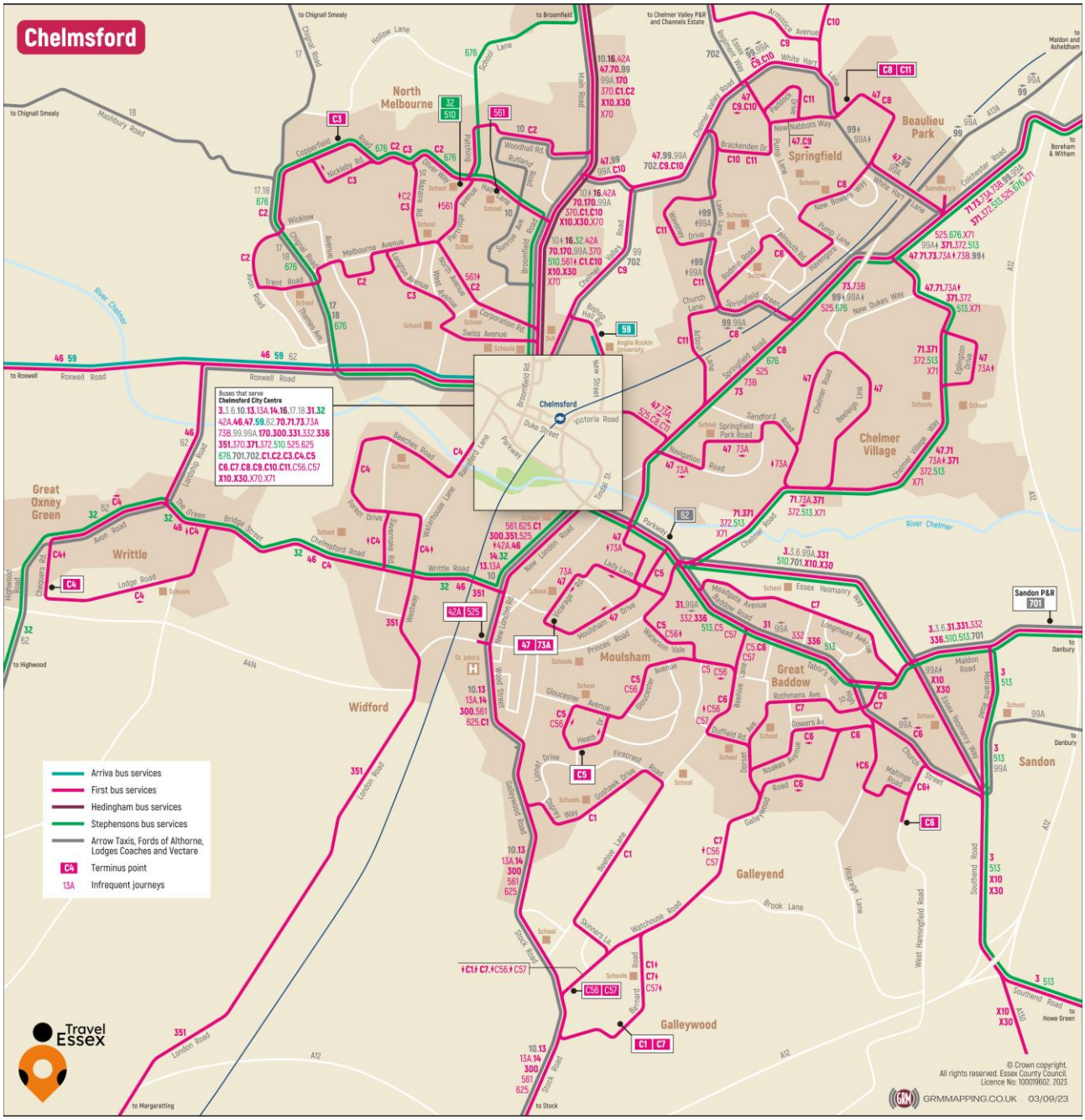
Current Levels of Provision

Chelmsford has a comprehensive bus network, with a bus station located next to Chelmsford railway station providing a key city centre passenger transport hub. There are also two very popular Park and Ride facilities at Sandon and Chelmer Valley, both of which are planned to expand as part of the Army and Navy Sustainable Transport Package. The adopted Local Plan Policies Map identifies broad locations for additional park and ride facilities in West Chelmsford and North East Chelmsford. Bus priority measures are in place connecting the Park and Ride sites at Sandon and Chelmer Valley to the city centre.

Bus services are concentrated within the centre of Chelmsford, linking the city centre, railway station via the central bus station. Chelmsford Area Bus Based Rapid Transit (ChART) is a direct, frequent bus service connecting development at the Chelmsford Garden Community into the city centre and will be enhanced as the garden community develops further.

As shown in Figure A3, the majority of settlements in Chelmsford are served by multiple bus routes with services provided by different operators including Arriva, First, Hedingham, Stephensons etc. The bus routes shown in bold in Figure A3 are frequent services whilst the routes shown in plain text are routes with infrequent services. According to the BSIP, there are 60 services in the Chelmsford area, of which 36 of them are ECC contracted bus services.

Figure A3. Bus routes within Chelmsford



Even though Chelmsford is well covered by bus routes, many buses are delayed in the same congestion as other motorised vehicle users. This delay affects every passenger on each bus and makes buses a less attractive option for journeys than they need to be.

The BSIP District Network Review[46] for Chelmsford states that Chelmsford has a higher-than-average number of bus journeys per head compared with the Essex average and also compared to all English non-metropolitan areas post-Covid (32 journeys per head pre-Covid and 11 journeys per head post-Covid). In addition, the bus passenger per mile level in Chelmsford is similar to the ECC-wide average, which reflects the predominant bus use in Chelmsford being for journeys within Chelmsford city and suburbs, as opposed to longer journeys between major district centres. The District Network Review for Chelmsford reports that even before the Covid-19 pandemic, there had been declining bus patronage levels in Essex and bus usage has failed to return back to pre-pandemic levels.

[46] Available at: https://www.essexhighways.org/uploads/downloads/Area-bus-network-reviews.zip

Therefore, without significant changes, bus passenger use and modal share will not increase back to pre-pandemic levels. To increase patronage and raise buses' mode share, we have to ensure that buses are an attractive alternative to the car for far more people. To deliver better bus services, cooperation between bus companies, extending services to the evening, simple ticketing and better integration is required.

Other than better bus services, there are several improvement packages with investment of £1.3 million in Chelmsford as shown in Table A3 below.

Table A3. Proposed bus improvement packages in Chelmsford

Improvement packages	Works
Access for residents with no service	Investment of £746,500 for a digital demand responsive service supported by electric minibuses
Chelmsford City bus stop	Improved access for Waveney Drive Bus stop and stand improvements in Springfield
Supporting infrastructure for orbital services	Improved access on Writtle Road Provision of new bus stops to serve Writtle doctor's surgery
Victoria Road South	Improved bus priority on Market Road
Bus accessibility for Great Baddow	Improved access on Foxholes Road and Maltings Road
Park and Ride	Bus priority through Pump Lane roundabout

Source: ECC BSIP 2021-2026

Bus Lanes

A Bus Lane is a dedicated lane restricted to use by buses under a Traffic Regulation Order. Restrictions may be limited to certain days and times. They speed up public transport and improve service punctuality and reliability by allowing buses to by-pass areas that would otherwise hold them due to traffic congestion. Bus lanes are a key component of a high-quality Bus Rapid Transit (BRT) network. Essex has over 10km of bus lane, of which over 4.5 km of it is in Chelmsford. A list of available bus lanes across Chelmsford is set out in Table A4 below.

Table A4. Bus lanes within Chelmsford

Road Name	Start location	End location	Length (m)
Broomfield Road	Broomfield Road/Parkway Junction	Hyatt Place	45
New London Road	The Ivory Peg Public House	New London Road/Parkway Junction	160
A114	Maldon Road Junction	Army and Navy Roundabout	2,414
Broomfield	Broomfield/Broomfield Hospital	Broomfield/Broomfield Hospital	360
New London Road/B1007	Moulsham/New London Junction	Queen Street/New London Road Junction	804
Gunson Gate	6 Gunson Gate	255 Gunson Gate	109
ARU campus	Bishops Hall Lane	Alan Cherry Drive	965

Road Name	Start location	End location	Length (m)
A1016 to Essex Regiment Way	A1016 Chelmer Valley Road	Essex Regiment Way, Nabbotts Roundabout	2,560
Essex Regiment Way to A1016	Chelmer Valley Park and Ride	Essex Regiment Way Nabbotts Roundabout	2,090

Bus Gates

A bus gate is a short section of road with a Traffic Order restricting access to buses and other authorised vehicles (taxis, cyclists, emergency vehicles) between specified times of day. They allow short cuts for public transport at junctions, roundabouts or through one-way systems. Chelmsford has three bus gates, as shown in Table A5 below.

Table A5. Bus gates within Chelmsford

Road Name	Location	
	Start	End
Duke Street	The Plough Public House	Duke Street/Victoria Road Junction
ARU campus	Bishops Hall Lane	Alan Cherry Drive
Gunson Gate	6 Gunson Gate	255 Gunson Gate

Implications for Future Growth

Bus services are critical to the delivery of sustainable development because they will often be the main form of public transport connecting new developments with key centres and destinations. The quality and level of bus service provision in an area, or the ability for those bus services to be enhanced or extended, should therefore inform site selection decisions.

Given the broad picture of reducing demand for bus services nationally and across Chelmsford, the quality and frequency of services is more likely to be a factor limiting growth potential rather than capacity. However, the delivery of new growth close to existing bus services also provides the opportunity to enhance their overall viability and ability to continue to serve other areas.

Appendix B

Flood Protection and Water Management

B.1 Flood Protection and Water Management

B.1.1 Overview

This section covers the following infrastructure types related to flood protection and water management:

- Flood and water management
- Water supply
- Sewerage

B.1.2 Flood and Water Management

Policy and Context

Infrastructure provision for flood defence and surface water management includes a range of measures to counteract the risks arising from local flooding. The Flood and Water Management Act (2010) states that local flood risk includes flood risk from surface runoff, groundwater and ordinary watercourses. The management of flood risk in Chelmsford is the responsibility of Essex County Council (ECC), the Environment Agency, Water Companies and Essex Highways.

The diagram below shows which authority is responsible for various types of flooding.

Figure B1. Responsibility for flood management within Essex

ECC is the Lead Local Flood Authority (LLFA) with responsibility under the Flood and Water Management Act 2010 and Flood Risk Regulations 2009, to lead and co-ordinate local flood risk management in the county. This includes flood risk from surface water run-off, groundwater and ordinary watercourses. They are also responsible for preparing and maintaining a Local Flood Risk Management Strategy and a register of assets that have an effect on flooding. They are also responsible for ensuring that any developments/projects drain run-off in a way which does not increase the risk of flooding anywhere else and responding to major planning application in relation to sustainable drainage systems.

ECC along with key partners including the Environment Agency, Chelmsford City Council, Anglian Water, and Essex Highways, produce Surface Water Management Plans (SWMPs)[47] to identify

[47] Available at: https://www.essexdesignguide.co.uk/suds/surface-water-management-plans/chelmsford/

various flood risks and outline the preferred strategy to mitigate these risks. The SWMPs also identify Critical Drainage Areas (CDAs) which represent the contributing catchment area and features that influence areas of significant predicted surface water flooding impacts. The last Chelmsford SWMP (produced in 2014) identified 12 CDAs and approximately 760 residential properties identified as being at risk of surface water flooding during a 1 in 100 year storm. This is estimated to increase to around 1,500 residential properties should the upper limit of 40% be considered to account for future climate change.

Anglian Water are the Statutory Sewerage Undertaker for Chelmsford, meaning they are responsible for maintaining the sewer network and therefore minimising effects of sewer flooding.

Current Levels of Provision

The latest Level 1 and Level 2 Strategic Flood Risk Assessment (SFRA) for Chelmsford was published in 2018. An updated SFRA is currently being prepared. The 2018 SFRA states that flood history shows that Chelmsford has been subject to flooding from several sources of flood risk, with the principal risk from fluvial sources. The primary fluvial flood risk is associated with the River Chelmer and its tributaries. The main urban area at risk is Chelmsford city however parts of the city benefit from defences including flood walls and embankments. Other areas that are shown to be at risk include Margaretting, Bicknacre and Writtle.

The primary tidal flood risk is associated with the tidal River Crouch, Fenn Creek and Clements Green Creek. The main urban area at risk is South Woodham Ferrers. However, much of the area benefits from defences consisting of sea walls and embankments.

Surface water risk predominantly consists of overland flow routes; these predominantly follow topographical flow paths of existing watercourses or dry valleys, or transport routes. There is also isolated ponding located in low lying areas. The majority of towns and villages within Chelmsford have a degree of surface water flood risk; whilst, in the majority of cases, the risk is confined to roads and gardens, there are some areas with more notable, prominent flow routes around properties. There are no records of flooding from reservoirs.

The EA, LLFA, and Essex Highways own and manage flood mitigation assets[48] within Chelmsford. The LLFA asset register shows over 50 assets within the Chelmsford area.

Figure B2 below shows the locations of Flood Zones 2 and 3, and the flood defences within Chelmsford.

[48] An asset is defined as a structure or feature in a watercourse that can affect the flow or storage of water.

Figure B2. Flood Zones and Flood Defences within Chelmsford

Legend

- Flood Zone 2
- Flood Zone 3

Defence Type

- Demountable Defence
- Embankment
- Engineered High Ground
- Flood Gate
- Natural High Ground
- Wall

ARUP

Chelmsford District Council IDP

Flood Defences and Flood Zones in Chelmsford District Council

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Implications for Future Growth

The provision of flood risk management infrastructure – where required – is critical. However, unlike many other infrastructure types, the need for new or improved flood defences is not necessarily directly related to the location of development. In addition, the development strategy for Chelmsford seeks to avoid development in areas which are prone to flooding.

Flood risk mitigation will need to be considered on a site-specific basis and respond to the conclusions of the Council's updated SFRA when published. In identifying locations for development, consideration must be given to the potential cumulative impact of development on flood risk.

New development is likely to increase the risk of surface water flood risk, as the extent of built-up areas and the area of impermeable hard surfacing increases, meaning that mitigation measures such as Sustainable Drainage Systems (SuDS) are essential to reduce and manage the surface water flood risk. Additionally, the increase in runoff may result in more flow entering watercourses, increasing the risk of fluvial flooding downstream. In addition, climate change predictions indicate that the likelihood and frequency of surface water flooding will increase and this increase in risk must be considered when planning for new development within the district. This is particularly important in those locations identified as Critical Drainage Areas. ECC has stated that any site strategy will need to reduce site runoff to greenfield rates and maintain the existing water quality in accordance with the ECC Sustainable Drainage Systems Design Guide.

Consideration should be given to the updated PPG on Flood Risk and Coastal Change (August 2022) and the change to the exception test which now requires development which has to be in a flood risk area to provide wider sustainability benefits to the community that outweigh flood risk. This provides the opportunity to address existing flood risk through new development.

All development proposals will be required to incorporate sustainable drainage principles and best practices for surface water management. This provides wider opportunity to propose flood alleviation schemes together with SuDS and green infrastructure inclusion to promote further green areas, strong green links to existing environment and benefit the community with use of multifunctional space. There are also opportunities for other measures to be implemented including the widespread use of water conservation measures such as water butts and rainwater harvesting technology, use of swales, permeable paving, bioretention car park pods and green roofs. In addition, there are opportunities to raise community awareness across the Chelmsford area.

B.1.3 Water Supply

Policy and Context

Potable water in Chelmsford is supplied by Essex and Suffolk Water (ES Water). The supply comes predominantly from river sources and is largely imported from outside the region through a river transfer system that supports the low yield Essex rivers. ES Water also have a small supply from boreholes in East London that draw water from the underground aquifers.

Every five years water companies produce a Water Resources Management Plan (WRMP) which sets out how the company plans to maintain the balance between supply and demand for water for a minimum planning period of 25 years. The companies also produce a Business Plan covering an Asset Management Period (AMP) detailing the funding requirements for the first five years of the WRMP.

The most recent ES Water WRMP was published in 2019 (WRMP19) and covers the period 2020-2050. Additionally, there is currently a draft WRMP available for the next WRMP (dWRMP24), which will be agreed by Ofwat in 2024 and covers the period 2025 - 2075.

ES Water are also part of Water Resources East (WRE) with Anglian Water, Cambridge Water and Affinity Water, as well as regional EA representatives and stakeholders from energy, agriculture, environment, and industry sectors. This group works together to set out how the supply of water in the East of England will be managed on a regional level for the next 25 years and beyond.

Infrastructure upgrades required as a result of development are funded by infrastructure charges set in the water companies business plan and paid for by developers. Where strategic infrastructure upgrades are required, these are also outlined in the business plans but funded by customer bills. This charge is separate to the cost that companies charge developers for the requisition of new mains, which is based on the total cost of the mains off-site pipe work and any necessary upgrades downstream. There are currently no planned changes to how water supply infrastructure is delivered.

Current Levels of Provision

Chelmsford sits within the Essex Water Resource Zone. In this WRZ, supply comes from local rivers such as the Chelmer, Blackwater, Stour, and Roman Rivers which support storage reservoirs at Hanningfield and Abberton and treatment works near Maldon, Stratford St. Mary, Chelmsford, and Colchester. In a drought year, only 33% of the water supplied comes from within the Essex WRZ, with the rest being transferred in from outside the area. This is because the water taken from local rivers and the bulk raw water supply from Thames Water is not enough to meet demand.

ES Water use the growth projections from their Water Resource Management Plans to set out how they plan to maintain the balance between supply and demand for water. It is currently forecast that there will not be enough water supplies to meet forecasted demand over the next 25 years and beyond.

It is estimated by Water Resources East in their Draft Regional Plan that there will be a water deficit in Essex of between 15 to 40 megalitres per day by 2050. Additionally, the whole of Eastern England is classified as 'seriously water stressed' by the Environment Agency and the demand for water is growing as this region has one of the highest rates of new housing development in the country.

To ensure there is sufficient supply to meet projected growth, ES Water are implementing solutions to both increase supply and reduce demand. To reduce demand, ES Water are installing water meters, reducing leakage and promoting water efficiency across their supply area. To increase supply in the Essex WRZ, the dWRMP24 contains two schemes:

- Linford Water Treatment Works, a new water treatment works to treat an existing and new borehole which would be complete by 2030.
- Southend Water Reuse Scheme, which would involve buying wastewater from Anglian Water, treating the water at a water recycling plant and releasing it into Hanningfield Reservoir where there is currently spare capacity. This scheme will only be implemented if customer demand does not reduce as forecast by ES Water.

Both of these schemes are subject to funding approval from Ofwat, which is expected at the end of 2023, or early 2024.

Additionally, the Draft Regional Plan by WRE shows general options for increasing supply across the region. For Essex, these are desalination, water reuse, smaller resource options, and a new water transfer.

Implications for Future Growth

Given the 'grid-based' nature of supply networks, water infrastructure will have very limited implications for whether future growth can be accommodated in specific locations. Whilst new development sites will evidently need to be connected to the strategic water supply grid, this is required for all developments and does not place any particular constraint on development or any impact upon the wider water supply network.

Development will place additional pressure upon the sources of water that feed the strategic grid. There are known water supply pressures within Essex and the wider East of England with the region classified as 'seriously water stressed'. Across Essex and the wider East of England, there will be a significant water deficit by 2050, as identified in the Water Resources East Regional Plan

which will require a range of interventions at the local and wider geography including demand management measures; transfer schemes; new reservoirs (South Lincs and the Fens); and next generation desalination. Further discussions on water supply pressures will be undertaken with ES Water as the IDP progresses, taking into account the anticipated development quantum for the new plan period. In anticipation of the need to minimise water consumption, the Council could consider implementing a policy approach which articulates the need for reduced water consumption within new development.

B.1.4 Sewerage

Policy and Context

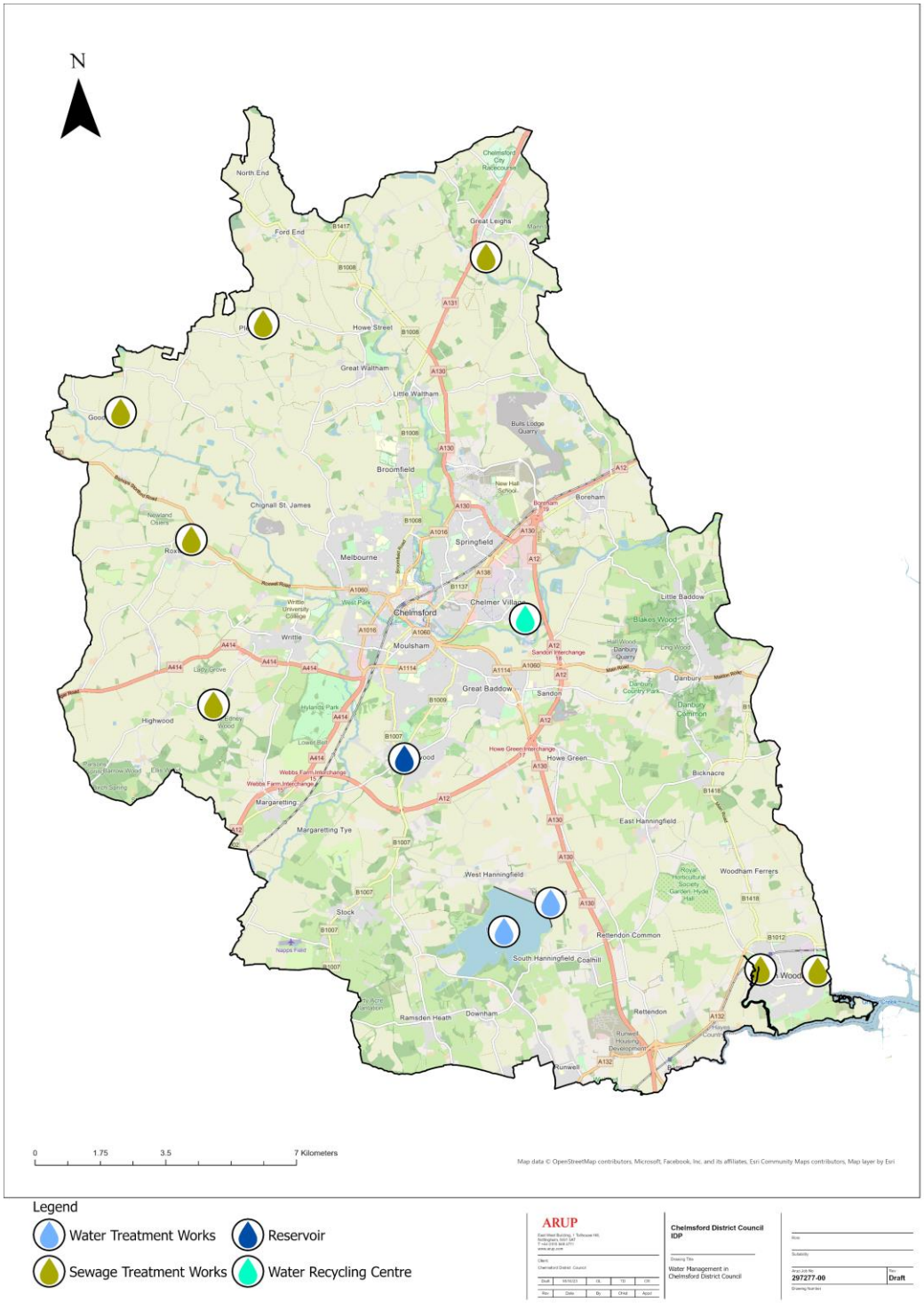
Anglian Water is the statutory sewerage undertaker for Chelmsford, and therefore for water recycling throughout the foul drainage network. They have a strategic aim to make the East of England resilient to the risks of drought and flooding and enable sustainable economic and housing growth in the UK's fastest growing region. They are also aiming to be a net zero carbon business and reduce the carbon in building and maintaining our estate by 70% by 2030.

Water companies are required to submit Drainage and Wastewater Management Plan (DWMP). The DWMP addresses long-term needs by forecasting growth over a 25 year time horizon to plan investments for meeting the water recycling needs of growing population. Anglian Water's Draft DWMP, which covers the period 2025-50, has just gone to consultation and was due to be published at the end of 2023.

Current Levels of Provision

Anglian Water runs 29 operational sites in Chelmsford (as of 2015). Chelmsford Water Recycling Centre has a large catchment area encompassing the city and surrounding settlements. The Chelmsford Water Recycling Catchment has a 2021 population of 147,157 estimated in the draft DWMP with a forecasted increase to 154,103 by 2050, by which time process optimisation and increased capacity will be required at the Water Recycling Centre (WRC). Figure B3 below shows the location of the WRC and other water and sewerage infrastructure in Chelmsford.

Figure B3 Water and sewerage infrastructure in Chelmsford



In 2021/22 Anglian Water were planning to spend £2.6million to build a new sewage pumping station and over 6km of sewer to support the adopted Local Plan population growth in Beaulieu to the north east of Chelmsford.

Within their DWMP, Anglian Water have highlighted investment needed over the next five years to facilitate sustainable growth. For Essex, the following schemes have been highlighted as needing investment:

- Increase drainage capacity – SuDS and upsizing
- CSO investigations and improvements
- Investigative urban creep at WRC

- Increase WRC flow & process capacity

Implications for Future Growth

The planning and provision of sewerage infrastructure in new development is an essential part of the development process. Given the nature of the district's sewerage, a coordinated and long-term approach to future sewerage provision is required.

CCC has commissioned an update to the Chelmsford City Water Cycle Study which will consider planned future growth across the Chelmsford City area with regards to water supply capacity, sewerage capacity and environmental capacity. The findings of this study will be considered as the IDP progresses.

Housing and population growth will increase the biological loading of influent to WRCs. Anglian Water has noted that in high-growth areas, they may need to expand treatment capacity at WRCs to minimise impact on receiving watercourses. Anglian Water has a long-term strategy to 2050 of process optimisation and increased capacity at Chelmsford Water Recycling Centre, based on projected population growth in the catchment area. However, the proposed quantum of growth set out in the Issues and Options consultation document, combined with existing planned growth in the adopted Local Plan may lead to a higher population growth than originally planned for by Anglian Water which would have implications for their medium and long-term strategy. Anglian Water has also noted that dependent on the spatial approach taken, there could be implications for growth at South Woodham Ferrers and Great Leighs WRCs.

Additionally, Anglian Water have expressed that they would support a whole life carbon assessment to inform the spatial distribution of development, considering the capital carbon of development and supporting infrastructure. They noted their preference for a spatial distribution which delivers optimal carbon savings, enables the best and most efficient use of infrastructure, and provides positive outcomes for the environment.

Appendix C

Provision of Energy

C.1 Provision of Energy

C.1.1 Overview

This section covers the following infrastructure types relating to the provision of energy:

- Gas supply
- Electricity supply

C.1.2 Gas Supply

Policy and Context

National Gas, previously known as National Grid, is responsible for operating and owning Great Britain's high pressure gas transmission network. Their network enables gas to move from entry terminals and storage facilities to exit offtake points, which then directs the gas to distribution networks, allowing it to be delivered to domestic, commercial, and industrial end-users.

National Grid's Future Energy Scenarios (FES) articulate long-term customer needs and are produced annually to identify credible future scenarios until 2050. The Gas Ten Year Statement (GTYS)[49] is based on the FES and is a resource that National Gas publishes annually, providing updated insights into connection possibilities and capacity. The GTYS serves as a roadmap, outlining National Gas's key projects, strategies, and developments, with the objective of enhancing transparency in the investment decision-making process by publishing the stages of their network development process. The most recent version of the GTYS was published in 2022 and covers a 10-year period extending until 2032.

Cadent serves as the regional distribution network operator (DNO) responsible for the East of England gas network. Chelmsford falls within the East Anglia local distribution area.

Cadent is required to provide Ofgem with a regional business plan[50] that outlines their initiatives to enhance and upgrade their current gas supply infrastructure. Ofgem mandates that DNOs submit a five-year strategy that details their intended approach and the expected outcomes of their actions. These plans are critical in securing funding from Ofgem to execute proposed actions and projects.

The DNO's Long Term Network Development Plan (LTDP)[51] is a valuable supplement to these business plans as it provides a comprehensive overview of the network's future projections and necessary investments to ensure a secure supply. Cadent's latest LTDP, published in 2022, offers insights into the evolution of the network and the required investments to meet changing demands. This LTDP highlights a shift in demand for network capacity due to an increase in housing development connection requests and gas-fuelled power generation sites expected over the medium-term.

Current Levels of Provision

According to the Cadent LTDP, the East Anglia local distribution zone is expected to maintain a relatively stable peak gas demand over the next ten years. In comparison to the LTDS 2021 forecast, peak demand has increased mainly due to network growth.

[49] GTYS 2022, National Gas. Accessed 16 October 2023. https://www.nationalgas.com/insight-and-innovation/gas-ten-year-statement-gtys

[50] East of England Business Plan Highlights, Cadent Gas. Accessed 16 October 2023. https://cadentgas.com/nggdwsdev/media/Downloads/business-plan/BP_East-of-England_FINAL.pdf

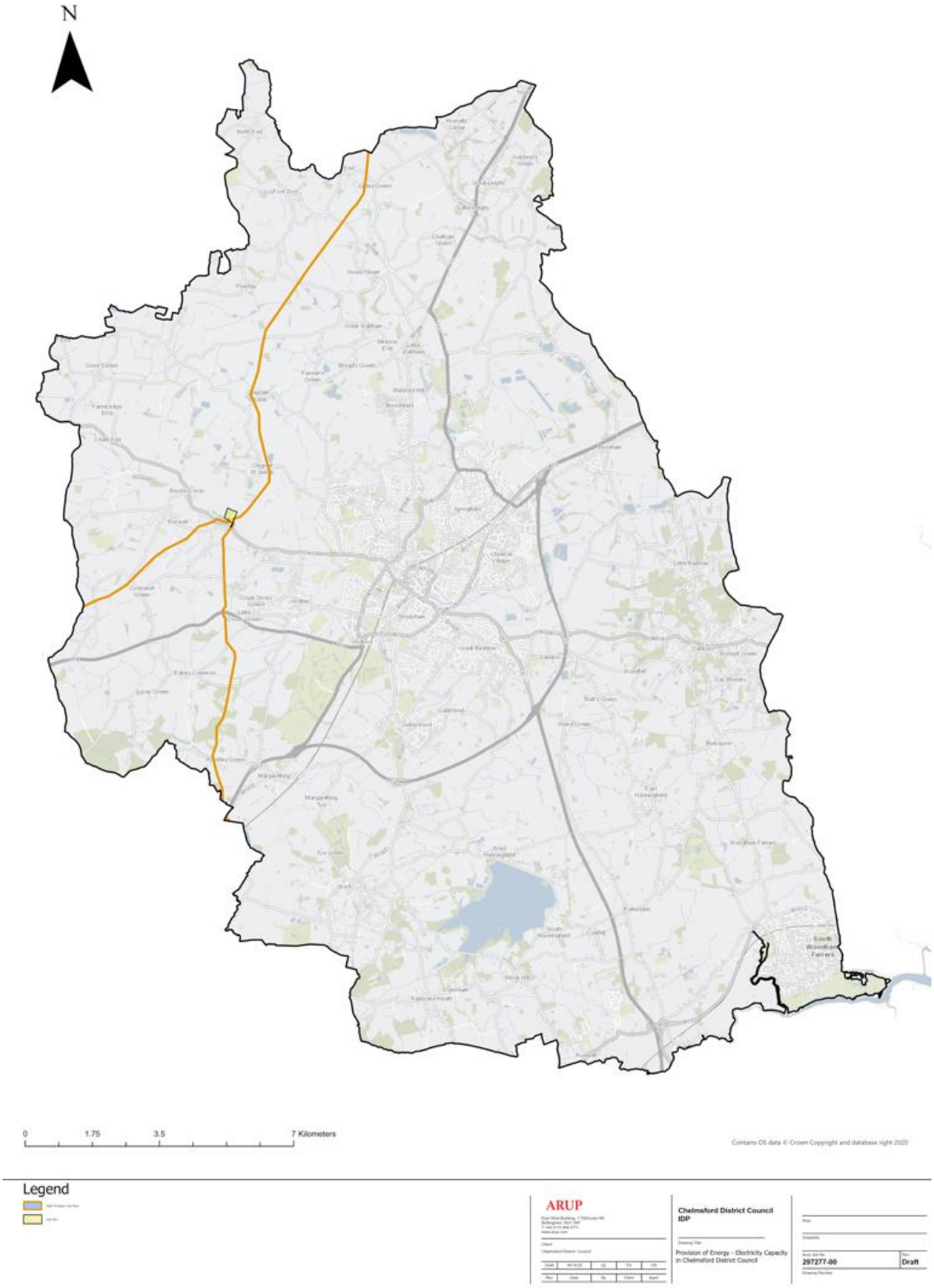
[51] LTDS 2022, Cadent Gas. Accessed 16 October 2023. https://cadentgas.com/about-us/our-company/long-term-development-plan

The LTDP also highlights that the most significant challenges faced by the network stem from large developments occurring outside its existing infrastructure and power generation facilities. Housing projects on the outskirts of the network have seen substantial growth in recent years.

In their latest summary of the East of England Business Plan, Cadent outlines a significant investment of £25 million in steel pipes to enhance the gas network. Steel is the optimal material for efficiently transporting large gas volumes to widely scattered towns and cities. Additionally, Cadent is allocating £14 million to boost the performance of their assets that cater to multi-storey buildings, with the aim of reducing the risk of supply disruptions.

Based on the Major Projects list provided by Cadent Gas, there are currently no reinforcement or upgrade projects underway within the district's gas supply network.

Figure C1. High pressure gas network infrastructure in Chelmsford



Implications for Future Growth

The provision of gas supply infrastructure within new development is critical. However, given the Government's decarbonisation agenda, and indications from Cadent Gas that demand is expected to stay relatively stable, adverse implications for future growth are not anticipated. Cadent Gas generally caution that when quoting for connections onto the network, capacity is assessed on a first-come first served basis, and so capacity quoted when a development is originally planned may not necessarily be available when a development is complete.

The Future Homes Standard comprises regulations set to take effect in 2025 which aims to reduce carbon emissions from new homes. On 15 June 2022, a set of interim amendments of the Future Homes and Buildings Standard came into force. Since this date, all newly built properties have been required to deliver carbon emissions savings of 31% against existing standards. Two main methods are currently utilised to achieve this: installing modern, energy efficient heating systems in new-builds, and ensuring new minimum standards of building fabrics are used.

The Future Homes Standard will complement the Building Regulations to ensure that all new homes built from 2025 produce 75-80% less greenhouse gas emissions than homes built under the old building regulations. It was originally announced that as part of this, traditional gas boilers would be banned in all new homes from 2025 with properties instead having modern, energy efficient heat pumps or be connected to heat networks. However, the Government's approach to this changed when it published its Heat and Buildings Strategy[52] in October 2021 which stated that it planned to consult on 'whether it is appropriate to end gas grid connections to homes constructed from 2025, in favour of alternative low-carbon heat sources'. On 20 September 2023, the Prime Minister delivered a speech setting out a new approach to Net Zero in light of the cost-of-living crisis. This confirmed that all new homes built after 2035 can no longer install gas boilers and will have to use an alternative heating system. The sale of new gas boilers will be banned in 2035 therefore homeowners who need to replace their existing boilers after 2035 will need to use alternative systems such as ground source heat pumps or other, greener methods. This policy will be means-tested, so lower income households will not be required to upgrade their boiler even if it is after 2035.

C.1.3 Electricity Supply

Policy and Context

National Grid operates the electricity transmission network in the Great Britain, which connects power stations to the broader transmission grid. To better understand the long-term needs of its customers, National Grid has developed Future Energy Scenarios (FES) which serve as the foundation for the annual Electricity Ten Year Statement (ETYS)[53]. By using data from the FES, National Grid identifies areas on the transmission network where additional capacity is necessary to maintain a reliable supply of electricity. The most recent ETYS also includes a voltage screen report outlining the transmission network requirements over the next decade.

The Chelmsford area's regional distribution network is both owned and operated by UK Power Networks (UKPN), a designated Electricity Distribution Network Operator (DNO) responsible for transmitting electricity from the national grid to residential, commercial, and industrial consumers. UKPN's strategy does not involve proactively fortifying the electricity network; instead, it considers present and projected increases in electricity demand resulting from planned developments.

DNOs are mandated to publish their annual Network Development Plan (NDP)[54], which outlines network development intentions for the upcoming decade. This plan is complemented by the Network Headroom Report[55], containing data illustrating the available unused network capacity at primary substations. The NDP provides insight into the available unused network capacity for both demand and generation up to 2050, focusing on Bulk Supply Points and Primary substations. It

[52] Available at: https://assets.publishing.service.gov.uk/media/61d450eb8fa8f54c14eb14e4/6.7408_BEIS_Clean_Heat_Heat___Buildings_Strategy_Stage_2_v5_WEB.pdf

[53] ETYS 2023, National Grid. Accessed 13 October 2023. https://www.nationalgrideso.com/research-and-publications/electricity-ten-year-statement-etys

[54] EPN Network Development Plan, UKPN. Accessed 13 October 2023. https://ukpowernetworks.opendatasoft.com/pages/ltds_ndp_landingpage/

[55] EPN Network Headroom Report, UKPN. Accessed 13 October 2023. https://ukpowernetworks.sharepoint.com/:x:/s/OpenDataPortalLibrary/EZnIVxP2FPtEmHQGPNv2Rx0Bz6D0W1r-gMeyZoxTwMzFJg?e=Ilbrny

identifies areas where additional substation reinforcement or procurement of flexibility services may be necessary if the energy system evolves as indicated in the FES.

The Long-Term Development Statement (LTDS)[56] is a foundational component of the NDP, and the LTDS published at the end of November 2021 serves as the initial blueprint for the 2022 Network Development Plan.

Current Levels of Provision

As part of 'The Great Grid Upgrade,' National Grid is planning to build new electricity transmission infrastructure spanning approximately 183 km from Norwich to Tilbury. This infrastructure will include overhead lines, pylons, underground cables, and 400kV substations. The purpose of this reinforcement is to support the offshore wind projects along the East Coast of England and the upcoming nuclear power station, Sizewell C.

Within Chelmsford's local authority boundary, there are ten primary substations and two grid substations. Additionally, there are a number of substations located outside Chelmsford's jurisdiction that still provide service to parts of the area.

UKPN's Service Area dataset uses a 'Red, Amber, or Green' (RAG) status to assess each service area based on the demand headroom of the primary substations. Demand headroom indicates the available spare capacity to meet demand without requiring additional reinforcement.

In Chelmsford, all primary substations have a capacity of more than 5%, indicating that there are no capacity issues in the area. Additionally, there are no published plans for infrastructure upgrades specifically within the Chelmsford area as indicated in the UKPN LTDS Infrastructure Projects document for May 2023.

There are a number of planning applications for solar farms with Chelmsford, some of which have been consented and are in the process of being implemented[57]. In addition, Longfield solar farm which is a nationally significant infrastructure project was granted development consent by the Secretary of State in June 2023.

Implications for Future Growth

The provision of electricity supply infrastructure in new development is an essential part of the development process. Electricity capacity is a crucial factor to consider when planning for growth. It is important to identify capacity constraints early in the planning process to determine if any grid reinforcements are needed for new developments to connect smoothly.

When quoting for connections onto the network, capacity is assessed by UKPN on a first-come first served basis, and so capacity quoted when a development is originally planned may not necessarily be available when required. For example, should another new development request to be served by the same distribution network and capacity issues are identified, UKPN's protocol dictates that the first application is given priority to utilise the existing capacity and the second application may need to fund major infrastructure upgrade works to create additional network capacity. Applicants have the opportunity to secure available capacity by paying a fee to UKPN to forward fund the new connection.

At present there does not appear to be any capacity issues within Chelmsford however there is no guarantee this will continue should other new developments connect to the network. In addition, the demands on the electricity network resulting from the proposed level of growth will need to be considered in the wider context of the Government's decarbonisation agenda. The Government

[56] EPN LTDS, UKPN. Accessed 13 October 2023. https://ukpowernetworks.sharepoint.com/sites/OpenDataPortalLibrary/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FOpenDataPortalLibrary%2FShared%20Documents%2FGeneral%2FLong%20Term%20Development%20Statement%2FMay%202023%2FEPN%20Long%20Term%20Development%20Statement%20%2D%20May%202023&p=true&ga=1

[57] Further information available at: https://www.chelmsford.gov.uk/planning-and-building-control/developments-and-improvements-in-chelmsford/solar-farm-applications/

has recently updated its Net Zero targets to shift away from fossil fuel use, including the 80% phase-out of gas boilers (see gas supply section above) and banning new combustion engine vehicles by 2035. With the increasing emphasis on electrification for heating and transportation, it is very likely that the electricity network will require reinforcement and upgrades. This transition signifies a significant shift in energy consumption patterns, and the current infrastructure may require improvements to accommodate these changes. Further discussions on this will be undertaken with UKPN as the IDP progresses.

Appendix D

Early Years, Primary Education, and Secondary Education

D.1 Early Years, Primary Education and Secondary Education

D.1.1 Overview

This section sets out the baseline analysis for the following infrastructure types:

Early years provision

Primary and secondary education

As this stage of the IDP focuses on the infrastructure types which are linked to the location of growth or could affect the location of growth, the baseline infrastructure capacity position for further education and special educational needs have not been included in this report, however these infrastructure types will be included in the next stage as part of the full draft IDP.

ECC is the lead authority for education including early years and childcare, Special Education Needs and Disabilities, and Post 16 education.

D.1.2 Early Years

Policy and Context

Early years and childcare provision in Chelmsford comprises a range of facilities, and includes independent nurseries, pre-schools and maintained school nurseries. A combination of providers additionally offer a range of part-time and full-time activities in the form of breakfast clubs, after-school care and holiday clubs.

ECC as the lead authority for education has a duty to ensure that there are sufficient early years' places for children living in the County and has an obligation to meet national standards of provision in terms of Free Early Education Entitlement (FEEE). The funding for early years education is provided by Central Government. As part of this, ECC is obligated to put in place arrangements to ensure that all providers offering free places meet the regulations set by Government and in turn receive the appropriate funding for these places, according to the national funding formula.

Government legislation sets out that all 3 to 4 years olds in England are entitled to 570 hours of free early education of childcare per year.[58] This is usually formed of 15 hours a week for 38 weeks of the year. Some 3- to 4-year-olds may also be entitled 30 hours of free childcare per week (over 1140 hours over a year) subject to certain eligibility criteria. In the March 2023 Budget, the Government announced it was extending free childcare to support more parents returning to work after their parental leave ends. The extended childcare schemes consists of the following:

- From April 2024, working parents of two-year-olds will be able to access 15 hours of free childcare.
- From September 2024, 15 hours of free childcare will be extended to all children from the age of nine months.
- From September 2025, working parents of children under the age of five will be entitled to 30 hours free childcare per week.[59]

This staggered approach is intended to give childcare providers time to prepare for the changes, ensuring there are enough providers ready to meet demand. In addition, the Government also announced it was increasing the number of children a member of staff can look after at the same

[58] Source: https://www.gov.uk/help-with-childcare-costs/free-childcare-and-education-for-2-to-4-year-olds

[59] Source: https://educationhub.blog.gov.uk/2023/03/16/budget-2023-everything-you-need-to-know-about-childcare-support/

time. This is known as the staff-to-child ratio. It means that from September 2023, one member of staff will be allowed to look after five children, up from four children which is the current rule.

In order to implement this change, nurseries are set to receive a £204 million cash boost as part of the Government's promise to deliver the largest ever investment in childcare. Every area across the country is getting a share of the Government funding which childcare providers can use to ease cost pressures such as staffing costs, training and bills. Funding rates per child paid from September 2023 will increase from an average of £5.29 to £5.62 for three and four-year-olds, and from an average of £6.00 to £7.95 for two-year-olds. All local authorities will start to receive their share of £289 million in funding from January 2024 to support their delivery of the programme, with parents expected to see an expansion in the availability of wraparound care from September 2024.[60]

ECC's Early Years and Childcare Strategy 2022-2027[61] sets out how ECC will help every child in Essex get the best start in life. It explains the vision for children and families across the county and outlines how ECC will support early years providers and partners.

The cost per place for Early Years and Childcare places is set out in Section 5.1 of the ECC Developers Guide to Infrastructure Contributions (Revised 2023)[62]. The revised costs are:

- Early Years and Childcare new facility cost per place: £23,912.
- Early Years and Childcare Expansion of existing facility cost per place: £19,425.

In order to mitigate the impact of proposed developments of 20 or more dwellings, as set out in Section 5.1 of the ECC Developers Guide to Infrastructure Contribution, both financial and non-financial contributions are required:

- financial contributions are based on the child yield factor per dwelling (0.045 per qualifying flat and 0.09 per qualifying house) multiplied by the cost per child place.
- Land for a new facility will in most cases be provided by the developer to ECC at a cost of £1, as 'consideration' must be given to form a legal contract of sale.

Proposals for smaller developments will be exempt unless their co-location with other sites necessitates a holistic look at their cumulative impact on the demand for child places. Developer contributions are only required where there is a current or forecast lack of provision in the immediate area of the proposed development, primarily the same ward, as advised by the ECC EYCC Team. ECC's preferred approach is to provide a new 56 place nursery co-located with a new two form entry primary school where there is such demand. Alternatively, provision can be provided through stand alone 30 or 56 place nurseries or a 26 place pre-school.

Current Levels of Provision

The Essex Childcare Sufficiency Assessment Summary (Summer 2022)[63] states that providers in Chelmsford are predominantly made up of childminders (44.8%), followed by day nurseries (16.7%) and pre-schools (15.9%). The ratio of funded providers to non-funded providers (59.8%) is lower than the county average (64.0%). Essex has two maintained nursey schools in the County, both located in Chelmsford:

- Woodcroft Nursery School, Great Baddow, Chelmsford

[60] Source: https://educationhub.blog.gov.uk/2023/07/07/free-childcare-how-we-tackling-the-cost-of-childcare/

[61] Available at: https://www.essex.gov.uk/sites/default/files/migration_data/files/assets.ctfassets.net/knkzaf64jx5x/5Aa3IyCt1f9bFFXI0Kl4M1/cfb527368b3644748a1f8952a1edb03a/Early-Years-and-Childcare-Strategy.pdf

[62] Available at: https://www.essex.gov.uk/sites/default/files/2023-12/Developers%20Guide%20to%20infrastructure%20contributions%20-%20December%202023.pdf

[63] Available at: https://www.essex.gov.uk/sites/default/files/2023-08/Childcare%20Sufficiency%20Assessment%20-%20Summer%202022.pdf

- Tanglewood Nursery School, Chelmsford.

In terms of capacity within Chelmsford, 12.9% of all maximum places are available, which is lower than the Essex rate of 17.9%. Although there is some spare capacity in Chelmsford, this should be considered in the context of the Government's extended childcare scheme which is likely to increase demand for places in the next few years.

In terms of population projections, on a County-wide basis the document states that ONS have projected that between 2021 and 2040, the number of 0–4-year-olds is projected to significantly increase by 4.4% to 88,607 young children. Between 2021 and 2024, the number of 5–9-year-olds is projected to decrease -3.0%. The population of 10–14-year-olds is projected to increase by 0.5% increase between 2021 and 2040.

In relation to new facilities, Strategic Growth Site Policy 7a (Great Leighs) in the adopted Local Plan includes provision for a new co-located primary school and nursery (2.1 ha). Furthermore, a new 56 place nursery is being delivered as part of Strategic Growth Site Policy 8 (North of Broomfield).[64]

Implications for Future Growth

The provision of early years education/care is typically bespoke and lifestyle-oriented – some residents may require early years provision close to home, whereas others may prefer having such provision close to their workplace. It is also of a much smaller scale than other forms of education provision. However given the Government's plans to extend free childcare to support more parents returning to work (both across more age groups and through increased hours), early years provision is being recognised as having increasing importance. In addition, early years provision is often integrated with primary school provision and therefore need to be planned together. As such, the existence (or lack) of early years provision within an area could be a factor in determining the quantum of growth that can be accommodated within it.

As the IDP progresses, it will therefore be necessary to ensure that service demands arising from new development are met. This could be provided either through the expansion of existing facilities, or entire new facilities. This will need to be considered in the context of the Government's extended childcare schemes and the resultant increased demand for places.

D.1.3 Primary and Secondary Education

Policy and Context

ECC has statutory duty to secure a sufficient supply of school places in buildings that are fit for purpose and located in a suitable area. CCC also has a role to play in that process, with Paragraph 95 of the NPPF requiring local authorities to take a proactive, positive and collaborative approach in meeting education requirements – and allowing development that will widen choice in education. The NPPF expects local authorities to give great weight in decision making, to create, expand or alter schools – and of relevance to this Infrastructure Delivery Plan, to "*work with school promoters, delivery partners and statutory bodies to identify and resolve key planning issues before applications are submitted*".

Other recent legislation, notably the Academies Act 2010, has reflected the Government's desire to develop a more diverse and more locally accountable school system, supported by a wider range of providers than in the past – particularly academy trusts and other organisational sponsors. Academies and free schools operate under a contract with the Secretary of State for Education, rather than being directly maintained and overseen by the local authority. Since the introduction of the Academies Act, a number of schools in the district have converted to academies.

[64] Outline planning permission (subject to S106 and link road) was approved for this site in August 2022 for up to 512 homes and 0.13 hectares of land for a stand-alone 56 place early years nursery and developer contributions.

In its role as local education authority, ECC produce forecasts every summer term to assess the demand for school places in local areas across the county. The forecasts are based on:

- How many primary school pupils are moving on to secondary schools;
- Any trends which have formed over the past few years; and
- Any known committed housing developments.

ECC published their '10 Year Plan: Meeting the demand for mainstream school places in Essex 2023-2032'[65] in January 2023 which sets out:

- The demand for mainstream school places in the next 10 years (from academic year 2023/24 to academic year 2032/33) for each of the pupil place planning areas.
- Solutions already in the pipeline that will meet the forecast demand for school places.
- Potential options to address medium to long term forecast demand for school places.
- The context in which the Essex School Organisation Service operates to ensure there are sufficient school places. The Plan notes that across Essex, there has been an increase of 637 primary and 1,755 secondary pupils since May 2021 and this increase in demand for school places in Essex is predicted to continue.

For the purposes of planning school places, ECC organise schools by quadrants, districts and planning groups. Chelmsford is included within the 'Mid Essex' quadrant, alongside Braintree and Maldon. Planning groups are groups of schools, defined by geography and admission patterns, wherein a sufficiency of places across the group will generally ensure every child can access a local school place, even if some schools are oversubscribed. Planning groups provide the basis for the annual SCAP (School capacity survey) return, which determines the level of 'Basic Need' funding ECC is allocated.

ECC's 'Local and Neighbourhood Planners' Guide to School Organisation'[66] document sets out ECC's demand forecast per dwelling, as set out in Table D1 below. This notes that when considering new primary school sites, an area of 2.1ha will usually be sought as a minimum in order to establish a two-form entry primary school (420 places) both to ensure financial viability and to provide space for commensurate early years and childcare provision. Using the factor of 0.3 primary school pupils per house, around 700 new or existing houses would equate to demand for 210 primary school places, which is one form of entry. However, two form entry primary schools (420 places) are more financially viable and smaller new schools are unlikely to gain ECC and DfE support. In relation to secondary schools, the document notes that larger schools are preferable and therefore ECC will look to establish a new secondary school only where demand for six forms of entry has been established (from approximately 4,500 new or existing houses).

Table D1. ECC's demand forecast per dwelling

Age	House	Flat	Discounted Unit
Primary	0.3	0.15	0
Secondary	0.2	0.1	0

[65] Available at: https://www.essex.gov.uk/sites/default/files/migration_data/files/assets.ctfassets.net/knkzaf64jx5x/5ChkxQBsJ08ZWapW7Q7a36/b1883b28c45b761dfdbe3c4947d132ef/10_Year_Plan_2023-2032.pdf

[66] Available at: https://beta.essex.gov.uk/sites/default/files/migration_data/files/assets.ctfassets.net/knkzaf64jx5x/64wpmMGfhiSgaDs7bc2f2B/95972b3171202201d57a514ed2501318/ECC_Local_and_Neighbourhood_Planners_Guide_to_School_Organisation.pdf

In relation to large housing allocations and new settlements, ECC's 'Garden Communities and Planning School Places Guide'[67] sets out the approach to delivering new schools and ensuring there are sufficient pupil places.

Current Levels of Provision

Figure D1 shows the geographical distribution of the existing primary schools in Chelmsford, excluding independent (private) schools.

[67] Available at: https://beta.essex.gov.uk/sites/default/files/migration_data/files/assets.ctfassets.net/knkzaf64jx5x/7iszxZwkA9GUxU0MDMm5vM/6b2d38458f0270eb03b631a21932f283/Garden-Communities-and-Planning-School-Places-Guide.pdf

Figure D1. Primary schools across the district

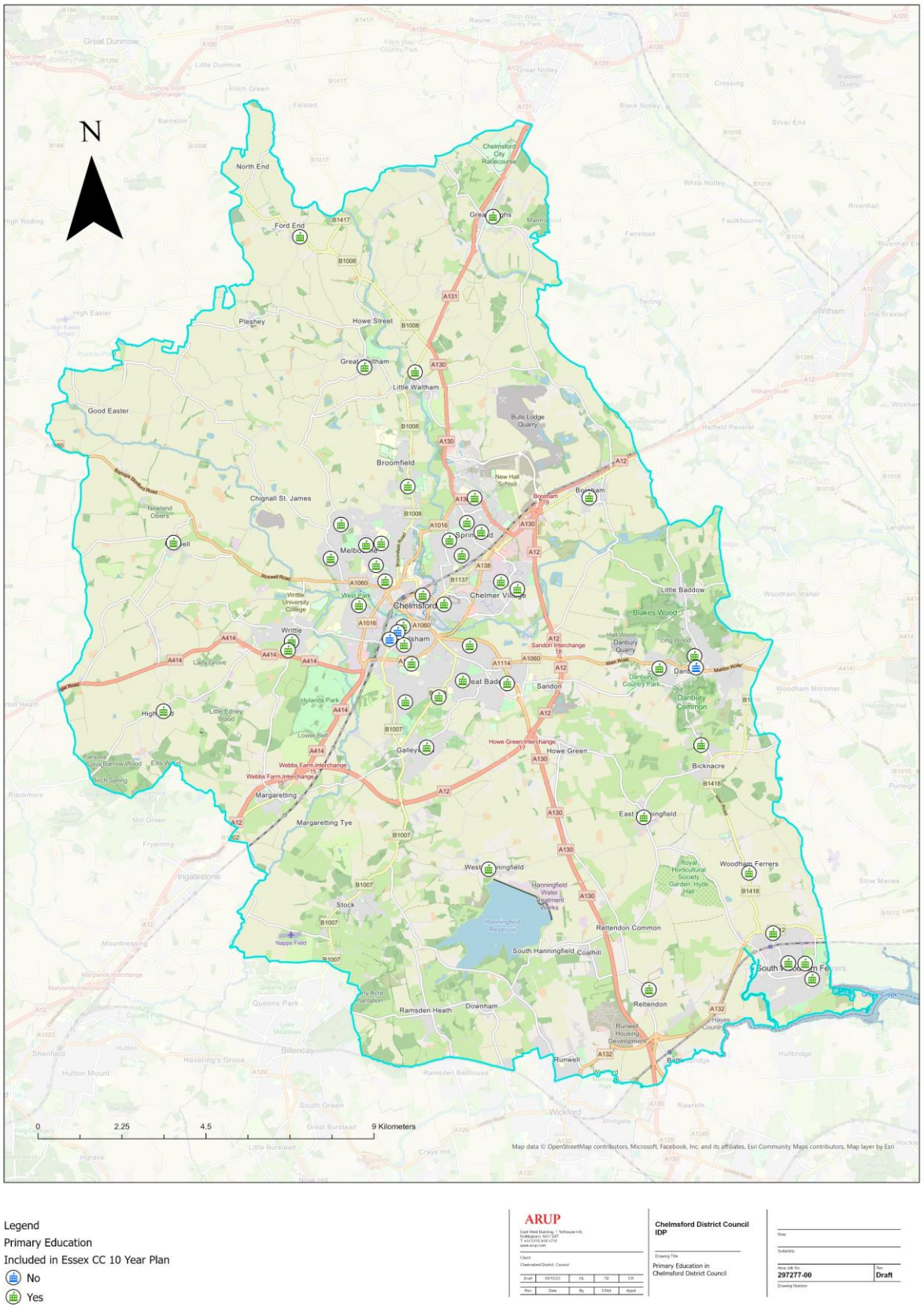


Figure D2 shows the geographical distribution of the existing secondary schools in Chelmsford, excluding independent (private) schools.

Figure D2. Secondary schools across the district

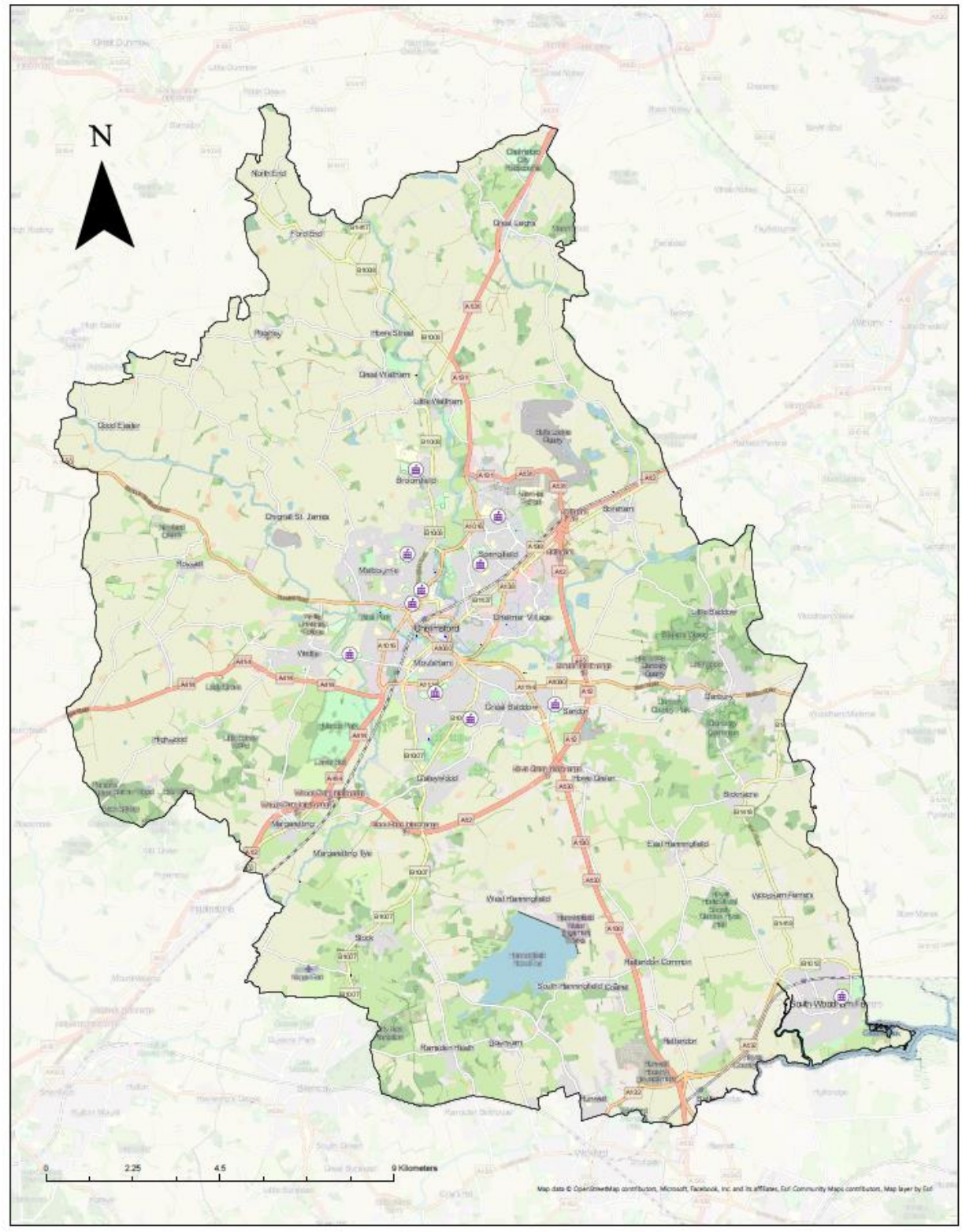


Table D2 below sets out the project pipeline for primary and secondary schools which ECC is considering to mitigate any forecast need for additional school places.

Table D2. ECC Project pipeline for primary and secondary schools

	School Planning Groups	Existing School or New School	Year of Implementation	Description	Places[68]
Primary Schools	Broomfield/Chelmsford Rural North	New Primary School	2026/27	Two form entry primary school	60/420
	Chelmsford Central	Trinity Road Primary	2024/25	Half form entry expansion	15/105
	Springfield	Beaulieu Park School	2024/25	Two form entry expansion	60/240
Secondary Schools	Woodham/Burnham (Chelmsford and Maldon)	Ormiston Rivers	2022/23	One form entry expansion	30/150
		William De Ferrers	2023/24	Increasing places within existing accommodation	30/0

Source: ECC, '10 Year Plan: Meeting the demand for mainstream school places in Essex 2023-2032' (January 2023)[69]

It is noted that Beaulieu Park Secondary School does not have any expansion plans in the pipeline however it was built with additional capacity to enable it to expand when required (as the Beaulieu housing development grows and local demand increases).

The Woodham/Burnham Secondary School Planning Group includes Ormiston Rivers Academy (which is in the district of Maldon) and William de Ferrers School in South Woodham Ferrers. A one form entry (approx. 750 homes) expansion project at Ormiston Rivers was completed in 2022/23. William de Ferrers School will increase its admission number by 30 places within its existing accommodation in 2023/24.

Implications for Future Growth

The existence (or lack) of school provision within an area is likely to be a key factor in determining the quantum of growth that can be accommodated within it. Where capacity is constrained, consideration would be given to the potential to expand schools or the potential to deliver new schools within planned development sites in determining the quantum of growth that would be sustainable at a given location. The identification of an appropriate strategy to meet educational needs arising as a result of new development will play a key role in supporting the overall development strategy for the Local Plan Review.

The Council will need to take into account the availability of school places and, in the absence of sufficient capacity, the feasibility and viability of expanding provision or constructing new schools and the need for school transport provision. Wider issues such as the quality of the local environment around a school and access by safe direct walking and cycling routes will also need to be considered.

It is not always the case that a good location for additional housing in terms of primary school places is also a good location in terms of secondary school provision. A common issue for smaller villages is the lack of a secondary school within a reasonable distance, namely two miles for children under the age of eight and three miles for older children via a safe route. ECC must bear the long-term revenue cost of school transport and will not therefore support developments that are unsustainable in school transport terms.

Land should be safeguarded for education as early in the planning process as possible, ensuring that education land required to serve development is provided (freehold) at the appropriate time

[68] The first number refers to the number of places created and the second number refers to the total capacity across all year groups.

[69] Available at: https://www.essex.gov.uk/sites/default/files/migration_data/files/assets.ctfassets.net/knkzaf64jx5x/5ChkxQBsJ08ZWapW7Q7a36/b1883b28c45b761dfdbe3c4947d132ef/10_Year_Plan_2023-2032.pdf

and at no cost to the local authority. Additional land may be safeguarded to allow for anticipated future expansion or the reconfiguration of schools to create a single site.

Where an onsite school is required, it should be large enough to meet the need generated by the development, based on standard class sizes and forms of entry. ECC preferred sizes for new schools are as follows and consistent with advice from DfE namely;

- approximately 1,400 new homes or a mixed development approaching 2,000 homes would require a new primary school of 420 places (two forms of entry) co-located with a 56 place nursery on 2.1ha of suitable land. ECC would only provide a 1 or 3 form entry school in exceptional circumstances.
- approximately 4,500-5,000 new or existing homes would require a new secondary school of six forms of entry (around 900 pupils) on around 7ha of suitable land. ECC considers this size of school will offer a wider curriculum to the community (including sixth form), is more cost effective to build on a per place basis, and is more resilient to fluctuations in demand that could challenge financial viability. DfE will only enter into a funding agreement for a new presumption free school where it can be demonstrated that the school will be financially viable in its initial years as it builds up to capacity, and once operating at a steady state.

Where capacity is constrained and the level of growth will require the expansion of existing schools, development will be expected to fund these plans fully or on a proportionate basis alongside other relevant sites. There may be circumstances where expansion is not possible due to existing land constraints or proximity to the Green Belt, and in these circumstances alternative locations for growth may need to be identified.

Appendix E

Primary Healthcare

E.1 Primary Healthcare

E.1.1 Overview

This section sets out the baseline analysis relating to primary healthcare.

As this stage of the IDP focuses on the infrastructure types which are linked to the location of growth or could affect the location of growth, the baseline infrastructure capacity position for secondary healthcare, social and care services, ambulance services, police service and fire service have not been included in this report, however these infrastructure types will be included in the next stage as part of the full draft IDP.

E.1.2 Primary Healthcare

Policy and Context

Primary healthcare encompasses all day-to-day healthcare and is generally the first port of call for an individual's healthcare needs. It principally encompasses GP and nurse provision at health surgeries. Primary healthcare provision also includes other frontline services such as pharmacists, opticians and dentists – however, because these are provided on a commercial basis in response to demand they are not covered within this IDP.

Chelmsford is served by the Mid and South Essex Integrated Care System (ICS) which provides health and social care to 1.2 million residents across Braintree, Maldon, Chelmsford, Castle Point, Rochford, Southend, Thurrock, Basildon and Brentwood. The ICS was established on 1 July 2022 as a result of the Health and Care Act 2022, replacing the five Clinical Commissioning Groups (CCGs) which previously covered Mid and South Essex.

The ICS is made up of two main committees:

- Mid and South Essex Integrated Care Board (ICB): A statutory NHS organisation responsible for developing a plan to meet the health needs of the population, managing the NHS budget, and arranging for the provision of health services in Mid and South Essex. The establishment of the ICB resulted in the CCGs being closed. NHS England is responsible for supporting the development of the ICB and ensuring that they are fit for purpose.
- Mid and South Essex Integrated Care Partnership (ICP): A statutory committee jointly formed between the ICB and the upper-tier local authorities. The ICP brings together a broad alliance of partners concerned with improving the care, health, and wellbeing of the population, with membership determined locally. The ICP is responsible for producing an Integrated Care Strategy on how to meet the health and wellbeing needs of the population in Mid and South Essex.

The ICS also includes the following organisations:

- The three upper tier local authorities (Essex County Council, Southend-on-Sea City Council and Thurrock Council);
- The seven district Councils (Basildon Borough Council, Braintree District Council, Brentwood Borough Council, Castle Point Borough Council, Chelmsford City Council, and Maldon District Council);
- One acute hospital provider (Mid and South Essex NHS Foundation Trust);
- Mid and South Essex Community Collaborative (Essex Partnership University NHS Foundation Trust, North East London NHS Foundation Trust, and Provide);
- One ambulance service provider (East of England Ambulance Service NHS Foundation Trust);

- Primary care (27 Primary Care Networks covering 180 GP Practices);
- Three local independent watchdog bodies (Healthwatch Essex, Healthwatch Southend, and Healthwatch Thurrock);
- Nine community voluntary services (Basildon, Billericay and Wickford CVS; Brentwood CVS; Castle Point Association of Voluntary Services; Chelmsford CVS; Community 360 (covering Braintree); Maldon and District CVS; Rayleigh, Rochford and District Association for Voluntary Services; South Association of Voluntary Services; and Thurrock CVS); and
- Other partners (Essex Police, Essex County Fire and Rescue Service, parish and town councils, local medical committee, local university and colleges, and community and faith organisations).

The Mid and South Essex ICP published the Integrated Care Strategy 2023-2033[70] in March 2023. This sets out a shared vision for health and care over the next ten years including shared priorities and the direction of travel. The strategy reflects the findings of the upper tier local authorities' Joint Strategic Needs Assessment and aligns with their Joint Health and Wellbeing Strategies.

In addition, the Mid and South Essex ICS Quality Strategy (April 2021-2024)[71] sets out the three-year strategic plan for quality in mid and south Essex. The strategy is accompanied by an annual implementation plan.[72]

As an upper tier local authority, ECC has a responsibility for public health and wellbeing, to achieve lifestyle enhancements and behavioural change within the local community.

The Essex Joint Strategic Needs Assessment 2022[73] sets out an evidence base to inform decisions on health and wellbeing priorities across the county. It is an ongoing, iterative process presented as a suite of resources which is updated regularly as new analysis and insight becomes available. provides an overview of the health hand wellbeing needs across Essex.

The Essex Joint Health and Wellbeing Strategy 2022-2026[74] sets out how ECC, alongside its partners, aims to improve the health and wellbeing outcomes for people of all ages. The strategy identifies five strategic priorities:

1. Improving mental health and wellbeing
2. Physical activity and healthy weight
3. Supporting long-term independence
4. Alcohol and substance misuse
5. Health inequalities and the wider determinants of health.

[70] Available at: https://www.midandsouthessex.ics.nhs.uk/content/uploads/2022/12/Integrated-Care-Strategy-2022-2033-30_3_23.pdf

[71] Available at: https://www.midandsouthessex.ics.nhs.uk/wp-content/uploads/2022/08/Mid-and-South-Essex-ICS-Quality-Strategy-April-2021-2024-1.pdf

[72] Available at: https://www.midandsouthessex.ics.nhs.uk/wp-content/uploads/2022/08/Mid-and-South-Essex-ICS-Quality-Strategy-Implementation-Plan-Full-year-2022-2023-2.pdf

[73] Available at: https://data.essex.gov.uk/explore-jsna-data/

[74] Available at: https://www.essex.gov.uk/sites/default/files/migration_data/files/assets.ctfassets.net/knkzaf64jx5x/dW4ULQt3z0drmsJ44BkPT/4e1087574de56130bf7c82374758b5d5/Essex-joint-health-and-wellbeing-strategy-2022-2026.pdf

Current Levels of Provision

The Mid and South Essex ICB Annual Report[75] published in June 2023 and the last Annual Report for Mid Essex CCG 2022/23[76] published in June 2022 provides the most up-to-date information regarding the performance of Chelmsford's health and social care system and improvements needed to the local health service.

Mid and South Essex ICB covers an area with 27 Primary Care Networks (PCN) covering 180 GP Practices. The Mid and South Essex ICB Annual Report states that for the population size, the Mid and South Essex ICB has far fewer GPs than other ICBs. There are also additional challenges in Mid and South Essex due to areas of high deprivation and where health outcomes are well below the national average. The Annual Report states that an estimated 133,000 people live in the 20% most deprived areas nationally, this is 10.5% of the whole mid and south Essex population.

As detailed in the Mid Essex CCG Annual Report 2022/23, the CCG previously covered the communities of Chelmsford, Braintree and Maldon district. The CCG included 39 member GP practices serving a registered population of 405,344 patients as of 1 April 2022. The practices were formed into nine PCNs across mid Essex from 1 July 2019. Of these nine PCNs, three cover Chelmsford, two cover Maldon and Chelmsford and one covers Braintree and Chelmsford. The geographies in which the PCNs operate do not align with local authority boundaries. Table E1 below sets out the PCNs which cover Chelmsford.

Table E1. PCNs covering Chelmsford within Mid Essex CCG

Primary Care Network	Number of Practices	Registered Patient Population as at 1 April 2022
Aegros	3	37,514
Chelmer	4	40,504
Chelmsford City	4	42,451
Chelmsford West	3	41,082
Dengie and South Woodham Ferrers	7	48,951

Source: Mid Essex CCG Annual Report 2022/23 and engagement with Mid and South Essex ICB

PCNs are expected to deliver services at scale for their registered population, whilst working collaboratively with acute, community, voluntary and social care services in order to ensure an integrated approach to patient care. This is placing increasing pressure and demand on local GP practices as more services are brought out of a secondary healthcare setting and into the community. This means that, even where some capacity exists in existing surgeries, it is likely to be taken up as a result of these shifts.

Table E2 below sets out the PCNs and associated GP practices which serve Chelmsford, and which were members of Mid Essex CCG as of 30 June 2022. This reflects the geographies and catchments in which the PCNs and GP practices operate, which do not align with local authority boundaries. Figure E1 below shows the locations of these GP practices.

Table E2. PCNs and associated GP practices serving Chelmsford

Primary Care Network	Practice	Area Served

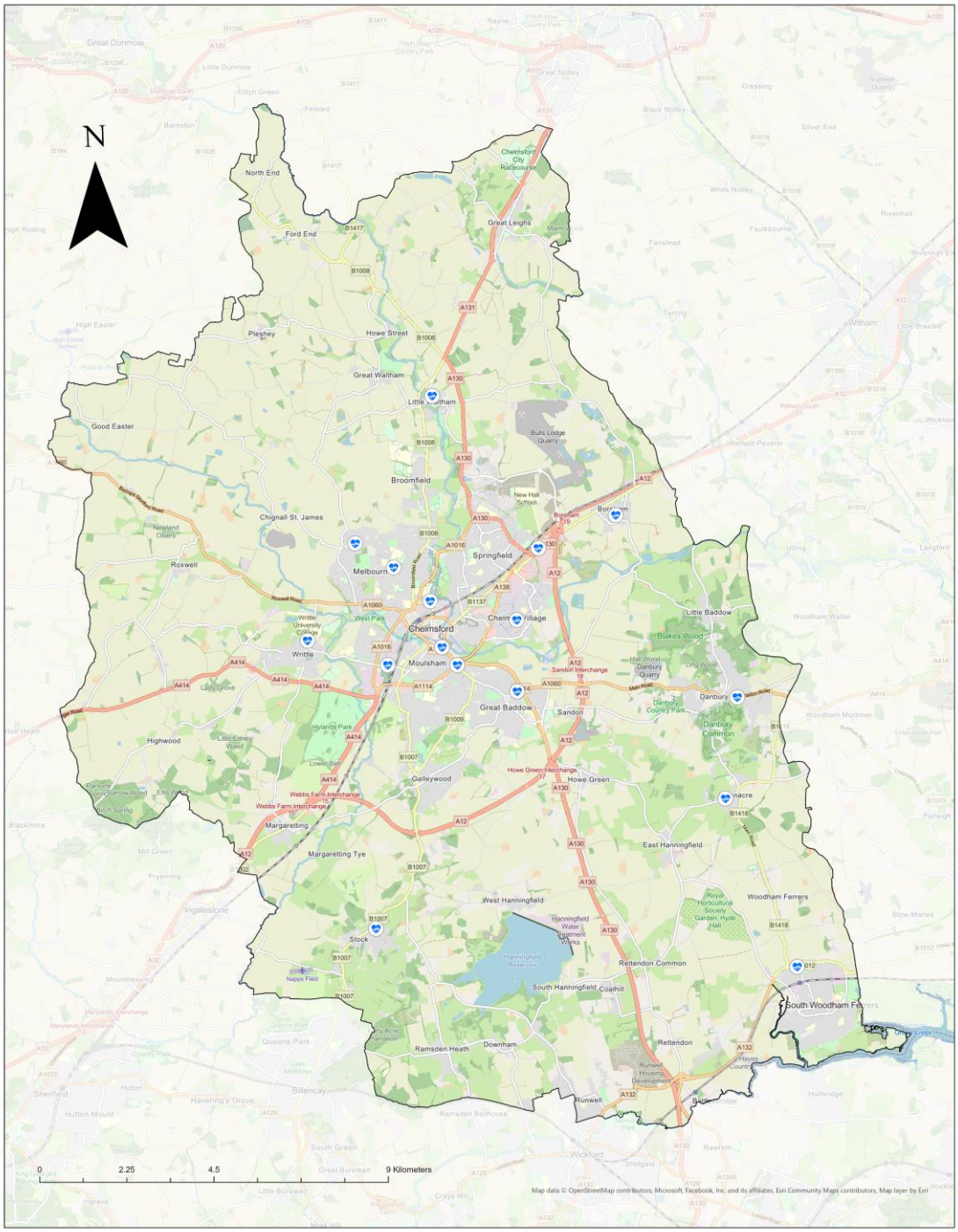
[75] Available at: https://www.midandsouthessex.ics.nhs.uk/content/uploads/2023/07/ICB-Annual-Report-and-Accounts-2022-23.pdf

[76] Available at: https://www.midandsouthessex.ics.nhs.uk/content/uploads/2023/07/Mid-Essex-CCG-Annual-Report-And-Accounts-Qtr-1-Apr-Jun-2022-23.pdf

Aegros	Beacon Health Group	Chelmsford and Danbury
	Little Waltham and Great Notley Surgeries	Little Waltham and Great Notley
	Sidney House & The Laurels Surgeries	Hatfield Peverel, Boreham
Chelmer	Chelmer Village Surgery	Chelmer
	North Chelmsford Healthcare Centre	Chelmsford
	Rivermead Gate Medical Centre	Chelmsford
	Sutherland Lodge Surgery	Chelmsford
Chelmsford City Health	Baddow Village Surgery	Great Baddow
	Beauchamp House Surgery	Chelmsford
	Stock Surgery	Stock
	Whiteley House Surgery	Chelmsford
Chelmsford West	Chelmer Medical Partnership	Western Chelmsford
	Dickens Place Surgery	Western Chelmsford
	Writtle Surgery	Writtle
Dengie and South Woodham Ferrers	Greenwood Surgery	South Woodham Ferrers
	Kingsway Surgery	South Woodham Ferrers
	Wyncroft Surgery	Bicknacre, East Hanningfield

Source: Mid Essex CCG Annual Report 2022/23 and engagement with Mid and South Essex ICB

Figure E1. GP practices serving Chelmsford



There are no nationally mandated standards by which the capacities of GP practices are measured. In terms of planning standards (i.e. how GP provision is determined), the Mid and South Essex ICB uses the following metrics to determine GP provision:

- Additional Population Growth (based on dwellings): Calculated using the (relevant District's) average household size of 2.4 taken from the 2011 Census: Rooms, bedrooms and central heating, local authorities in England and Wales (rounded to the nearest whole number).
- Additional floorspace required to meet growth (m²): Based on 120m² per 1750 patients (this is considered the current optimal list size for a single GP within the Mid & South Essex

STP). Space requirement aligned to Department of Health guidance within 'Health Building Note 11-01: facilities for Primary and Community Care Services'.

- Capital required to create additional floor space (£): Based on BCIS cost multiplier (£3,015) for new build and extensions to health centres and hospitals.[77]

Table E3 below sets out the capacity of the GP surgeries serving Chelmsford within each of the PCNs. This is based on the weighted list size and the existing and required net internal area occupied by the surgery. All of the PCNs are operating over capacity with the most significant shortfall being in Chelmsford West, followed by Chelmer. Only two of the seventeen GP surgeries serving Chelmsford currently have spare capacity – The Laurels Surgery (Aegros Health PCN) and Rivermead Gate Medical Centre (Chelmer PCN).

Table E3. GP Registered Patient Capacity in Chelmsford

	Surgery Name	PCN	Weighted Patients[78] (Jan 2023)	Net Internal Area[79] (NIA) m²	NIA Needed[80] (m²)	Capacity[81] (m²)
1	Beacon Health Group	Aegros Health	22,906	1,531	1,571	-40
2	Little Waltham & Gt Notley Surgery - Little Waltham	Aegros Health	17,636	852	1,209	-357
3	The Laurels Surgery	Aegros Health	10,155	776	696	80
		Aegros Health Sub-total	**50,697**	**3,159**	**3,476**	**-317**
1	Chelmer Village Surgery	Chelmer	3,907	165	268	-103
2	North Chelmsford NHS HCC	Chelmer	10,224	250	701	-451
3	Rivermead Gate Medical Centre	Chelmer	12,088	914	829	85
4	Sutherland Lodge Surgery	Chelmer	8,913	520	611	-91
		Chelmer Sub-total	**35,132**	**1,849**	**2,409**	**-560**
1	Baddow Village Surgery	Chelmsford City Health	11,964	808	820	-12
2	Beauchamp House	Chelmsford City Health	11,184	539	767	-228
3	Stock Surgery	Chelmsford City Health	4,738	292	325	-33
4	Whitley House Surgery	Chelmsford City Health	12,705	843	871	-28

[77] This uses gross internal floor area to calculate building costs. It has been rebased for Essex and rounded to the nearest £100.

[78] The weighted list size of a GP practice is based on the Carr-Hill formula; this figure more accurately reflects the need of a practice in terms of resource and space and may be slightly lower or higher than the actual patient list.

[79] This is the current Net Internal Area occupied by the Practice.

[80] This is the capacity needed for the current weighted list size and is based on 120m² per 1750 patients (this is considered the current optimal list size for a single GP within the Mid and South Essex STP). The space requirement is aligned to Department of Health guidance within 'Health Building Note 11-01: facilities for Primary and Community Care Services.'

[81] This is the spare capacity (NIA m²) based on the existing weighted list size.

	Chelmsford City Health Sub-total		**40,591**	**2,482**	**2,783**	**-301**
1	Chelmer Medical Partnership	Chelmsford West	26,767	1,382	1,835	-453
2	Dickens Place Surgery	Chelmsford West	4,651	242	319	-77
3	The Writtle Surgery	Chelmsford West	7,891	320	541	-221
	Chelmsford West Sub-total		**39,309**	**1,944**	**2,695**	**-751**
1	Greenwood Surgery	Dengie and South Woodham Ferrers	6,201	399	425	-26
2	Kingsway Surgery	Dengie and South Woodham Ferrers	11,734	798	805	-7
3	Wyncroft Surgery	Dengie and South Woodham Ferrers	2,681	140	184	-44
	Dengie and South Woodham Ferrers Sub-total		**20,616**	**1,337**	**1,414**	**-77**
	CHELMSFORD TOTAL		**186,345**	**10,771**	**12,777**	**-2,006**

Source: Information obtained through stakeholder engagement with Mid and South Essex ICB.

Implications for Future Growth

The existence (or lack) of primary healthcare is considered to be a factor which should determine the suitability of an area for growth, and the quantum of growth which can be accommodated, without significant investment in additional capacity. The ICB uses the metric of 120m² per 1750 patients to calculate the additional floorspace (m²) required to meet growth.

Data provided by the ICB confirms that all of the PCNs serving Chelmsford are operating over capacity with the most significant shortfall being in Chelmsford West, followed by Chelmer. Only two of the seventeen GP surgeries serving Chelmsford currently have spare capacity – The Laurels Surgery and Rivermead Gate Medical Centre. As such, additional primary healthcare provision is likely to be required relative to the level of growth. This is likely to be a combination of expansion of existing facilities and new facilities providing primary, community and acute services for the planned population. Engagement with the ICB confirmed that approximately 4,000 new homes would trigger the need for a new GP surgery.

The ICB emphasised that whatever the location of development, affordable and active transport options are essential to link existing and new residents to health and wellbeing infrastructure. In addition, it will be important for Local Plan policies to be positive about development that supports the delivery of healthcare services for the resident of Chelmsford.