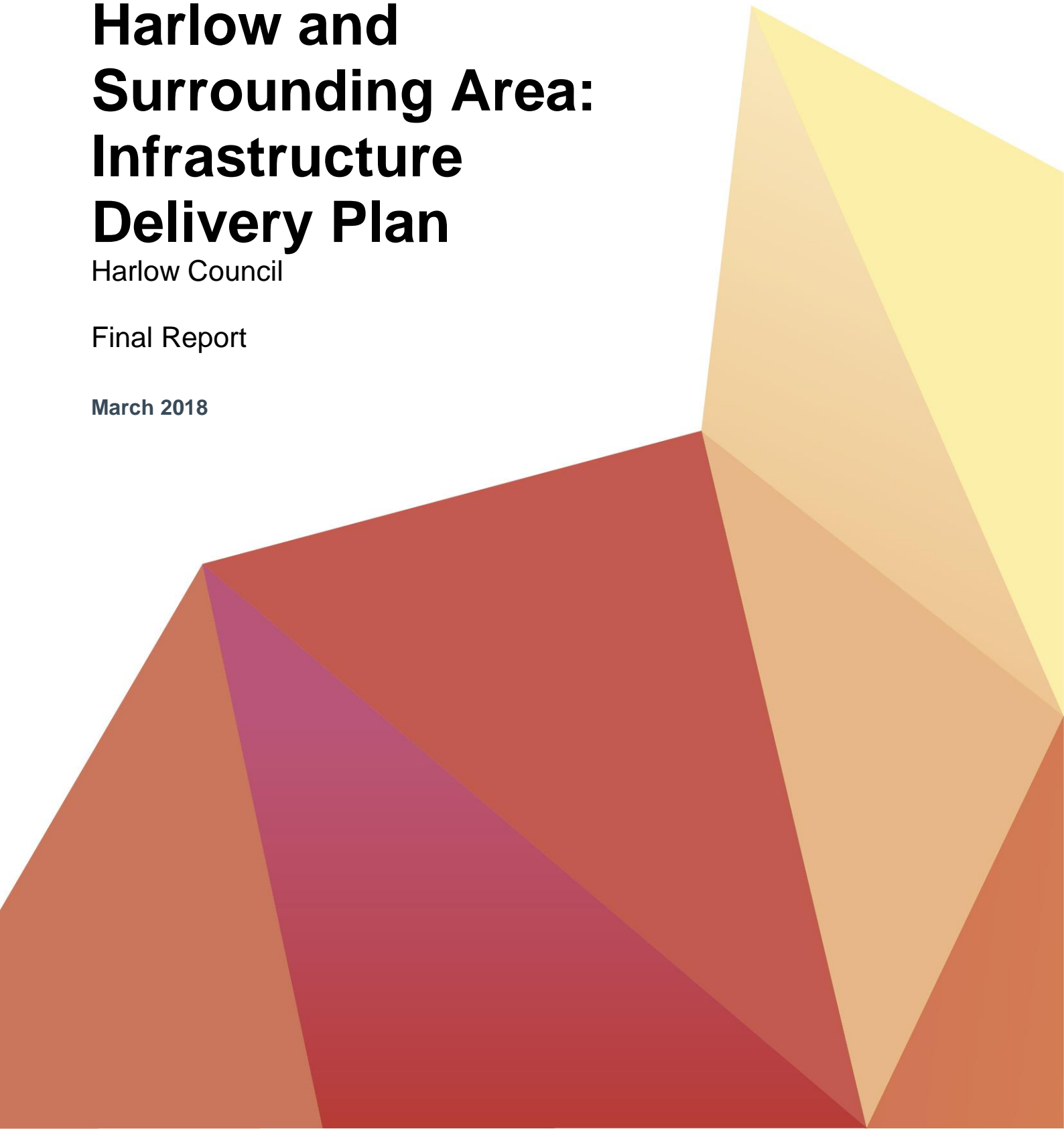


Delivery Study for Harlow and Surrounding Area: Infrastructure Delivery Plan

Harlow Council

Final Report

March 2018



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Executive summary

Introduction

This report is an Infrastructure Delivery Plan (IDP) for Harlow. It provides information on existing and future infrastructure requirements that will help to support future housing and employment growth in and around Harlow in the period 2017 - 2033. The IDP is part of the evidence base that will support the evolving Harlow Local Plan.

The Harlow IDP is one element of a wider piece of work entitled: 'Delivery Study for Harlow and Surrounding Area' (hereafter 'Delivery Study'). The other element of the Delivery Study is a Viability assessment.

The Harlow IDP focusses specifically on the infrastructure requirements associated with the Harlow area and the housing development identified in the Harlow Local Plan. Harlow forms part of the Harlow and Gilston Garden Town which along with the housing sites in Harlow, includes several strategic housing sites located on the periphery of Harlow in East Hertfordshire and Epping. In total the Harlow and Gilston Garden Town will be delivering over 16,000 dwellings. Due to the proximity of the strategic sites to Harlow and the relationship these sites have with infrastructure provision in Harlow, this IDP has considered the potential infrastructure requirements these strategic sites will generate, working with the neighbouring authorities of East Hertfordshire and Epping taking into consideration their IDPs.

Context and Study Objectives

Harlow is located on the borders of Essex and Hertfordshire and has a population of 86,000. Significant growth is projected to occur in the next twenty years or so with an expected population increase of around 15% by 2033. Harlow forms part of the Harlow and Gilston Garden Town which will be delivering over 16,000 homes to 2033 both within Harlow and through strategic housing sites located in East Hertfordshire and Epping. The IDP will be an important piece of evidence to help the relevant Councils and bodies understand the infrastructure required to underpin this significant future growth.

The key study objectives are as follows:

- To identify the infrastructure requirements for the existing and proposed developments within and around Harlow to support development of the Local Plan.
- To provide clarity and direction over future investment and infrastructure needs to support Harlow and the wider area's future growth. Infrastructure requirements are prioritised and grouped to assist investment and decision making.
- The IDP, and the process to produce it, will help to facilitate partnership working with infrastructure providers and neighbouring local authorities regarding infrastructure provision and delivery and supporting the Council's requirement to meet the Duty to Cooperate.
- To help Harlow Council to align their policy and strategy streams with future infrastructure requirements to enable better delivery.
- To support, where appropriate the preparation of a Viability Study, supporting the Council's emerging Local Plan.
- To provide robust and transparent evidence to support the identification and negotiation of developer contributions (s106) and for economic viability and levels of a possible introduction of a Community Infrastructure Levy (CIL).

Study Approach

The Harlow IDP complies with the National Planning Policy Framework (NPPF) and Planning Policy Guidance (PPG). The key study steps are as follows:

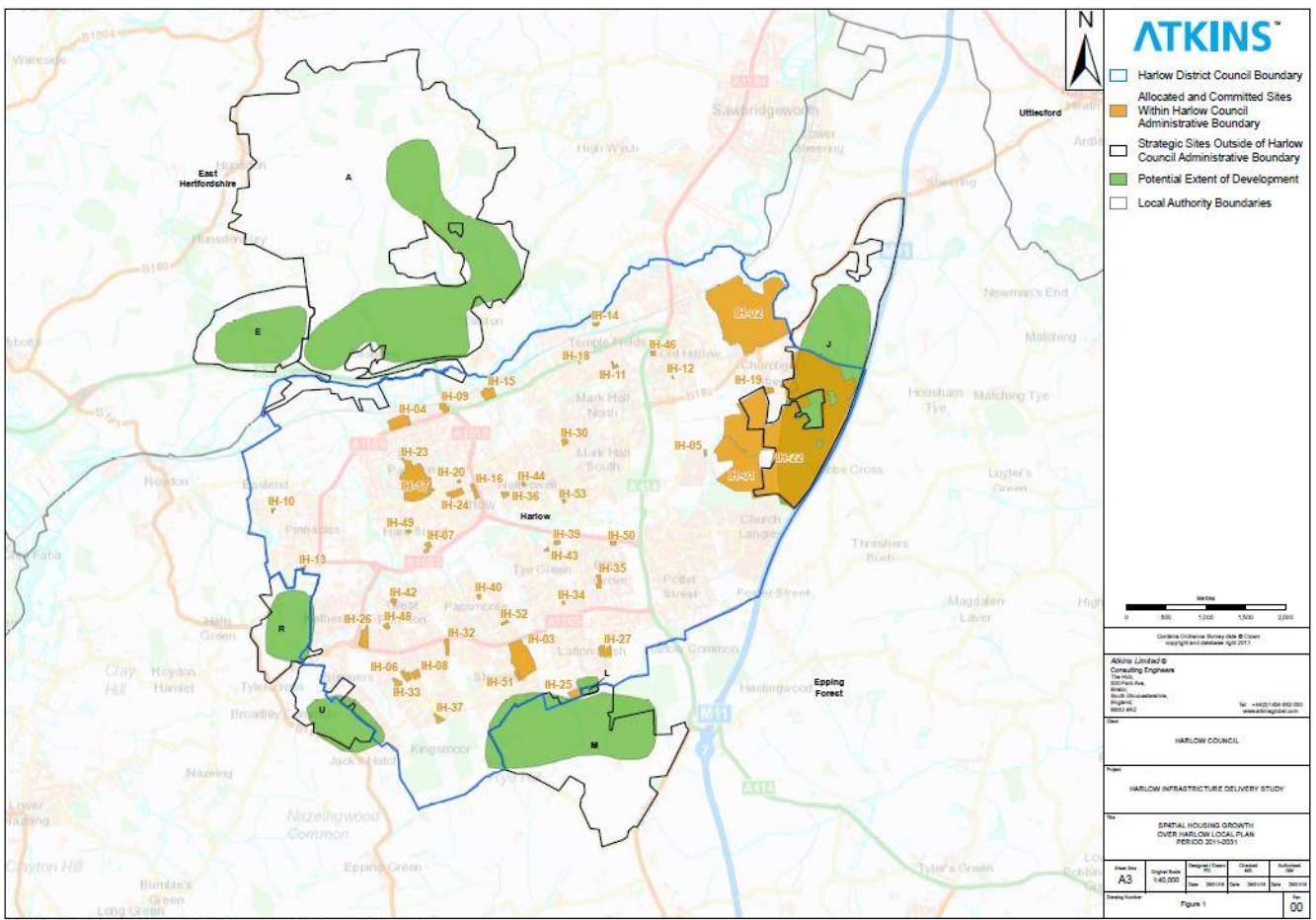
- **Step 1** – Assess the context and establish levels of growth
- **Step 2** – Assessment of Future Infrastructure Requirements including infrastructure projects, their cost, prioritisation, phasing and funding
- **Step 3** – Infrastructure Provider and Stakeholder Consultation
- **Step 4** – Assessment of Funding and Delivery Options & Final Reporting

Study Area

The Harlow IDP focuses on the growth coming forward within Harlow, both on smaller sites and on a larger strategic site located to the east of the district. The sites in Harlow form part of the Harlow and Gilston Garden Town which also includes a number of strategic housing sites on the periphery of the district in East Hertfordshire and Epping. In total Harlow and Gilston Garden Town will deliver over 16,000 dwellings of which 7,000 are located on land not within the Harlow District boundary but where there may be infrastructure implications for the district. The IDP has therefore undertaken an assessment of the likely infrastructure requirements of these additional sites taking into consideration growth coming forward in Harlow and the IDPs of East Hertfordshire and Epping. The IDP has attempted to collate information for the strategic sites around Harlow however this is less detailed than the infrastructure assessment undertaken for Harlow. Further work for the Harlow and Gilston Garden Town on infrastructure provision, costings and apportionment needs to be undertaken. In summary the IDP is made up of two parts:

- **Part 1:** A detailed infrastructure delivery plan for Harlow and the development and growth planned within the town's boundary
- **Part 2:** A review of likely infrastructure requirements and cross-boundary infrastructure implications arising from strategic sites located in East Hertfordshire and Epping.

The map below shows the housing sites identified in Harlow (shaded yellow) and strategic sites located in East Hertfordshire and Epping (shaded green). Together the sites below form the Harlow and Gilston Garden Town. A full list of housing and employment sites is shown at Chapter 3.



Total Projected Development in Harlow and Gilston Garden Town 2017-2033

Total projected housing growth in the Harlow and Gilston Garden Town is shown below.

Total Units - Sites within Harlow	8,418 ¹
Total Units – Strategic Sites around Harlow	6,950
Total Units - Sites in and around Harlow	15,368
Total Employment Ha – Sites in Harlow	20 ha

Infrastructure Requirements in and around Harlow

The analysis in the study identified the following headline infrastructure requirements to enable the projected housing and employment growth in Harlow (2017-2033). A full list of infrastructure projects is shown at Appendix A and Appendix B:

Infrastructure Requirement in Harlow (2017-2033) (£millions)

Infrastructure Category	Est Cost	Committed Funding	Expected Funding	Developer Contributions	Remaining Funding Gap
Transport	192.9	28.7	102.1	15.7	46.0
Education	71.9	22.2	5.0	33.1	11.6
Health & Social Care	32.0	15.9	3.1	2.8	10.2
Emergency Services	0.0	0.0	0.0	0.0	0.0
Community, Leisure and Sports	26.1	0.0	0.0	4.5	21.5
Open Space, Green Infrastructure	2.1	0.0	0.0	0.4	1.8
Utilities, Waste and Flood Defences	36.8	9.0	20.8	6.4	0.6
Total	361.9	75.8	131.4	62.9	91.7

Source: Atkins (2017) *may not sum due to rounding

Infrastructure Requirement for Strategic Sites Outside Harlow (2017-2033) (£millions)

Infrastructure Category	Est Cost	Committed Funding	Expected Funding	Developer Contributions	Remaining Funding Gap
Transport	143.5	18.8	71.8	TBC	52.9
Education	89.8	0.0	15.8	TBC	74.0
Health & Social Care	29.2	12.8	3.7	TBC	12.7
Emergency Services	0.0	0.0	0.0	TBC	0
Community, Leisure and Sports	12.7	0.0	0.0	TBC	12.7
Open Space, Green Infrastructure	1.8	0.0	0.0	TBC	1.8
Utilities, Waste and Flood Defences	27.5	0.0	27.5	TBC	0.0
Total	304.4	31.6	107.6	TBC	154.3

Source: Atkins (2017) *may not sum due to rounding

¹ Note this figure excludes completions, which at the time the analysis was performed totalled 1,436 in Harlow. If these figures were included the total trajectory for the wider Harlow area would be 16,804.

An assumption has been made for the likely developer contributions for Harlow however it is unclear what the likely developer contributions will be for the strategic sites in East Hertfordshire and Epping. Therefore this has not been included in the table above. However it will be an important contributor towards infrastructure provision across the Harlow and Gilston Garden Town.

Infrastructure Prioritisation and Delivery

The following criteria and scoring system is used to assess the typology and relative priority of the infrastructure identified to support Harlow and its wider area's growth needs.

The potential of infrastructure to unlock development is assessed based on the following criteria and scoring:

- Essential – development cannot physically occur without the investment, so likely to be remediation, drainage and sewers, energy and highways – 3 points
- Required – to mitigate the wider impact of development (social infrastructure) – 2 points
- Important – to creating a sustainable community (landscape, public realm or higher specification for essential or required infrastructure) - 1 point

To capture an understanding of relationship between infrastructure items and their links to the sites, and therefore, the scale of housing unlocked the following three categories are assessed:

- Over 10,000 units – 4 points
- 5,000 to 10,000 units – 3 points
- 1,000 to 5,000 units – 2 points
- Less than 1,000 units – 1 point

The spatial configuration of infrastructure schemes that support the development at the following scales are assessed:

- Strategic Cross Boundary- schemes required to support the development over a larger geographical area, including the wider housing market area – 3 points
- District Wide Schemes- schemes required to cater for cumulative impact from multiple sites across the district – 2 points
- Site Specific Schemes- schemes required to directly support development in a single location – 1 point

Based on the above scoring system, infrastructure will be classified as follows:

- Red: High scoring infrastructure - critical delivery priority – 9 points and above
- Amber: Medium scoring infrastructure - important delivery priority – 6 to 8 points
- Green: Lower scoring infrastructure - less critical delivery priority - 3 to 5 points

Based on the scoring criteria described above a list of projects falling into the 'red category' have been identified. This is set out on page 12.

Conclusions and Recommendations

This study has identified the infrastructure required to support housing and employment growth in and around Harlow during the Local Plan period (2017 to 2033).

The site-specific essential infrastructure needs of the north/east Harlow sites are mainly transport and education infrastructure such as the M11 J7a (although this is outside Harlow), a new secondary school (in Epping Forest) and new primary schools. It is expected that there will be a requirement to reinforce the waste water infrastructure related to the Harlow and Gilston Garden Town, although the details on this are not yet known.

Key infrastructure items required to support Harlow and the strategic sites in East Hertfordshire and Epping are the N/S and E/W Sustainable Transport Corridors. All sites in the Harlow and Gilston Garden Town will contribute towards the sustainable transport corridors and education needs. The strategic sites including the

Harlow strategic site to the east will need to provide on-site infrastructure including education, community centre provision, green spaces and leisure provision.

The total cost of infrastructure to support growth in Harlow was estimated to be **£361.8m**. The largest component of this cost is transport infrastructure at £192.9, followed by education at £71.9. The total committed, expected and developer contribution funding was estimated to be **£270m** leaving an estimated funding gap of around **£91.7m**. This funding gap could be addressed through a variety of funding streams and mechanisms. Although the study concludes that overall the housing and employment growth is deliverable it will be necessary for the local authority and national funding agencies to be diligent, collaborative and supportive to help ensure the infrastructure funding gap can be addressed.

The study also assessed the infrastructure needs of the strategic sites in East Hertfordshire and Epping - a total of approximately 7,000 new homes. The total estimated cost and residual funding gap of the infrastructure identified was **£304.4m** and **£154.3m** respectively, excluding developer contributions which are not currently possible to estimate due a lack of information on potential viability.

The key pieces of infrastructure to enable growth to occur in the Harlow and Gilston Garden Town are major transport infrastructure such as the M11 Junction 7 improvements, River Stort Crossings and new Secondary Schools in the Strategic Site East of Harlow (in Epping), Gilston and Latton Priory. Also, it is expected that the Princess Alexandra Hospital will move to a new location outside Harlow and this will generate some additional infrastructure needs. In summary, close collaboration and joined up strategic planning between the various local authorities will be essential if the appropriate infrastructure to support growth in the Harlow and Gilston Garden Town is to be delivered.

Based on the analysis in this study the following recommendations and actions are made:

- A package of essential infrastructure is required to be prioritised to enable significant growth to the east of Harlow (5,500 new homes) of which 2,900 homes are committed through existing planning consents. This includes around £115m of costs for M11 Junction 7a, Gilden Way Roundabout and two new Primary Schools to support the significant growth at Newhall and the strategic site east of Harlow. Given the lead in times and critical path this infrastructure package should be developed as soon as possible although the delivery of Junction 7a and education provision through existing planning consents is already being delivered and/or committed.
- The E/W and N/S Sustainable transport corridors should be worked up in more detail and detailed costs, funding and business cases developed as they are essential to support growth in the Harlow and Gilston Garden Town. It is also expected that there will be a requirement to reinforce the waste water infrastructure related to the Garden Town and the delivery of growth across the area.
- To address the remaining funding gap the Council could explore in further detail innovative funding and delivery mechanisms such as CIL, RIF, Prudential borrowing, joint ventures such as LABV
- The following 'red category' projects should be prioritised for delivery as their delivery is critical to the successful implementation of Harlow and the Harlow and Gilston Garden Town's wider growth aspirations. Only surface water flood defences are considered to be a Harlow specific 'red category' where their delivery is critical to Harlow and not the wider Garden Town:

'Red Category' - Critical Projects to Deliver in Harlow and Harlow and Gilston Garden Town

- Sustainable transport corridor (North/South) (H_9)
- Sustainable transport corridor (East/West) (H_10)
- M11 new junction 7a (H_18)
- M11 Junction 7 improvements (H_19)
- Second River Stort Crossing and highway link (H_20)
- New hospital beds including an estimated 3,763 sq. m 23.5 beds for Harlow's growth and an estimated 3,134 sq.m 19.6 new beds for growth around Harlow (HS_3 and HS_15)

- Network reinforcement works to provide potable water in Harlow (W_1)
- Network reinforcement works at Rye Mead STW for waste water and sewerage (W_2)

'Red Category' - Critical Projects to Deliver in Harlow

- Surface Water Flood defences including West Passmores, Kingsmoor SUDS, Brays Grove & Sumner Area (FL_1)

1. Introduction

1.1. Study Purpose

- 1.1.1. This report is an Infrastructure Delivery Plan (IDP) for Harlow. Its purpose is to provide information on existing and future infrastructure requirements that will help to support future housing and employment growth in and around Harlow. The IDP is part of the evidence base that will support the preparation of the evolving Harlow Local Plan.
- 1.1.2. The Harlow IDP is one element of a wider piece of work entitled: '*Delivery Study for Harlow and Surrounding Area*' (hereafter 'Delivery Study'). Harlow District Council (HDC) commissioned Atkins in mid-2017 to produce the IDP and to manage the overall Delivery Study. The other element of the Delivery Study is a Viability assessment. The Harlow Viability Study is produced by BNP Paribas. It assesses the viability of draft Local Plan policies and site allocations and whether a Community Infrastructure Levy (CIL) would be appropriate to support Harlow Council's objectives.
- 1.1.3. The Harlow IDP complies with national planning policy requirements and standards as outlined in the National Planning Policy Framework (NPPF) and Planning Policy Guidance (PPG). The National Planning Policy Framework (NPPF) sets out the requirement for local planning authorities to prepare robust and evidence-based Local Plans that will help to deliver sustainable development in their area. This includes understanding the capacity of current infrastructure and the strategic infrastructure needs to support future growth².

1.2. Study Scope

- 1.2.1. The Harlow IDP focuses on the growth coming forward within Harlow, both on smaller sites and on a larger strategic site located to the east of the district. The sites in Harlow form part of the Harlow and Gilston Garden Town which includes a number of strategic housing sites on the periphery of the district in East Hertfordshire and Epping. In total Harlow and Gilston Garden Town will deliver over 16,000 dwellings of which 7,000 are located on land not within the Harlow District boundary but where there may be infrastructure implications for the district. The IDP has therefore undertaken an assessment of the likely infrastructure requirements of these additional sites taken into consideration growth coming forward in Harlow and the IDPs of East Hertfordshire and Epping. The IDP has attempted to collate information for the strategic sites around Harlow however this is less detailed than the infrastructure assessment undertaken for Harlow. Further work for the Harlow and Gilston Garden Town on infrastructure provision, costings and apportionment needs to be undertaken. In summary the IDP is made up of two parts:
- **Part 1:** A detailed infrastructure delivery plan for Harlow and the development and growth planned within the boundary
 - **Part 2:** A review of likely infrastructure requirements and cross-boundary infrastructure implications arising from strategic sites located in East Hertfordshire and Epping.

² NPPF (2011), para 162

1.3. Study Objectives

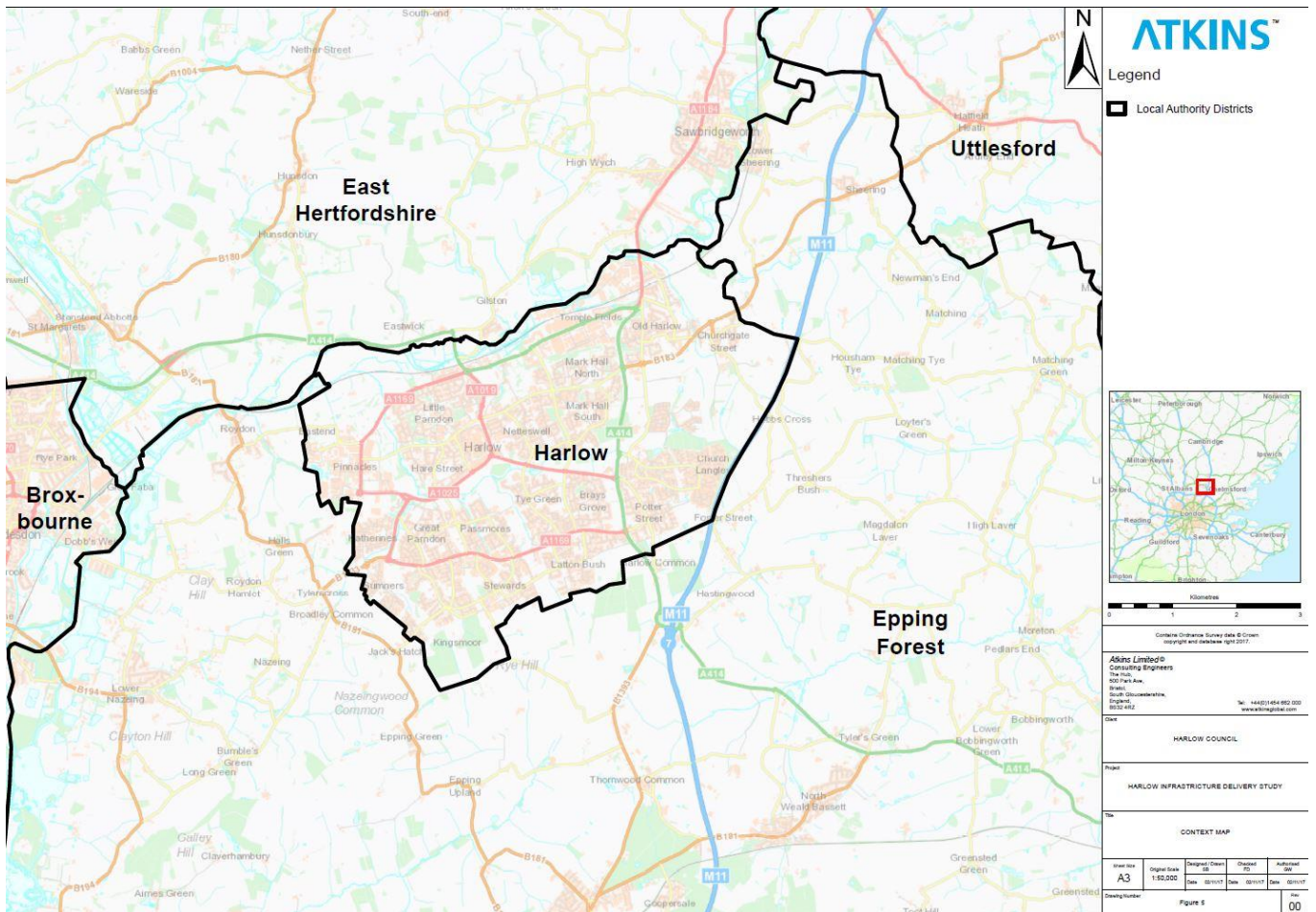
1.3.1. The key objectives of the IDP study are as follows:

- To identify the infrastructure requirements for the existing and proposed developments within and around Harlow to support development of the Local Plan.
- To provide clarity and direction over future investment and infrastructure needs to support Harlow and the wider area’s future growth. Infrastructure requirements are prioritised and grouped to assist investment and decision making.
- The IDP, and the process to produce it, will help to facilitate partnership working with infrastructure providers and neighbouring local authorities regarding infrastructure provision and delivery and supporting the Council’s ambition to meet the Duty to Cooperate.
- To help Harlow Council to align their policy and strategy streams with future infrastructure requirements to enable better delivery.
- To support, where appropriate the preparation of a Viability Study, supporting the Council’s emerging Local Plan.
- To provide robust and transparent evidence to support the identification and negotiation of developer contributions (s106) and for economic viability and levels of a possible introduction of a Community Infrastructure Levy (CIL).

1.4. Study Area

1.4.1. The IDP study area is the local authority boundary of Harlow District Council although the IDP also takes into consideration the wider Harlow and Gilston Garden Town strategic sites in East Hertfordshire and Epping. The study area is shown in Figure 1-1 below. A map showing the proposed development sites, in and around Harlow, is shown at Figure 3-6 below.

Figure 1-1 Harlow and Neighbouring Local Authorities



Source: Atkins (2017) Contains Ordnance Survey data © Crown copyright and database right 2017.

1.5. Structure of this Report

1.5.1. The Harlow IDP is structured as follows:

- **Section 2** provides an overview of the approach followed in producing the Harlow IDP and the policy context for national, sub-regional and local policy regarding the delivery of infrastructure and infrastructure planning.
- **Section 3** describes the growth projected to occur in and around Harlow in the planning period (2017 to 2033), as well as the social and economic portrait of Harlow District.
- **Sections 4 to 12** detail the current and future provision of infrastructure to meet Harlow and its wider area's growth needs, under the following infrastructure categories:
 - Transport (section 4)
 - Education (section 5)
 - Health and Social Care (Section 6)
 - Emergency Services (section 7)
 - Community, Leisure and Sports Facilities (section 8)
 - Open Space and Green Infrastructure (section 9)
 - Utilities, Waste and Flood Protection (section 10)
- **Section 11** explores how future infrastructure may be funded and delivered
- **Section 12** provides a summary of the infrastructure requirements over the plan period and makes recommendations to help inform the Harlow Local Plan.

2. Approach

2.1. Introduction

2.1.1. This section outlines the approach and methodology Atkins have undertaken to conduct the study. The methodology will be split between an integrated Infrastructure Study and a Local Plan Viability Assessment. This study will be used to inform the delivery of infrastructure which are intrinsically linked to the implementation of the emerging Harlow Local Plan 2011-2033.

2.1.2. The IDP encompasses a range of infrastructure and services, as set out below:

Infrastructure Category	Infrastructure Sub-category
Transport	Highways
	Rail
	Bus
	Walking and Cycling
Education	Early Years and Childcare
	Primary Education
	Secondary Education and Post-16 Education
	Special Educational Needs and Disability
	Adult Community Learning
Health and Social Care	GPs
	Dentists
	Pharmacies
	Hospitals
	Mental Health
	Community Nursing
	Adult Social Care
	Independent Living
Emergency Services	Ambulance
	Police
	Fire and Rescue Services
Community and Sport	Libraries
	Youth Centres
	Community Halls
	Sports Facilities and Playing Fields
Open Space and Green Infrastructure	Parks
	Allotments
	Burial Provision
Utilities, Waste and Flood Risk	Water & Wastewater Treatment and Sewerage
	Electricity
	Gas
	Telecommunications
	Waste Management
	Flood Risk

2.2. Overview of Methodology

2.2.1. Overall Approach

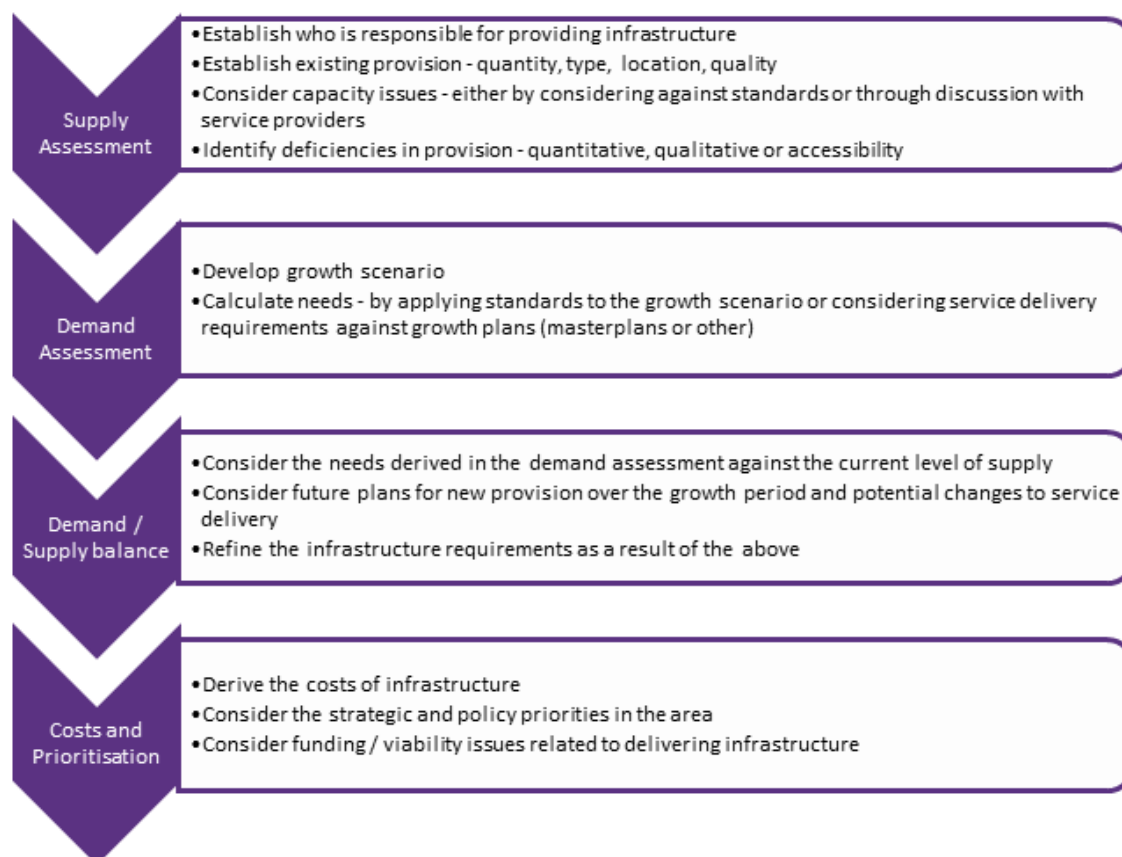
2.2.2. The method will be conducted in accordance with the Council's invitation to Tender, the NPPF, NPPG and the Community Infrastructure Levy Regulations.

2.2.3. Our approach aims to provide clarity on the extent of infrastructure required and the funding that is likely to be available to provide it. Clarity with regards to the extent of infrastructure required and the funding that is likely to be available to provide it. The aim is to provide clear outputs which will be easy to use and which enable the implementation of the Council's objectives for growth and development. The method has been conducted in accordance with the Council's invitation to Tender, the NPPF, NPPG and the Community Infrastructure Levy Regulations.

2.2.4. The overall methodology to infrastructure planning is provided in Figure 2-1. The methodology can be split into four sections:

- Step 1 – Assessing context and establishing levels of growth
- Step 2 – Assessment of Future Infrastructure Requirements
- Step 3 – Infrastructure Consultation
- Step 4 – Assessment of Funding and Delivery Options & Reporting

Figure 2-1 Harlow Delivery Study Approach



2.2.5. **Establishing the level of Growth**

2.2.6. The quantum of development has been provided by the Council and is based on the trajectory of housing and employment sites anticipated to be allocated in the Regulation 19 Local Plan. Committed development (including completions, extant planning permissions, brownfield developments) have also been accounted for, as have strategic sites in and around Harlow that are expected to be developed within the plan period.

2.2.7. A summary table of the quantum of housing and employment that has been used in the IDP is shown in Table 3-3 in Chapter 3. Population estimates are shown at Table 3-2.

2.2.8. **Assessing Infrastructure Needs**

2.2.9. As Harlow forms part of the Harlow and Gilston Garden Town which includes a number of strategic housing sites in neighbouring Council areas the Harlow IDP will be conducted in two parts. Accordingly, the study area for the Harlow IDP is as follows:

- **Part 1:** A detailed infrastructure delivery plan for Harlow and the development and growth planned within the boundary
- **Part 2:** A review of likely infrastructure requirements and cross-boundary infrastructure implications arising from strategic sites located in East Hertfordshire and Epping. For these sites, we will investigate the cross-border implications taking into account IDPs already being prepared or which have been prepared by the neighbouring authorities.

2.2.10. In defining future infrastructure requirements, both 'bottom-up' and 'top-down' approaches have been utilised. This is to ensure that the delivery study is based on a realistic view of the community's needs, as well as being driven by service provider views on the issues related to service delivery. A combination of qualitative and quantitative sources has been used to establish a comprehensive picture of the challenges and requirements of infrastructure provision across the district and beyond.

2.2.11. Consultation and stakeholder engagement has been key to understanding the constraints and challenges that are faced in infrastructure provision within Harlow and its surrounding area. This has provided an insight into the interdependencies involved in delivery of key infrastructure and any arising cross-boundary issues. A list of the stakeholders involved with the process is provided in **Appendix C** and the provider questionnaire is at **Appendix D**.

2.2.12. The IDP and DS are iterative documents and therefore will require ongoing input and updating to ensure it accurately reflects the current situation and implications of growth on infrastructure.

2.2.13. **Consultation**

2.2.14. Early, on-going and iterative stakeholder engagement has been central to the study. Stakeholders consulted included service providers, surrounding local authorities, the county council and developers.

2.2.14.1. **Duty to Cooperate Workshop - Epping Forest District Council**

2.2.15. As part of the evidence gathering process for the IDP two consultation events were held and attended by the study team. The first was a developers' forum held at Epping Forest District Council (EFDC). This was held on the 16th June 2017. Given the cross-boundary issues this was held by EFDC for their IDP in association with Harlow. The session highlighted strategic cross boundary issues, particularly focussing on transport, education and utilities. The second event was held by Harlow Council on 14th September 2017 and included a variety of stakeholders including East Hertfordshire and Epping Council officers. See **Appendix E** for notes of the consultation event.

2.2.15.1. **Infrastructure Provider Engagement**

2.2.16. Direct engagement and consultation was also undertaken with key stakeholders. Infrastructure providers were sent information packs relating to the anticipated location and scale of growth, as provided by HDC in the housing and employment trajectory. The stakeholders were asked to

provide information on existing provision, future requirements, constraints, funding sources and costs in relation to the levels of growth outlined. Based on the response, the IDP team set out initial findings that was then presented and discussed at the September infrastructure provider workshop.

2.2.16.1. Harlow Stakeholder Workshop

2.2.17. The Harlow workshop was held at Harlow Civic Centre. The aim was to get feedback and views from infrastructure providers on the infrastructure needs to support future housing and employment growth in and around Harlow.

2.2.18. The key objectives of the workshop were as follows:

- Describe and get feedback on IDP process, objectives and assumptions
- Request information from stakeholders on infrastructure requirements
- Discuss critical dependencies, site specific and cross boundary issues and any delivery issues
- Identify 'show stoppers', key site/area specific risks and delivery issues
- Agree actions/timeframe for providing further information
- Create a foundation for further positive ongoing infrastructure provider engagement with the Harlow growth process

2.2.19. Following a study introduction and update presentations from Harlow Council and Atkins the group was split into three workshops with an even spread of infrastructure providers in each group. Attendees were invited to discuss and share thoughts on provision of key infrastructure types and the barriers, requirements and interdependencies of these.

2.2.20. Key topics arising in the Harlow workshop were as follows:

- Need for a strong vision for the Harlow and Gilston Garden Town to ensure all providers and developers are working towards a shared goal e.g. improved sustainability
- Need for cross-boundary collaboration, particularly ensuring that the IDP's for each council area are aligned and that modelling is consistent for key infrastructure and services e.g. education.
- Transport issues including sustainability, delivery and forward funding.
- Utilities issues including sewerage capacity issues arising from River Stort constraints, high levels of water usage and dependency on inter-regional transfer and delays in modelling waste water capacity due to relatively dry weather conditions.
- Potential relocation of Princess Alexandra Hospital to a new site, which is currently undecided. The impact that the new location will have on key worker housing, ease of access for both employees and patients and the potential for on-site energy generation.
- Ensure that economic growth is considered as well as housing growth. Employment sites outside the town centre require good connectivity and links to housing and town centre to ensure that Harlow's economy benefits from the relocation of GSK North and Public Health England as well as the strategic Harlow Enterprise Zone site.
- Harlow and Gilston Garden Town should have access via sustainable transport modes to the train station, town centre and employment sites. Concerns were raised over delivery timing of the northern bypass, which should be delivered only when it is required to meet demand. The consensus of the group was that early implementation would reduce the sustainability of the Garden Town as absence of the bypass would encourage use of more sustainable modes of transport. Furthermore, it was noted that the Garden Town did not require the bypass to enable growth and delivery.
- Emergency Services and Health hubs may form part of wider strategies to make efficiency savings. For example, Essex Police are currently reducing their property portfolio across the county. Information sharing between health service providers needs improving to ensure efficient use of assets.
- Delivery, Prioritisation & Funding. Front-loading infrastructure by the local authority as a means of funding was considered. This was seen to be particularly beneficial for transport and education provision, which would encourage a sustainability agenda. The strategic sites to the south and west (situated in EFDC) in particular were seen to be below critical mass required to underpin infrastructure delivery, which may pose problems going forward.

2.2.21. **Prioritisation and Delivery Framework**

2.2.22. The following criteria and scoring system is used to assess the typology and relative priority of the infrastructure identified to support Harlow and its wider area's growth needs.

2.2.23. The potential of infrastructure to unlock development is assessed based on the following criteria and scoring:

- Essential – development cannot physically occur without the investment, so likely to be remediation, drainage and sewers, energy and highways – 3 points
- Required – to mitigate the wider impact of development (social infrastructure) – 2 points
- Important – to creating a sustainable community (landscape, public realm or higher specification for essential or required infrastructure) - 1 point

2.2.24. To capture an understanding of relationship between infrastructure items and their links to the sites, and therefore, the scale of housing unlocked the following three categories are assessed:

- Over 10,000 units – 4 points
- 5,000 to 10,000 units – 3 points
- 1,000 to 5,000 units – 2 points
- Less than 1,000 units – 1 point

2.2.25. The spatial configuration of infrastructure schemes that support the development at the following scales are assessed:

- Strategic Cross Boundary- schemes required to support the development over a larger geographical area, including the wider housing market area – 3 points
- District Wide Schemes- schemes required to cater for cumulative impact from multiple sites across the district – 2 points
- Site Specific Schemes- schemes required to directly support development in a single location – 1 point

2.2.26. Based on the above scoring system, infrastructure will be classified as follows:

- Red: High scoring infrastructure - critical delivery priority – 9 points and above
- Amber: Medium scoring infrastructure - important delivery priority – 6 to 8 points
- Green: Lower scoring infrastructure - less critical delivery priority - 3 to 5 points

2.2.27. **Costs, Funding, Phasing and Delivery**

2.2.28. At the same time as the identification of infrastructure needs to support future growth, the costs and funding arrangements for that infrastructure need is also identified. A variety of information sources are used to estimate the costs and funding. These vary from information from providers, assumptions based on Council Developer Contributions policy or other various sources of assumptions. This means that there is a varying degree of certainty on the levels of cost and funding. However, it is important for strategic planning purposes to establish at least a total order of magnitude figure for the cost, funding and funding gap of infrastructure underpinning the Local Plan. In terms of funding, committed and expected funding streams are assessed and alternative funding mechanisms that could help 'bridge' any residual funding gap are also explored.

2.2.29. An indicative phasing schedule is identified for each infrastructure project. This is made for the periods 2018-23; 2023 – 2028; 2028 – 2033. This is based on the best available information which includes responses from infrastructure providers or in the absence of robust evidence a professional judgment is made.

3. Harlow Growth

3.1. Introduction

- 3.1.1. This section sets a context to the overall study. It outlines the housing and employment growth projected to occur in and around Harlow. Establishing details on the level and type of growth is critical to understanding what infrastructure is required to support it. The section also outlines the policy context and describes key socio-economic characteristics and demographics that are relevant to understanding what infrastructure is required in Harlow to support the existing and future population.

3.2. Policy Context

3.2.1. National

- 3.2.1.1. The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England. The NPPF aims to deliver 'sustainable development' across economic, environmental and social 'dimensions'. As part of the NPPF's requirements, local planning authorities (LPAs) must produce a flexible and evidence-based Local Plan that will "positively seek opportunities to meet the development needs of their area". The Local Plan must be based on an "adequate, up-to-date and relevant evidence".
- 3.2.1.2. Paragraph 157 states that Local Plans should:
- plan positively for the development and infrastructure required in the area to meet the objectives, principles and policies of this Framework
- 3.2.1.3. Paragraph 162 details the scope for infrastructure planning, requiring LPAs to work with other local authorities and infrastructure providers to:
- assess the quality and capacity of infrastructure for transport, water supply, wastewater and its treatment, energy (including heat), telecommunications, utilities, waste, health, social care, education, flood risk and coastal change management, and its ability to meet forecast demands; and
 - take account of the need for strategic infrastructure including nationally significant infrastructure within their areas.
- 3.2.1.4. Paragraphs 173-177 considers viability and cost to be a crucial element in pursuing sustainable development. It further states that local standards, supplementary planning documents and policies, as well as nationally required standards cumulatively should be proportionate and not put implementation of the Local Plan at risk through undue pressures.
- 3.2.2. Planning Practice Guidance (PPG) (paragraph 018, reference 12-018-201403036) highlights the role of infrastructure in achieving the visions set out in the Local Plan including what is required and how it can be funded and on what timescale will it be delivered. Central to this is early engagement of infrastructure and service providers, which has been undertaken as part of the DS. Further requirements of the Local Plan include:
- The need for a five-year phasing, funding and delivery infrastructure plan related to the anticipated rate and phasing of development.
 - An understanding of infrastructure and service providers' investment plans and the critical dependencies between providers and development.
 - Setting out the position regarding long-term infrastructure plans.
 - Address the implications of uncertain delivery of critical infrastructure, for example alternative strategies

- Key infrastructure requirements should be contained within the Local Plan itself. However, use of supporting documents such as this DS can set out additional planned infrastructure provision.

3.2.3. **Sub-Regional**

- 3.2.4. Paragraphs 178-181 of the NPPF specify the need for cross-boundary cooperation between LPAs as core to delivering sustainable development. Furthermore, LPAs should also work collaboratively with private sector bodies, utility and infrastructure providers.
- 3.2.5. Evidence of cross-boundary cooperation and engagement is required as part of the Local Plan submission for examination. This should result in “a final position where plans are in place to provide the land and infrastructure necessary to support current and projected future levels of development”.
- 3.2.6. In line with the legal requirements of the ‘Duty to Cooperate’, Harlow Council is part of the Cooperation for Sustainable Development Board, between West Essex, East Hertfordshire and adjoining London Boroughs. The Board plays an advisory role on cross-boundary spatial planning issues, supporting Local Plan making and delivery of sustainable communities across the region. A separate board has now been established to guide growth of the Harlow and Gilston Garden Town which Harlow Council is included as a strategic partner along with Epping Forest and East Hertfordshire Councils and Hertfordshire and Essex County Councils.
- 3.2.7. The South East Local Enterprise Partnership (SELEP) is a partnership between local government and businesses across East Sussex, Kent and Medway, Essex and Thames Gateway South Essex. Since 2014 the SELEP has agreed three Growth Deals with Government. Growth Deals allow LEPs to influence how Central Government funding is spent so that growth priorities can be targeted to revitalise local economies.
- 3.2.8. The third Growth Deal sets out a comprehensive package of projects that will be funded through the £102.65 million awarded by the Local Growth Fund. This funding aims to deliver 6,129 new homes, create or safeguard 10,785 jobs and secure an additional £14m of private sector investment in the area. £5m of the funding has been allocated to the upgrading of Gildea Way in Harlow.
- 3.2.9. The Essex County Council Growth and Infrastructure Framework (GIF) 2017 presents an overview of growth patterns and the infrastructure needed to enable this growth across the whole of the Greater Essex area. The key findings highlight that road and rail infrastructure is falling behind growth requirements and anticipated housing growth will put pressure on school facilities.
- 3.2.9.1. Greater Essex Growth and Infrastructure Framework (GIF)**
- 3.2.10. The Essex County Council Growth and Infrastructure Framework (GIF) 2017 presents an overview of growth patterns and the infrastructure needed to enable this growth across the whole of the Greater Essex area. The key findings highlight that road and rail infrastructure is falling behind growth requirements and anticipated housing growth will put pressure on school facilities.
- 3.2.11. In terms of key findings in Harlow, road infrastructure capacity issues at the regional level are reflected, with M11 Junction 7 and A414 corridor congestion a main source of inhibiting growth. Furthermore, the findings identify some localised capacity issues related to primary schools. There are also significant funding gaps in the local roads and education sectors. In terms of overall figures for Harlow, the total estimated infrastructure costs are identified at £280,560,000, with a funding gap of £195,680,000.
- 3.2.11.1. Greater Essex Strategic Economic Plan (SEP)**
- 3.2.12. The LEP’s Strategic Economic Plan notes the importance of the radial growth corridor around the A10 which links East London to Harlow (and Harlow & Gilston). Priority 2 sets the objective to explore the potential growth and development opportunities arising in this area. Priority 3 highlights the need for a clear economic strategy and for a positive approach to be taken.

Strategic Housing Market Area

3.2.13. Harlow Council along with Epping Forest District Council, Uttlesford District Council and East Hertfordshire Council comprise a Strategic Housing Market Area (SHMA), which has worked to produce a strategic spatial option for growth. The spatial option allocates sites in and around Harlow as the most sustainable location for the anticipated housing need over the plan period. Subsequently, the HMA has produced several Memoranda of Understanding agreeing to the identified approach.

3.2.14. Local

3.2.15. The current Local Plan is the Adopted Replacement Harlow Local Plan (July 2006). Harlow Council is currently undertaking work to replace the existing local plan with a new Harlow Local Development Plan, which will shape development in Harlow to 2033. It will be evidence-based as stipulated by the NPPF, some of the evidence studies, such as the SHMA have been undertaken in conjunction with Uttlesford, East Hertfordshire and Epping Forest Councils.

3.2.16. The Local Plans are being undertaken by each Local Planning Authority (LPA), but in accordance with the Duty to Cooperate the plans will consider strategic cross boundary matters.

Harlow and Gilston Garden Town

3.2.17. Following on from the Strategic Housing Market Assessment a number of key pieces of evidence were undertaken to agree the best spatial distribution of housing across the SHMA. It was agreed that Harlow represented the most sustainable location to concentrate development and growth and that this growth would in turn encourage regeneration and economic improvements for the town. In total over 16,000 dwellings were identified for delivery in the Local Plan Period both within and on the periphery of Harlow through an appraisal of sites. Approximately 7,000 of these were identified in East Hertfordshire and Epping. In 2016 the three local Councils were successful in obtaining Garden Town Status for this growth and have named the area Harlow and Gilston Garden Town. This Garden Town status allows for continued cross-boundary and cross-sector working between stakeholders, encouraging efficient and comprehensive delivery with Government funding and support.

3.3. Spatial and Socio-Economic Portrait of Harlow

3.3.1. This section briefly outlines Harlow's key socio-economic characteristics that influence infrastructure requirements.

3.3.2. Harlow is located on the borders of Essex and Hertfordshire and has a population of 86,000³. Harlow is a Mark One New Town and local authority district, built in the 1950s to provide housing for people living in London. The town was masterplanned by architect Sir Gibberd and designed to be made up of discrete neighbourhoods around a town centre. The district is primarily urban, although the original masterplan included a network of green and open spaces.

3.3.3. The district has a tightly drawn administrative boundary and thereby prevents the town from expanding outwards. Harlow adjoins East Hertfordshire District and Epping Forest District and is surrounded by the Green Belt. Harlow is well connected to London, Stansted Airport and Cambridge via rail as well as having strong regional road connections via the M11 and M25.

3.3.4. Harlow scores low on the English Indices of Multiple Deprivation (IMD), signifying areas of deprivation. The scores for 'Education, Skills and Training' and 'Barriers to Housing and Services' domains score particularly poorly. However, the district scores very high on 'Living Environment'.

3.3.5. The town has a high population density, with relatively high levels of crime, homelessness, social housing tenants and poor health outcomes, including diabetes, childhood obesity, smoking,

³ ONS *Population estimates 2016* - local authority based by five-year age band

alcohol related hospital admissions, and dementia⁴. Harlow's population is lower skilled than the regional and national averages, with lower levels of people achieving NVQ 1-4. The Harlow population also has higher levels of employment in Standard Occupational Classification (SOC 2010) Major Groups 6-7 and 8-9⁵ (Service occupations, Sales, Machine Operatives and Elementary Occupations) than the UK, whilst Major Groups 1-3 are relatively underrepresented (Managers, Directors, Professional Occupations, Technical Occupations etc.) compared to the UK.

- 3.3.6. Only 14% of employed resident's commute to London and Harlow has a relatively well-balanced economy with an overall net inflow of workers. 86% of the population is economically active with 83.3% in employment⁶ which is above both the regional (east of England) and national averages. The job ratio is also higher than the regional and national averages. Despite the high employment rate, average unemployment rate and relatively balanced flow of commuters the targeted growth sectors of life science, medical technologies, IT and advanced engineering tend to draw workers in from neighbouring areas due to a relative lack of skills and qualifications of Harlow's residents for these growth sectors. Harlow Council are addressing this issue in the forthcoming Local Plan.
- 3.3.7. In terms of unemployment, 4% of Harlow's population are unemployed, which is lower than the national average of 4.7%, albeit slightly higher than the East of England average of 3.8%.

Table 3-1 SOC Group Examples

SOC Group	Examples
SOC 2010 major group 1-3	Corporate managers and directors; Health professionals
SOC 2010 major group 4-5	Other managers and proprietors; Business and public service associate professionals
SOC 2010 major group 6-7	Administrative occupations; Process, plant and machine operatives
SOC 2010 major group 8-9	Elementary trades and related occupations

Source: ONS (2016)

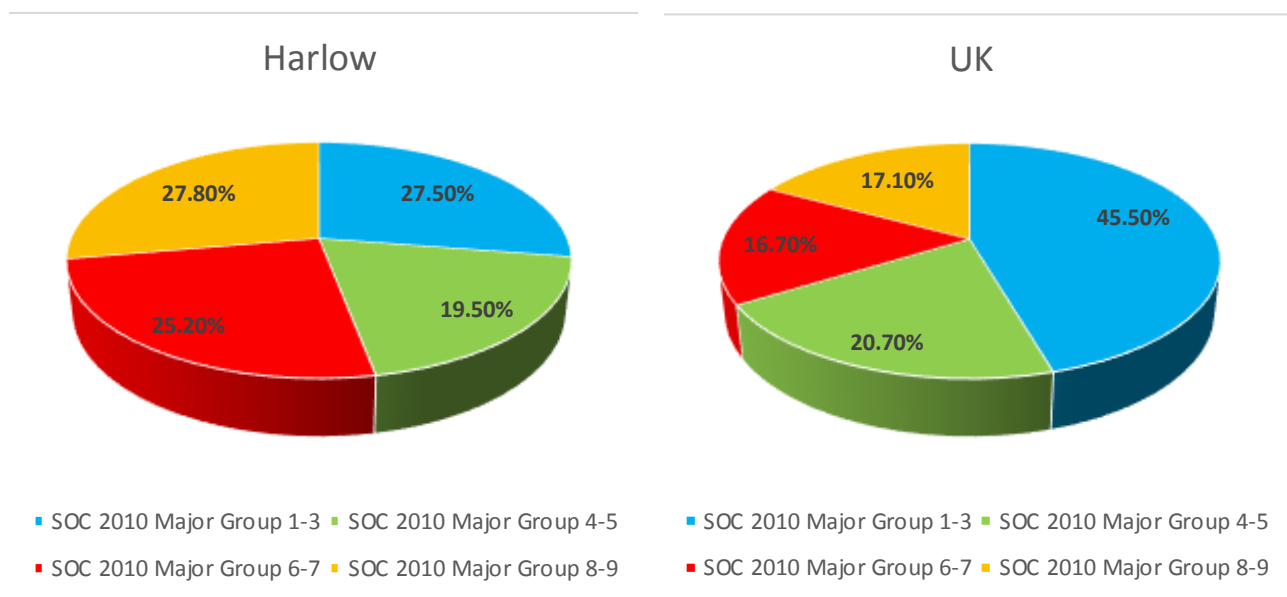
- 3.3.8. Of the population in employment, however, the level of people employed under Standard Occupational Classification (SOC) groups 1-3 fall below the national average. Consequently, the percentage of lower skilled workers under SOC groups 6-9 are higher than the national average. This is summarised in Figure 3-1 below, with SOC group employment examples in Table 3-1.

⁴ Organisational Intelligence on behalf of Essex County Council (March 2016) *A profile of people living in Harlow*

⁵ ONS annual population survey 2016 *Employment by occupation* (Apr 2016-Mar 2017)

⁶ ONS annual population survey 2016 *Employment and unemployment* (Apr 2016-Mar 2017)

Figure 3-1 Employment by Occupation⁷



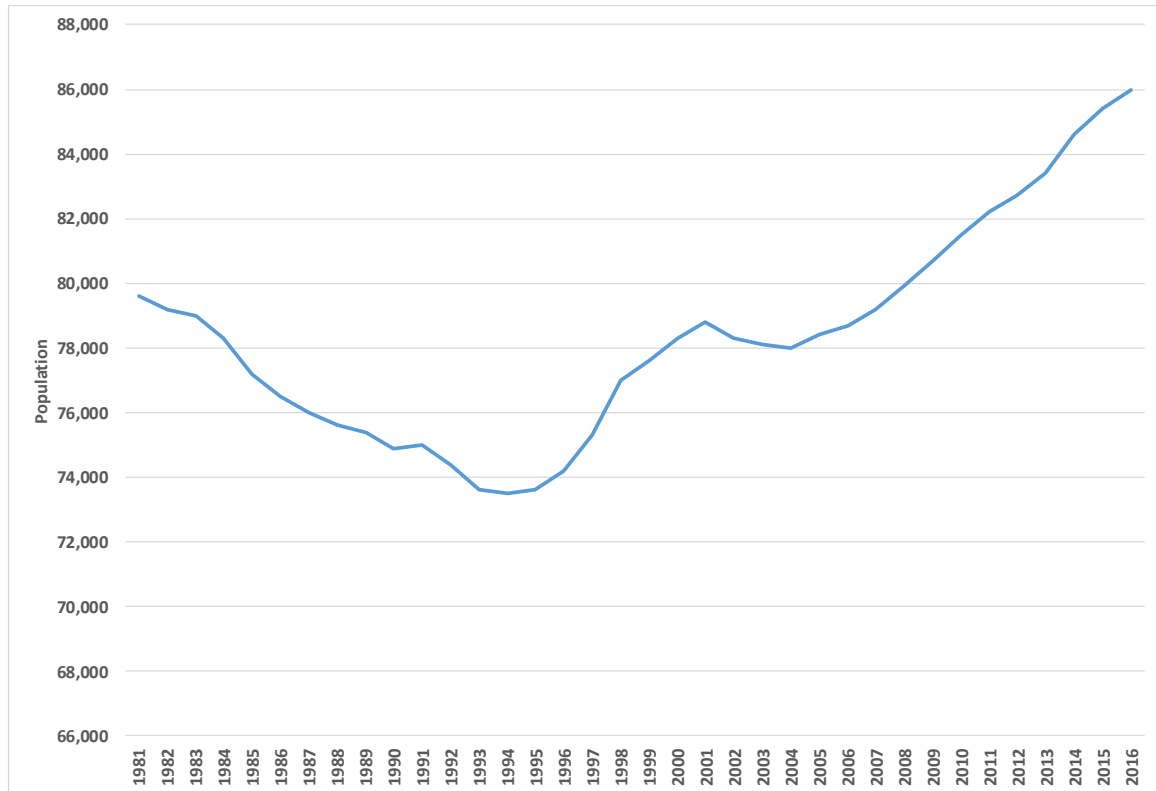
Source: ONS (2017)

3.4. Population Trends and Statistics in Harlow

- 3.4.1. From the 1950s onwards, the designation of Harlow as a New Town provided the catalyst for rapid population growth, reaching a peak of 81,000 in 1974. This was subsequently followed by a period of population decline and at its lowest point in 1995 Harlow’s population fell to 73,000 people.
- 3.4.2. The residential development of Church Langley, which consisted of 3,500 dwellings, in the late 1990s helped to improve the population decline in Harlow. Coupled with the implementation of the Newhall urban extension and increased birth rates, the town’s population reached 82,000 by 2011. Figure 3-1 below shows this trajectory, plus population estimates to 2016.

⁷ ONS annual population survey 2016 *Employment by Occupation* (Apr 2016-Mar 2017)

Figure 3-2 Harlow Population Trajectory (1981-2016)⁸



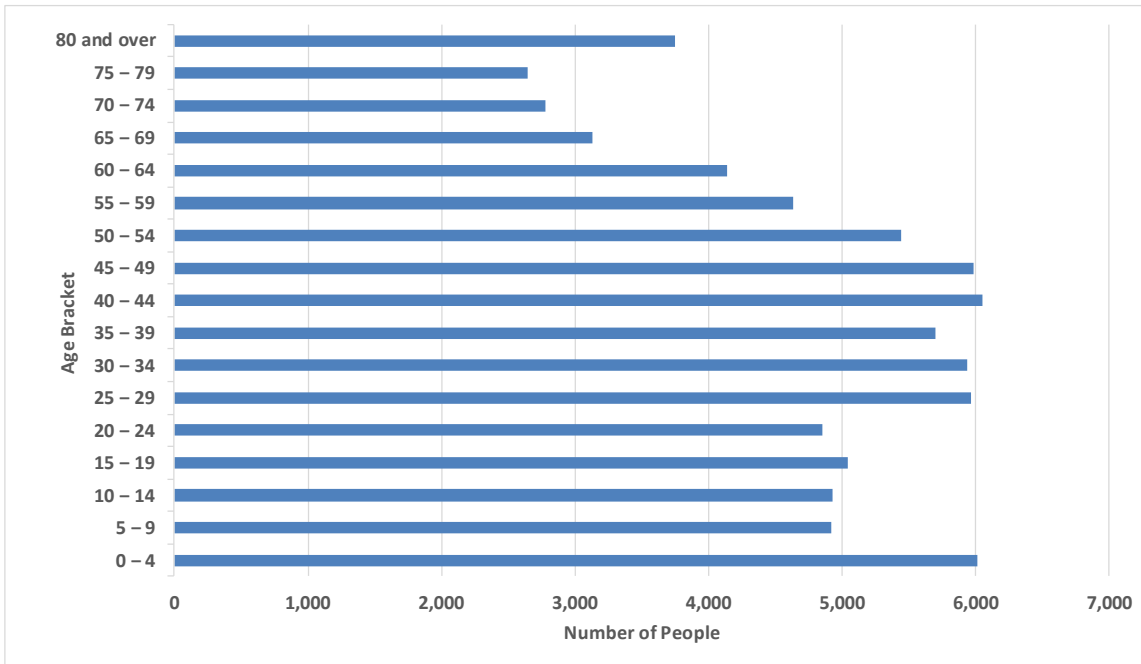
Source: ONS (2017)

- 3.4.3. The rising population in Harlow is reflected at a regional level, with London and Greater Essex becoming increasingly interconnected between 2002-2014. During this period, twice as many people migrated from London to Greater Essex than those moving in the opposite direction, perhaps reflecting the increasingly competitive housing market in the inner London area.
- 3.4.4. Although historically Harlow has had one of the younger average populations in Essex, in recent times the demographic profile has changed with an increasingly ageing population. This is largely due to the 'New Town effect', where a high number of similarly-aged people moved to Harlow during the early years of its development. Consequently, this section of the population is nearing the retirement age, which in turn will influence the infrastructure and service requirements in Harlow. This is reflected throughout West Essex, where the population aged over 75 is due to increase by 36.6% over the next 10 years⁹. Figure 3-3 illustrates the spread of ages of the Harlow population below, with Figure 3-4 providing the UK-wide context for age structure figures.

⁸ ONS labour market profile 2016 *All People Population (1981-2016)*

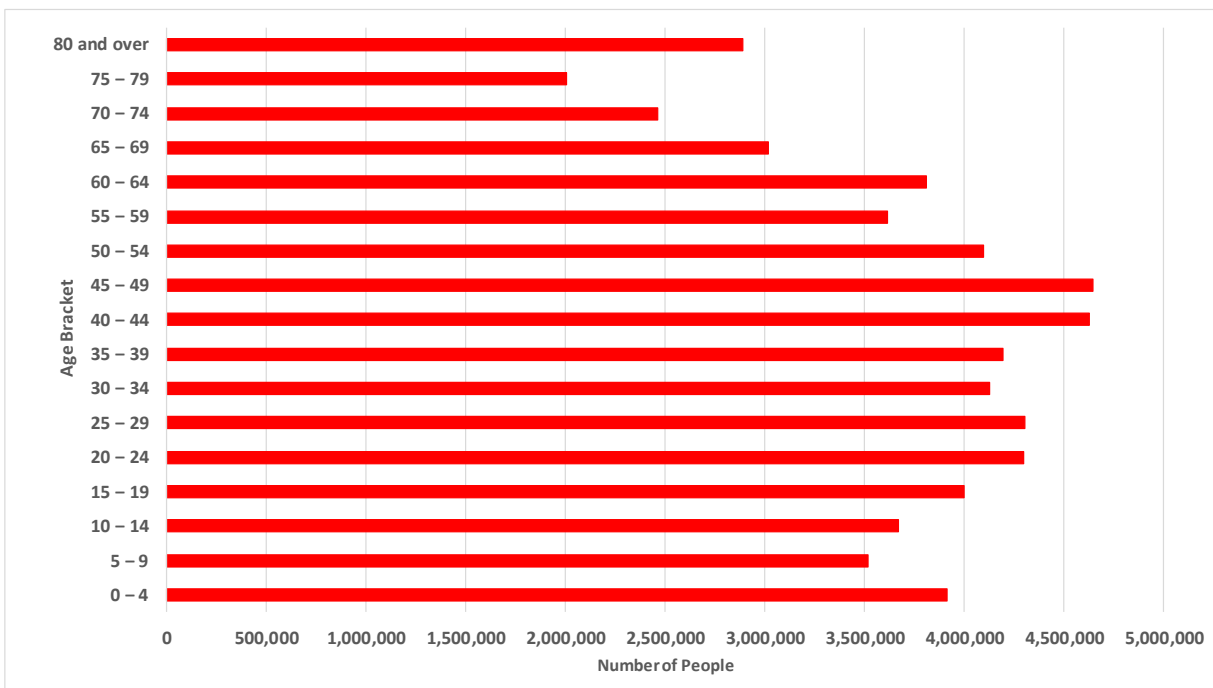
⁹ Essex County Council 2015 *5 Year Strategic Plan for West Essex Health and Care System*

Figure 3-3 Harlow Age Structure¹⁰



Source: ONS (2017)

Figure 3-4 UK Age Structure¹¹



Source: ONS (2017)

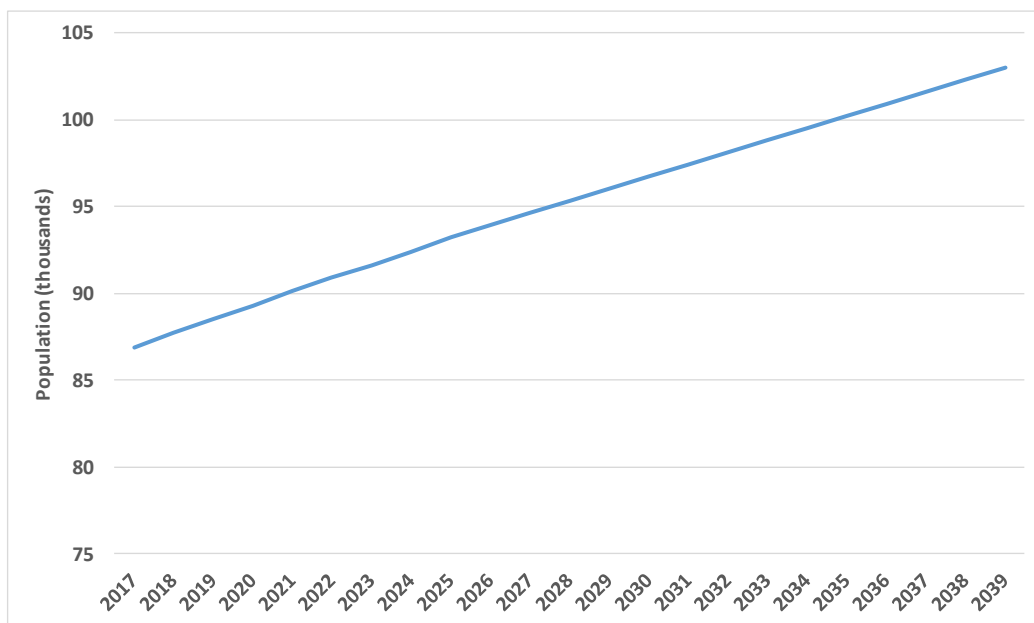
¹⁰ ONS Census statistics 2011 *Harlow usual resident population by five-year age group*

¹¹ ONS Census statistics 2011 *United Kingdom resident population by five-year age group*

3.5. Identified Growth in Harlow

- 3.5.1. The following section sets out the housing and population projections for the two different areas of assessment; Harlow and Harlow fringe. The population projections for Harlow are published by the ONS and are presented in Figure 3-5 below. The population growth is made up of a combination of indigenous growth based on demographic changes and growth created by migration into Harlow. It assumes the approximate levels of housing growth as described in 3.5.2 below.
- 3.5.2. Table 3-2 shows the estimated population growth in Harlow and Harlow fringe. In the absence of ONS estimates for Harlow fringe, the estimated population increase is based on the known number of new dwellings multiplied by Harlow’s population per new dwelling ratio of 1.44. This population information is used in the study, where appropriate to estimate future infrastructure need.

Figure 3-5 Harlow Population Projections - 2016-2039¹²



Source: ONS (2017)

Table 3-2 Population Growth 2017-2033 in Harlow and Strategic Sites Outside Harlow

Area	Estimated Population Growth 2017-'33	Source
Harlow	12,000	ONS Mid pop estimates
Strategic Sites around Harlow	10,000	Atkins assumption based on Harlow dwellings per population
Harlow and Gilston Garden Town	22,000	

Source: ONS (2014)

¹² ONS 2014 Statistics *2014-based subnational population projections*

3.5.3. Future Housing Development Sites in Harlow

3.5.4. Information on future development sites and their trajectory was provided by Harlow Council. This information is based on a combination of draft allocations, sites with planning permission and sites promoted through the 'call for sites'; process. These sites that form the housing trajectory underpinning the IDP infrastructure needs assessment are shown at Table 3-3 and Figure 3-6.

Table 3-3 Future Housing Growth (units) and Phasing within Harlow (2017 – 2033)

IDP Site Id	Site Name	Phase 1: 2017/22	Phase 2: 2022/27	Phase 3: 2027//33 (6 years)	Total Units
IH-01	Newhall Phase 2 & 3	1,300	559	150	2,009
IH-02	Land North of Gilden Way	911	0	0	911
IH-03	The Briars, Copshall Close, Ayletts Field	125	0	0	125
IH-04	Former Rugby Club Ram Gorse	125	0	0	125
IH-05	Newhall Phase 1	31	0	0	31
IH-06	Kingsmoor House and gardens	9	0	0	9
IH-07	337-338 Northbrooks Cm19 4Dp (Supersedes 230/07)	9	0	0	9
IH-08	Wissants and adjacent playground	0	0	0	0
IH-09	Motorsales Fifth Avenue	102	0	0	102
IH-10	Site at Greenway House, The Parkway, Harlow CM19 5QD	85	0	0	85
IH-11	Peartree Business Centre South Rd. CM20 2BD	24	0	0	24
IH-12	1 & 1a Walfords Close	12	0	0	12
IH-13	Gemini House, Flex Meadow CM19 5TJ	22	0	0	22
IH-14	Templefield House River Way	0	0	0	0
IH-15	Former Pearson Education Edinburgh Gate	202	0	0	202
IH-16	Terminus House	234	0	0	234
IH-17	The Angle	69	0	0	69
IH-18	Asta House	50	0	0	50
IH-19	Churchgate Hotel	26	0	0	26
IH-20	1st, 2nd, 3rd Market House plus new floor	46	0	0	46
IH-21	Small Sites 6 dwellings and below	34	0	0	34
IH-22	Strategic Site East of Harlow	300	1,450	850	2,600
IH-23	Princess Alexandra Hospital	0	0	650	650
IH-24	Area North of Harvey Centre	100	300	30	430
IH-25	Riddings Lane	0	35	0	35
IH-26	Land east of Katherines Way west of Deer Park	0	0	70	70
IH-27	Playing Field and land east of Radburn Cl. south Clifton Hatch	0	0	69	69
IH-30	Service bays rear of The Stow	0	0	60	60
IH-32	Lister Hse, Staple Tye Mews, Staple Tye, Gateway Nursery	42	0	0	42
IH-33	Kingsmoor Recreation Centre	42	0	0	42
IH-34	The Evangelical Lutheran Church, Tawneys Road	0	35	0	35
IH-35	Purford Green School	35	0	0	35
IH-36	East of the Downs School	0	0	30	30
IH-37	Land east of 144-154 Fennells	0	25	0	25
IH-39	Land between Second Ave and St. Andrews Meadow	27	0	0	27
IH-40	Coppice Hatch and garages	16	0	0	16
IH-42	Sherards House	0	0	16	16
IH-43	Elm Hatch and Public House	0	15	0	15
IH-44	Fishers Hatch	13	0	0	13
IH-46	Playground west of 93-100 Jocelyns	0	0	12	12
IH-48	Pollard Hatch plus garages and adjacent land	0	0	11	11
IH-49	Slacksbury Hatch and associated garages	20	0	0	20
IH-50	Garage blocks adjacent to Nicholls Tower	10	0	0	10
IH-51	Stewards Farm	0	0	10	10
IH-52	Land between Barn Mead and Five Acres	0	0	10	10
IH-53	Pypers Hatch	0	0	10	10
	Total Units - Sites within Harlow	4,021	2,419	1,978	8,418

Source: Harlow (July 2017)

Figure 3-6 Map of Housing Sites in and around Harlow 2017-2033

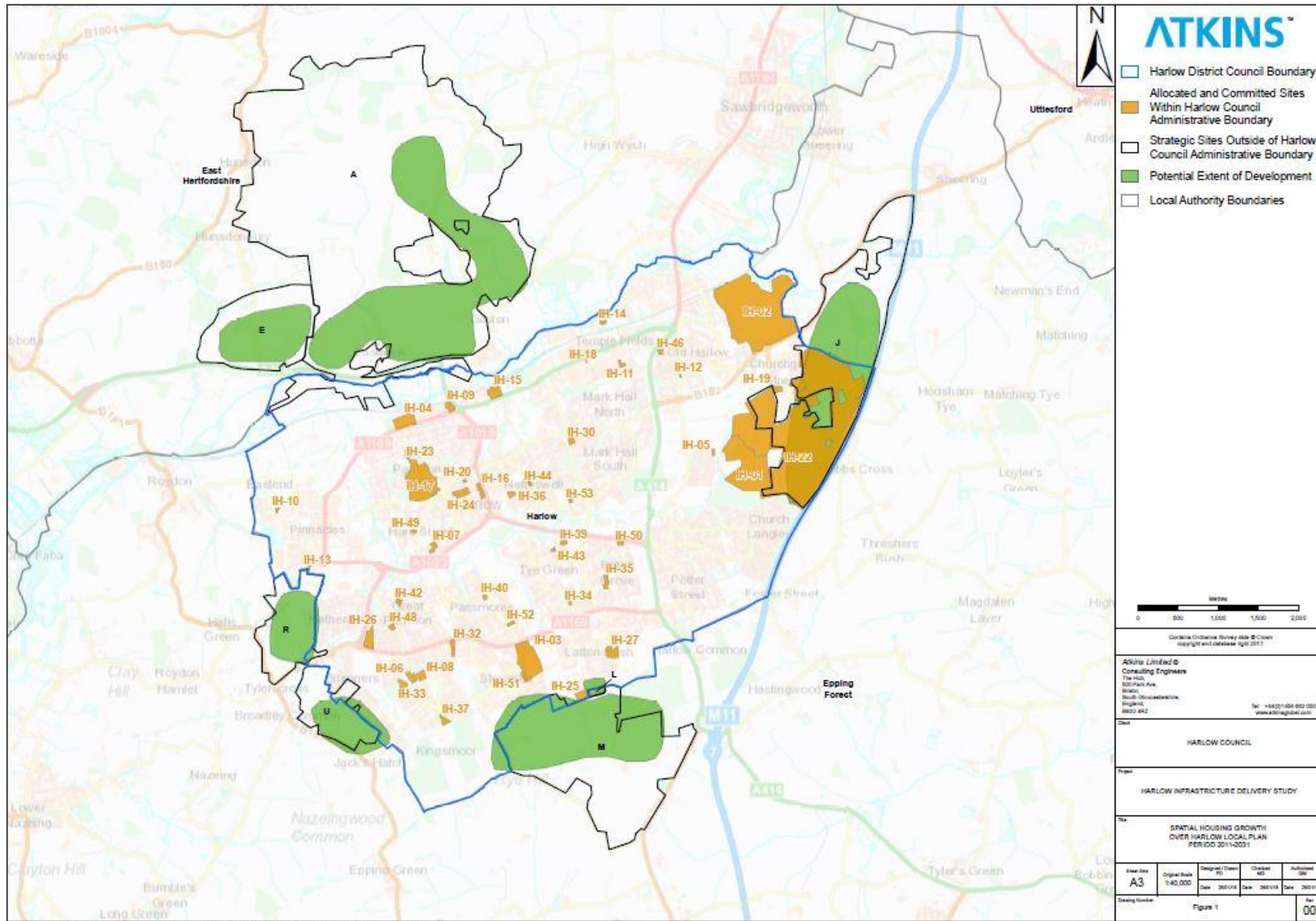
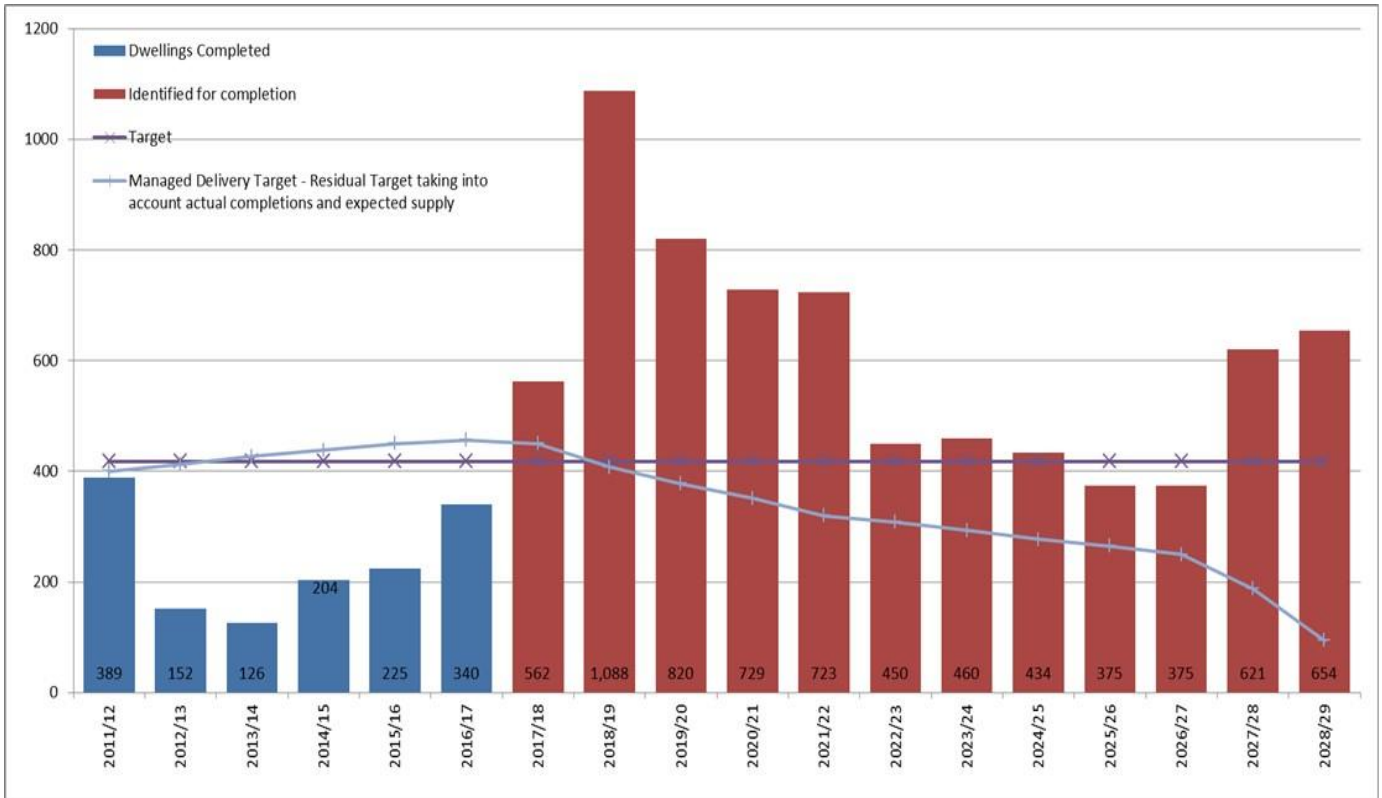


Figure 3-7 Sites Trajectory within Harlow¹³

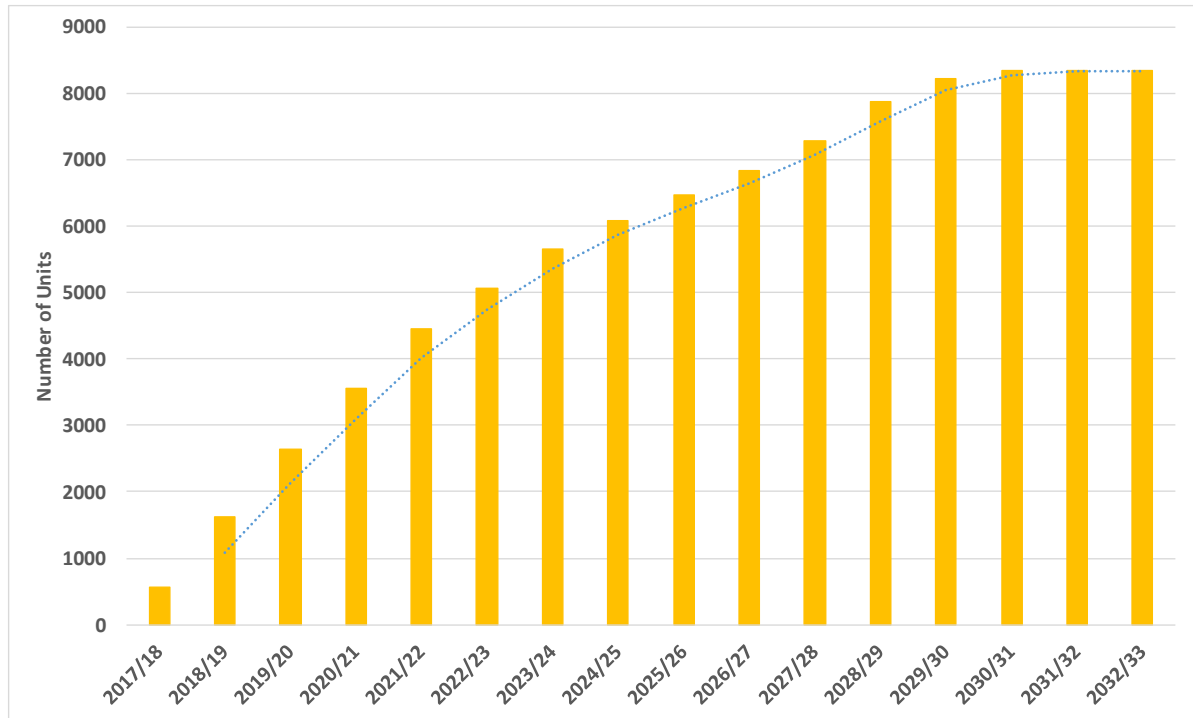


Source: Harlow (2017)

- 3.5.5. Figures 3-7 and 3-8 show the projected housing growth over the plan period within the Harlow boundary, as shown in Table 3-2. The three phases shown in the table are also broken down to a year-by-year basis for further clarity.
- 3.5.6. The housing growth mirrors the projected population growth shown in Figure 3-5. However, there is particularly high growth projections between 2018 and 2022, where a significantly higher level of units projected to be constructed in Harlow. This is confirmed by the slight incline in the cumulative trajectory trendline in Figure 3-7. These projections form the basis by which infrastructure needs within Harlow are assessed and allocated between 2017-2033.

¹³ Harlow District Council 2017 *Housing Growth Trajectory 2017-2033*

Figure 3-8 Cumulative Trajectory within Harlow¹⁴



Source: Harlow (2017)

3.5.7. Future Employment Sites in Harlow

3.5.8. Information on future employment sites and their trajectory was provided by Harlow Council. This information is based on a combination of draft allocations, sites with planning permission and sites promoted through the 'call for sites'; process. These employment sites that form the employment trajectory underpinning the IDP infrastructure needs assessment are shown at Table 3-4 and Figure 3-9 below.

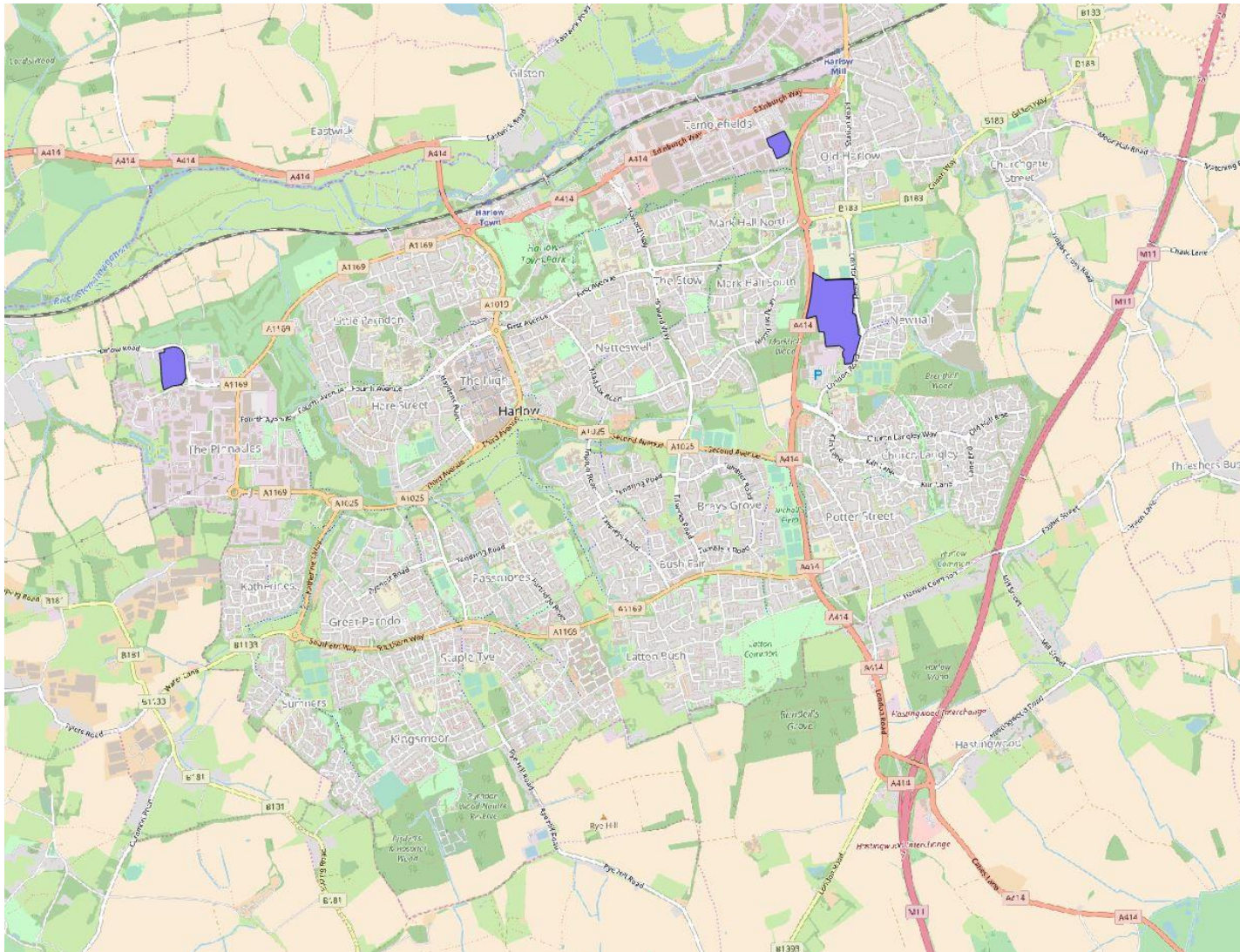
Table 3-4 Future Employment Sites in Harlow (2017-2033)

Identifier	Site Name	Capacity (Ha)
ED1_01	Harlow Business Park, The Pinnacles	4.6
ED1_02	London Road	14.2
ED1_03	East Road, Templefields	2.2
Total		20.0 ha

Source: ONS (2014)

¹⁴ Harlow District Council 2017 *Housing Growth Trajectory 2017-2033*

Figure 3-9 Future Employment Sites in Harlow



Source: Harlow (2017)

3.5.9. Future Development Sites Outside Harlow

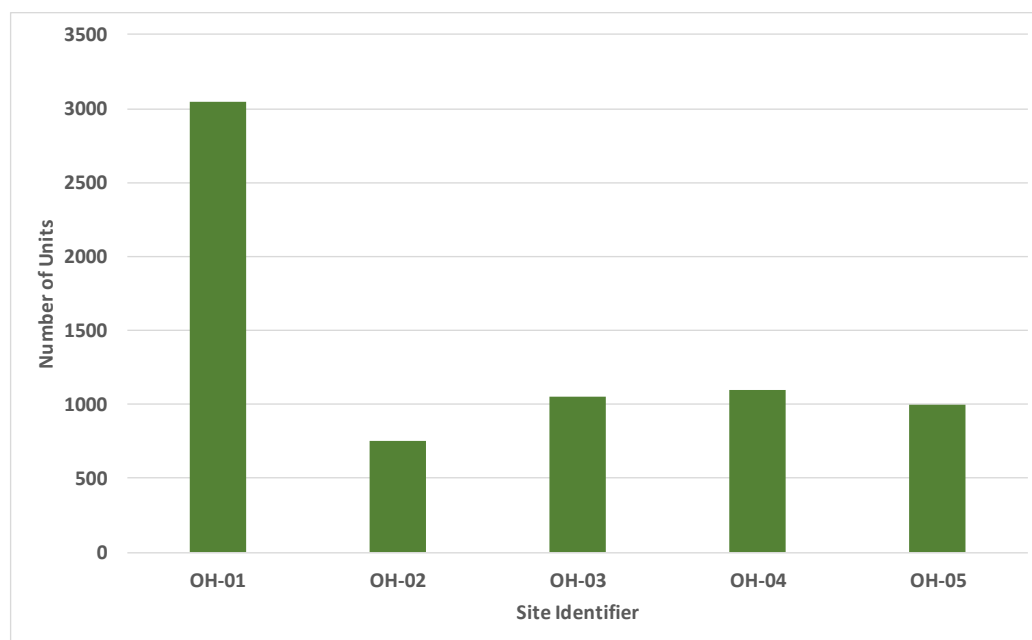
3.5.10. Information on future development sites outside Harlow were also provided by Harlow Council. The sites are shown in Figure 3-6 above and the trajectory at Table 3-3 below. Note this indicative trajectory was provided to support a recent funding bid to the Homes and Communities Agency. As such the figures may differ from the current local authority estimates.

Table 3-5 Future Housing Growth for Strategic Sites Outside of Harlow (2017 – 2033)

IDP Site Identifier	Site Name	Phase 1: 2017/18-2021/22	Phase 2: 2022/23-2026/27	Phase 3: 2027/28-2032/33 (6 years)	Total Units
OH-01	Gilston Park Estate	TBC	900	2,150	3,050
OH-02	East Harlow (minus Harlow's proportion of the site IH-22))	TBC	250	500	750
OH-03	Latton Priory ¹⁵	50	300	500 (a further 200 beyond plan period)	1,050
OH-04 & OH-5	West of Katherines & West of Summers	100	600	1,000 (a further 400 beyond plan period)	2,100
Total Units - Sites around Harlow					6,950

Source: Harlow (2017)

Figure 3-10 Strategic Sites Outside of Harlow



Source: Harlow Council (2017)

¹⁵ 1,050 is for the Latton Priory site only in Epping. Riddings Lane is within Harlow and the development trajectory of 35 dwellings is included in Table 3-3.

3.5.11. **Total Development in the Harlow and Gilston Garden Town (2017-2033)**

Total projected housing growth in the Harlow and Gilston Garden Town is shown in Table 3-4 and Figure 3-10 below.

Table 3-6 Total Future Growth in the Harlow and Gilston Garden Town (2017 – 2033)

Total Units - Sites within Harlow	8,418 ¹⁶
Total Units - Sites around Harlow	6,950
Total Units - Sites in and around Harlow	15,368
Total Employment Ha – Sites in Harlow	20 ha

Source: Harlow (2017)

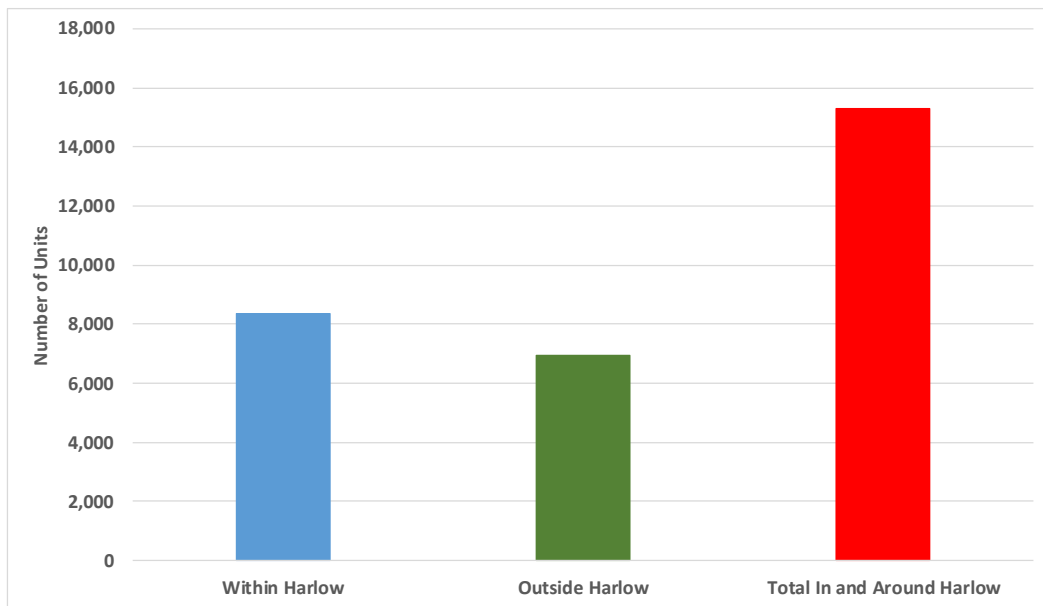


Figure 3-11 Total Future Housing Growth in and Around Harlow

Source: Harlow Council (2017)

¹⁶ Note this figure excludes completions, which at the time the analysis was performed totalled 1,436 in Harlow. If these figures were included the total trajectory for the wider Harlow area would be 16,804.

4. Transport

4.1. Introduction

4.1.1. This section covers the following transport related infrastructure sub-categories:

- Highways
- Public Transport (Rail and bus)
- Walking and Cycling

4.2. Highways

4.2.1. Information sources

4.2.2. The following information sources were referenced in this assessment of highways needs for Harlow and the Harlow and Gilston Garden Town.

- Direct consultation and ongoing engagement with ECC Transportation team based on Local Plan transport modelling using Harlow Stansted Gateway Transportation Model.
- Access to Harlow. Stage 1 Options Assessment Report, ECC (2016)
- ECC, West Essex & East Herts Local Plans Modelling Technical Note 1: Forecast Modelling (2016),
- ECC, West Essex & East Herts Local Plans Modelling Technical Note 2 Spatial Options (2016),
- ECC, West Essex and East Herts Local Plans Modelling Technical Note 3 Stort Crossing (2016),
- ECC, West Essex and East Herts Local Plans Modelling: Technical Note 4 Emerging Option (2016),
- Essex Transport Strategy: The Local Transport Plan for Essex (2011)
- Memorandum of Understanding on Highways & Transportation Infrastructure for the West Essex/East Hertfordshire Housing Market Area, ECC and relevant Councils (2017)
- Greater Essex Growth and Infrastructure Funding Study (GIF), ECC, (2017)
- Consultation Report on M11 Junction 7a including Gildea Way, EC (2016)
- A review of previous Harlow Infrastructure Studies.

4.2.3. Existing Highways Provision and Trends

4.2.4. Harlow is a medium sized town with a population of approximately 85,000. The town is located within the most populated and economically productive area of the UK. It is in the West of Essex close to London and is within the London-Stansted-Cambridge Growth Corridor (LSCC).

4.2.5. In terms of strategic highways infrastructure, Harlow is well situated close to both the M11 and M25 key strategic routes. These roads provide access to London, the wider South East of England region and Cambridge and the East of England. The M11 is to the east of the town and the M25 is 3 miles to the south of Harlow. Within Harlow the A414 is the main strategic road. It connects Harlow to the Motorway network and provides an east west access route linking Essex in the east to Hertfordshire in the west.

4.2.6. The urban form of Harlow is characterised by relatively dense residential development interspersed with large green wedges that radiate from the centre to the periphery. As a new town, planned in the post war period, it was designed to accommodate car usage with a roughly grid-patterned network of distributor and local roads spread across the town. However, as with other earlier planned new towns, current levels of car usage were not envisaged when Harlow was planned and this has resulted in significant local traffic congestion (see section below for further information on congestion issues).

4.2.7. A key congestion issue is caused by the locations of Harlow's main industrial areas to the north and west of the town. These industrial areas lie to the west of the M11 which means that much of Harlow's employment related traffic must pass through the town on its way to access the M11.

This issue arose because Harlow's original town planners in the immediate post war period assumed the M11 would run to the west of Harlow, however, when the M11 was finally constructed in the 1970s the eventual M11 location was to the east.

4.2.8. The key highways infrastructure in and around Harlow is shown in Figure 4-1 below:

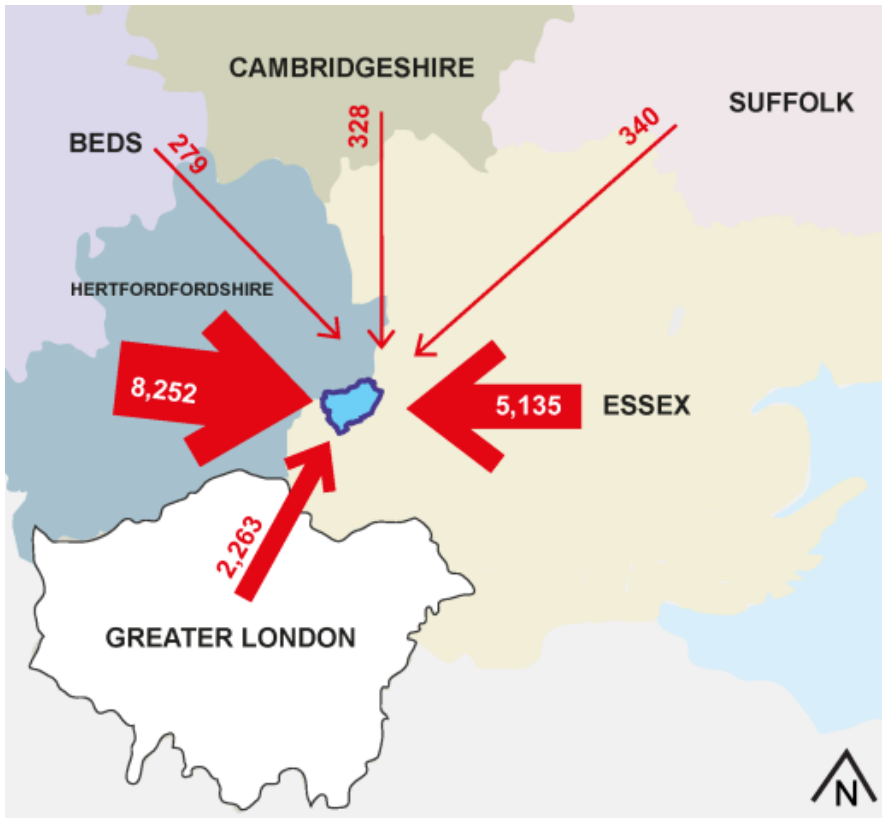
Figure 4-1 Key Transport infrastructure in and around Harlow



Source: Atkins (2017) Contains Ordnance Survey data © Crown copyright and database right 2017.

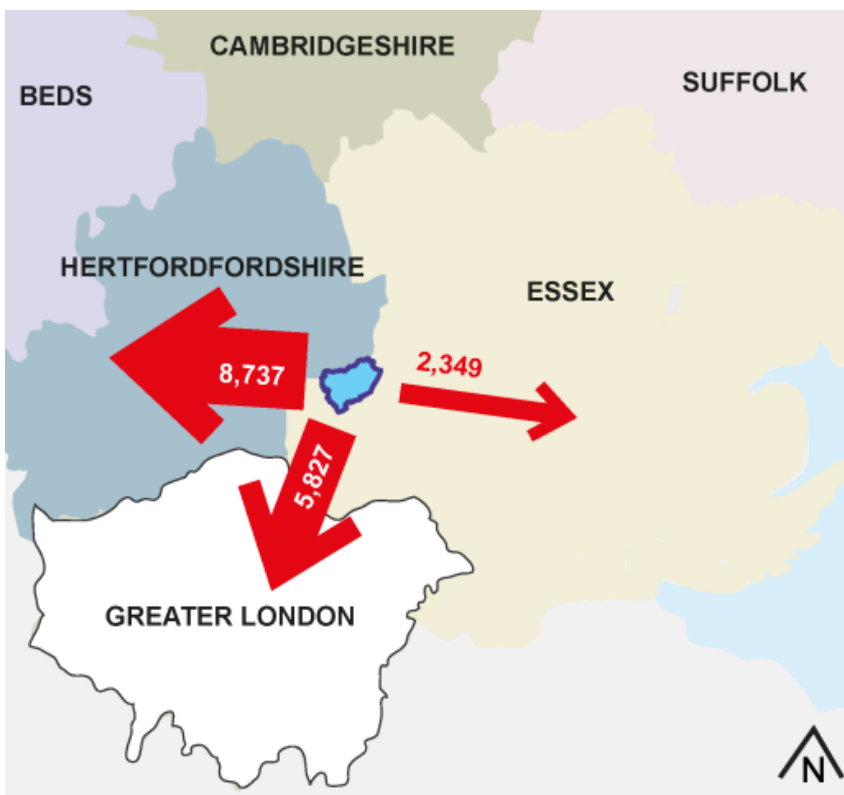
- 4.2.9. The predominant mode of transport in Harlow is the private vehicle (cars and vans). Car and vans are the main modal use for Harlow residents commuting to and from work. According to the 2011 census 69% use a car or van. Only 4% commute to work by train, 3% by tube to London, 5% by bus and only 2% cycle. Approximately 11% of Harlow's residents walk to work.
- 4.2.10. Despite being within the London commuter belt, Harlow is a relatively well contained settlement with a reasonable employment base. The movement patterns of workers in and around Harlow can be characterised as relatively balanced picture of in-commuting and out-commuting. Approximately 22,000 of Harlow's residents work within Harlow itself compared to around 17,000 who commute out of Harlow to work in other areas.
- 4.2.11. The most significant commuter flow involves commuting into and out of Hertfordshire to the west of Harlow. According to the 2014 Harlow's Local Development Plan Emerging Strategy 2014 Consultation, 'A Spatial Portrait of Harlow', approximately 14% of Harlow's employed residents commute to London. See Figure 4-2 and 4-3 below for commuter flows based on 2011 census data.

Figure 4-2 Number of workers by origin commuting into Harlow



Source: Census 2011 ONS, Inward commuting flow counts, 2011

Figure 4-3 Number of workers commuting from Harlow to other areas



Source: Census 2011 ONS, Inward commuting flow counts, 2011

4.2.12. Existing Deficiencies

4.2.13. Despite being a planned town, Harlow experiences issues of road congestion and poor connectivity. The M11 Junction 7a consultation report states the following regarding highways deficiencies in Harlow:

*'Harlow is severely limited by the lack of road capacity and connectivity, restricting the growth essential to provide the platform for regenerating the area.'*¹⁷

4.2.14. The key causes of Harlow's highways deficiencies can be summarised as follows:

- Junction 7 of the M11 is the only local access point on the motorway network. This creates an effective pinch-point on the network as travellers from nearby villages use Harlow to access the M11.
- The significant in and out commuting to and from Harlow is reliant on the strategic road network and primarily the A414, as the main route. However, the A414 is a single carriageway for much of its section which causes significant congestion at peak times.
- The grid pattern of roads in Harlow contain limited east-west and north-south strategic routes through the town. This causes significant congestion, especially in the town centre.
- The location of employment sites in the north and south on the other side of town from the main strategic road network and the M11 creates issues of HGV traffic using more secondary roads.

4.2.15. The structural transport issues described above manifest themselves in the following specific existing highways deficiencies and congestion pinch points across Harlow:

- M11 (junction 7 and 8) a)
- A414 entry and exit points Eastwick junction to north and Burnt Mill to South severe congestion
- A414 / London Road / M11 Junction 7
- A414 / Cambridge Road (A1184) Roundabout
- A414 / Second Avenue Roundabout
- Burnt Mill Roundabout – A414 / Fifth Avenue/ Edinburgh Way
- First Avenue / A414 / Gildea Way Roundabout
- Second Avenue / Third Avenue Roundabout
- A number of roundabouts and junctions along Southern Way

4.2.16. These key congestion pinch points are summarised in Figure 4-4 below:

¹⁷ ECC, M11 Junction 7a consultation report (2016)

Figure 4-4 Harlow's existing congestion pinch points



Source: ECC (2016) Contains Ordnance Survey data © Crown copyright and database right 2017.

4.2.17. **Future Requirements in Harlow**

4.2.18. Given the existing highways deficiencies in Harlow described above, the approximately 16,000 new residential dwellings in the Harlow and Gilston Garden Town by 2036 will generate a requirement for significant new highways works. To estimate the highways infrastructure required to meet the future growth needs of Harlow, ECC has undertaken traffic modelling using the Harlow Stansted Gateway Transportation Model (HSGTM). Factoring in the projected growth to 2036 identified in section 3 above, the expected future local network pinch points are as follows:

- M11 Junction 7 and adjoining roads
- Burnt Mill (A414 / Fifth Avenue)
- Eastwick Roundabout (A414)
- Edinburgh Way A414/ A1184 (Cambridge Road)
- A414 / B183 (Gilden Way)
- Edinburgh Way A414 / Howard Way
- Edinburgh Way A414/ River Way
- A414 / Second Avenue
- Second Avenue / Howard Way
- Second Avenue / Velizy Avenue (Town Centre)
- A414 / London Road / M11 Junction 7
- Gilden Way / Sheering Road (Gilden Way development site access)

4.2.19. Although ECC have identified 'high-level' specific highways projects required to address Harlow's future growth needs, it should be stated that the overall transport strategy for Harlow and the

Harlow and Gilston Garden Town has yet to be fully defined. Particularly important will be the overall future transport 'vision' or 'ethos' for the area. For example, the 'vision' may seek a significantly more sustainable approach and higher modal split to addressing transportation issues. In this scenario, future transport needs are not likely to be as focussed on providing additional major road capacity, but rather it could be focussed on reducing demand and therefore the need for significant new hard infrastructure. However, in the absence of an adopted transport 'vision', it is appropriate at this point to set out the more typical approach to estimating highways projects required to enable the future growth of Harlow and its wider area.

- 4.2.20. The key future highways projects relate to easing congestion on the M11 through the creation of a new M11 Junction (J7a), as well as improvements to Harlow's strategic road network such as the A414, Gilden Way and creation of new East-West and North-South sustainable transport corridors. Also, in the longer term a northern bypass will help to improve connectivity and reduce congestion in the North of Harlow, especially if the Gilston Strategic Site in East Herts delivers as many housing units as is being promoted by developers i.e. approximately 10,000 in the long term. The Northern Bypass is currently expected to be delivered after the plan period i.e. after 2033. There will also be the need for a series of relatively smaller, local highway interventions.
- 4.2.21. The following highways projects in Table 4-1, as defined by ECC through their modelling, are required to address the needs generated by growth within Harlow to 2036. The table includes order of magnitude cost estimates. Where a range of costs was provided the mid-point cost of this range is shown. It should be noted that as with all transport projects it is difficult to differentiate between the needs generated by growth in the Harlow and Gilston Garden Town and needs generated solely by growth within Harlow's boundaries. However, for strategic planning purpose it is necessary to list projects attributable to growth within a defined local planning authority area, so the projects in the following table should be considered Harlow specific future highways projects. For some projects, funding will be delivered by developer contributions for sites coming forward in the wider Harlow area and will need to be considered by all local authorities in the Garden Town:

Table 4-1 Highways projects to meet Harlow's future growth needs (2017-2036)

Id	Project*	Est Cost (£m's)	Funding (£m's)	Funding Gap	Funding Source*	Priority
H_1	Velizy / Second Ave interim works	4.0	0.1	3.9	DC	Essential
H_2	Edinburgh Way A414 / Howard Way	4.0	0.8	3.2	GPF	Essential
H_3	New Junction River Way / Cambridge Rd	3.0	3.0	0.0	SELEP	Important
H_4	Gilden Way (B183) / London Rd roundabout	10.0	10.0	0.0	s106/ ECC /SELEP	Essential
H_5	Gilden Way/Harlowbury development primary site access.	0.8	0.8	0.0	DC	Essential
H_6	Gilden Way/Harlowbury development secondary site access	0.2	0.2	0.0	DC	Essential
H_7	Gilden Way/ (B183) / Mulberry Green for Harlowbury development	0.1	0.1	0.0	DC	Important
H_8	Newhall Primary Rd / Bus Avenue	3.7	3.7	0.0	DC	Essential
H_9	Sustainable transport corridor (North/South)	100.0	0.0	100.0	DC, Grant	Essential
H_10	Sustainable transport corridor (East/West)	25.0	0.0	25.0	DC, Grant	Essential
H_11	A414 / Cambridge Rd (A1184) / Station Rd	10.0	10.0	0.0	GPF	Essential
H_12	Fifth Avenue / Velizy /Fourth / First Ave	5.0	0.0	5.0	TBC	Essential
H_13	Southern Way traffic calming	1.0	0.0	0.1	DC	Essential
H_14	Southern Way lorry restrictions	0.1	0.0	0.1	ECC	Important
H_15	Closure of Old Road to through traffic at rail bridge and adjustment to A1184/Old Rd signals	TBC	TBC	0.0	DC	Essential
H_16	A1025 Second Avenue/Manston/Tripton capacity improvements	4.0	0.0	4.0	DC	TBC
H_17	A1025 Second Avenue/Howard Way capacity improvements	TBC	TBC	0.0	DC	TBC
H_22	Abercrombie Way/Third Avenue	3.0	0.0	3.0	DC	Essential
Total		173.9	28.7	145.2		

Source: ECC Highways (2017)

*ECC (Essex County Council); DC (Developer Contribution); EZ (Enterprise Zone); GPF (Growing Places Fund); PPF (Pinchpoint Fund); SELEP (South East Local Enterprise Partnership funding); TBC (To be confirmed)

4.2.22. Future Requirements around Harlow

4.2.23. Table 4-2 below shows the future highways projects required to enable growth on the Harlow and Gilston Garden Town. Note that along with addressing the specific needs generated by growth in Harlow, these projects also address a wider sub-regional, or even national need. It is not possible to apportion the costs relevant to growth specifically originating from the Harlow and Gilston Garden Town.

Table 4-2 Highways Projects to meet Harlow and Gilston Garden Town Future Growth Needs (2017-2036)

Id	Project	Est Cost (£m's)	Funding (£m's)	Funding Gap	Funding Source*	Priority
H_18	M11 new junction 7a	75.0	75.0	0.0	DC, RIS2	Essential
H_19	M11 Junction 7 improvements	29.0	0.0	0.0	DC, RIS2/3	Essential
H_20	Second River Stort Crossing and highway link connecting through to A414 at Eastwick (mainly in Herts)	67.5	0.0	67.5	DC, Grant	Essential
H_21	Princess Alex Hosp relocation highways works	TBC	0.0	TBC	DC, Grant	Essential
H_23	Southern Way/Katherines Way Works to address projected growth in south west of Harlow	3.0	0.0	3.0	DC	Essential
H_24	Harlow Northern Bypass (route to be defined)	250.0	0.0	250.0	DC, Grant	TBC
H_25	Replace the straight crossing on Gilden Way (W) arm of the junction at Loading Point 4 with a staggered pedestrian crossing ¹⁸	1.0	0.0	1.0	DC, Grant	Essential
H_26	Provision of a left turn slip road from M11 Junction 7a link road approach to the East Harlow northern access road (Loading Point 3)	1.0	0.0	1.0	DC, Grant	Essential
H_27	Widening of central crossing over River Stort from Eastwick to Burnt Mill Rdbt	4.9	0.0	4.9	DC, Grant	Essential
H_28	Amwell roundabout	1.3	0.0	1.3	DC, Grant	Essential
H_29	Improved access to Harlow Town Station	0.6	0.0	0.6	DC, Grant	Essential
Total		433.3	75.0	358.3		

Source: ECC Highways (2017)

*ECC (Essex County Council); RIS2 (Road Investment Strategy Phase 2); DC (Developer Contribution); EZ (Enterprise Zone); GPF (Growing Places Fund); PPF (Pinchpoint Fund); SELEP (South East Local Enterprise Partnership funding); TBC (To be confirmed)

4.2.24. Locational Requirements & Delivery Considerations

4.2.25. ECC Highways are currently assessing the transport schemes shown in Table 4-1 and 4-2 above in further detail. This includes defining more precise details on the characteristics of projects such as the alignment of new roads and major highways schemes and their costs and funding provisions. More detailed information will become available at the appropriate point in the Local Plan process. For information purposes, relevant available delivery information on certain projects is provided below:

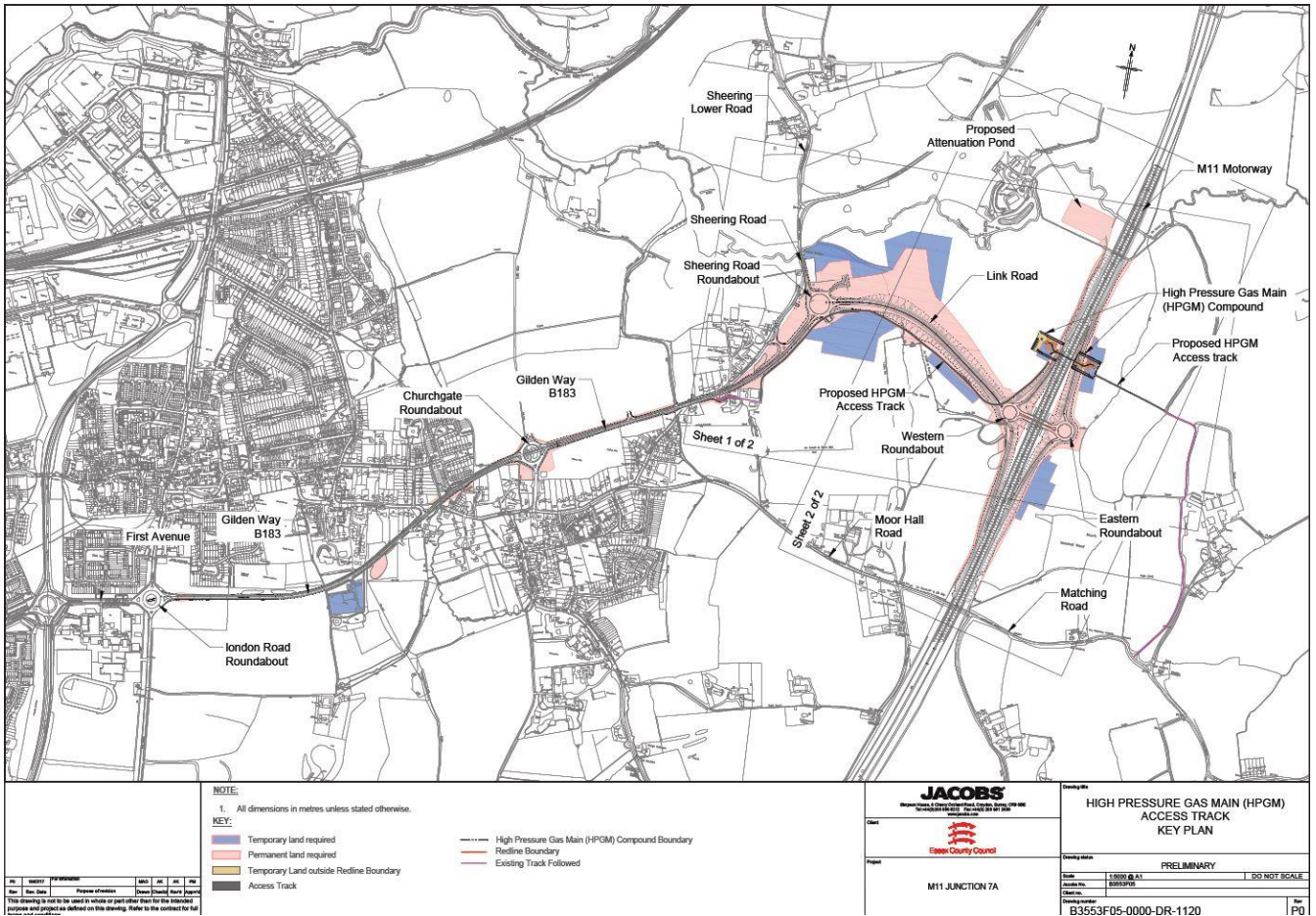
- Further technical assessment work is to be completed before understanding the full transport implications of upgrading the A1025 Second Avenue/Manston/Tripton capacity improvements (Project 16) corridor in terms of through routeing of traffic in this area.
- At the time of writing a partial bid has been submitted by ECC to Department for Transport to help fund the North/South Sustainable Transport Corridor (Project 9).

¹⁸ The costs of highways projects in East Herts (H_27 – H_29) are based on a 30.5% proportion of the total project costs which assume a need of 10,000 new dwellings. 30.5% represents 3,050 dwellings to be delivered in Gilston to 2033.

- In terms of the potential re-location of Princess Alexandra Hospital, although the exact location of the relocation is unknown at this point it is assumed that the highways impacts should be relatively limited as from a sustainability perspective the new Hospital should be located along one of the Sustainable Transport Corridors (Project 9 or 10).
- The Northern Bypass (Project 24) has limited information at this point. There is potential that this project would be delivered after 2036. The principal aim of the project would be to 'fill the gap' between Riverway and the new J7a to take pressure off the existing network. The relative priority of this project is yet to be established.

4.2.26. The most significant imminent project is the M11 Junction 7a. At the time of writing a potential alignment of the new M11 Junction 7a and associated projects to increase the capacity of Gilden Way (Projects 4,5,6,7 and18) is shown at Figure 4-5 below:

Figure 4-5 Proposed scheme - M11 Junction 7a and widening of Gilden Way.



Source: ECC Highways (2017)

4.2.27. Costs, Funding and Delivery

4.2.28. The total estimated cost of highways projects to address future needs of Harlow's growth, as shown in Table 4-1 above, is **£173.9m**. There is estimated to be approximately **£28.7m** of committed funding. The residual funding gap is therefore **£145.2m**. The cost of transport projects to support growth in the Harlow and Gilston Garden Town are around £430m (table 4-2), with funding identified for M11 Junction 7a and partially for J7 but no other committed funding identified at this point. However, this total cost includes projects, such as the M11 junction improvements that address a sub-regional or national need.

4.2.29. The 2017 MOU states that significant funding would be expected through national funding streams for the major pieces of infrastructure. However, this does not preclude major contributions from developers through S106 towards these schemes.

4.3. Rail Network

4.3.1. Information sources

4.3.2. The following information sources were referenced in the assessment of rail infrastructure in Harlow.

- Consultation with rail operators
- Rail operators business plans
- A review of previous Harlow Infrastructure Studies
- Direct consultation and ongoing engagement with ECC Transportation team
- Essex Transport Strategy: The Local Transport Plan for Essex (2011)
- Memorandum of Understanding on Highways & Transportation Infrastructure for the West Essex/East Hertfordshire Housing Market Area, ECC and relevant Councils (2017)
- Greater Essex Growth and Infrastructure Funding Study (GIF), ECC, (2017)
- West Anglia Task Force: Prospectus (2017)

4.3.3. Existing Provision

4.3.4. There are two railway stations situated in the north of Harlow. Both are on the West Anglia Main Line. The stations and lines are as follows and are also shown in Figure 4-1 and Figure 4-6 below:

- Harlow Town Station
- Harlow Mill Station

4.3.5. The railway franchise is operated by Abellio Greater Anglia which is a joint venture between the Dutch national rail operator and Japanese rail company Mitsui. The franchise runs between 2016 and 2026. Network Rail is a publicly owned company responsible for managing and investing in the railway infrastructure including the track, signals, bridges and stations. Network Rail owns railway stations and leases them to the train operating companies.

4.3.6. The West Anglia Main Line connects London, Stansted Airport and Cambridge. It provides access to Roydon, Cheshunt, Broxbourne and Tottenham Hale to the south. There are 6 trains an hour from Harlow Town station to London Liverpool Street and 2 every hour to Stansted Airport. According to 2011 Census around 4% of Harlow residents commute by train and 3% by tube.

Figure 4-6 West Anglia Main Line



Source: Greater Anglia Abellio (2017)

4.3.7. Existing Deficiencies

4.3.8. The West Anglia Main Line around Harlow is currently very congested. At peak times on average all seats are taken and some standing occurs¹⁹. This is partly due to the significant population and associated volume of commuters travelling to work in and around Harlow to London and the wider South East of England. It is also due to structural network factors. These network factors mainly relate to there being five different routes converging into two tracks. The fact there are only two rail tracks in Harlow creates congestion because these lines have to accommodate both faster strategic routes such as the Stansted Express, and slower local stopping services.

4.3.9. Future Requirements in Harlow

4.3.10. Based on consultation with providers and research there are no specific rail capacity enhancement projects, for example additional stations or railway lines, planned within Harlow's boundaries to address the town's future growth needs within the planning period. However, there is a £60million investment for station upgrades with a focus on Broxbourne, Cambridge, Cheshunt and Southend Victoria stations, but also some improvements to Harlow Town station.

¹⁹ Network Rail (2013)

4.3.11. There are also rail projects planned for the wider area (see below) that will help to address congestion indirectly on the rail network within Harlow. Development is planned around Harlow Town Station but this is not considered railway infrastructure. See below, for future strategic railway projects that could help to address the area's wider needs.

4.3.12. **Future Requirements around Harlow**

4.3.13. Given the existing network deficiencies and the increasing population in the wider sub-region there are plans for rail network enhancements that would serve the wider area. It is difficult to directly attribute the element of these larger strategic projects relevant to growth within Harlow or the growth projected on Harlow's fringe. However, it is useful to identify these projects to support strategic planning purposes. The following strategic rail projects are identified:

- Four tracking of the West Anglia Main Line between Broxbourne to Coppermill Junction. This would enable inner and outer suburban stopping services from Broxbourne to be run separately from Stansted Express and Cambridge services opening up the full potential of the line. Approximate cost according to the South East LEP is £72million.
- Delivery of Crossrail 2 and potential extension of the route from Broxbourne to Harlow. Crossrail 2 is reliant on four tracking of the West Anglia Main Line. The total approximate cost of Crossrail 2 is estimated to be around £30billion. It is not possible to apportion the costs relevant to growth in and around Harlow.
- £60million investment for station upgrades with a focus on Broxbourne, Cambridge, Cheshunt and Southend Victoria stations but also including platform extensions at Harlow Town Station.

4.3.14. **Costs and Funding**

4.3.15. The only rail project applicable to growth in Harlow is the upgrade to Harlow Town station which is part of a wider £60million package of station improvements covering a variety of stations in the wider area. Accordingly, it is not possible to attribute costs relevant to the Harlow element of this station improvement initiative.

4.3.16. The total estimated cost of rail infrastructure to support Harlow and Gilston Garden Town and sub-regional growth needs is £132million (£72m for four tracking and £60m for station upgrades). This excludes Crossrail 2. £132m is a total estimated cost and as described above this is not entirely attributable to growth in and around Harlow. The cost to support a potential Crossrail extension to Harlow is undefined at present. The burden of funding new railway infrastructure depends on the specific project circumstances but in general it is shared between the commercial network operators and the public sector.

4.4. **Bus Network**

4.4.1. **Information sources**

4.4.2. The following information sources were referenced in the assessment of Harlow's bus infrastructure.

- Direct consultation and ongoing engagement with ECC Transportation team
- Essex Transport Strategy: The Local Transport Plan for Essex (2011)
- Greater Essex Growth and Infrastructure Funding Study (GIF), ECC, (2017)
- Getting Around in Essex Bus Study, ECC (2015)
- Consultation Report on M11 Junction 7a including Gildea Way, EC (2016)
- A review of previous Harlow Infrastructure Studies.

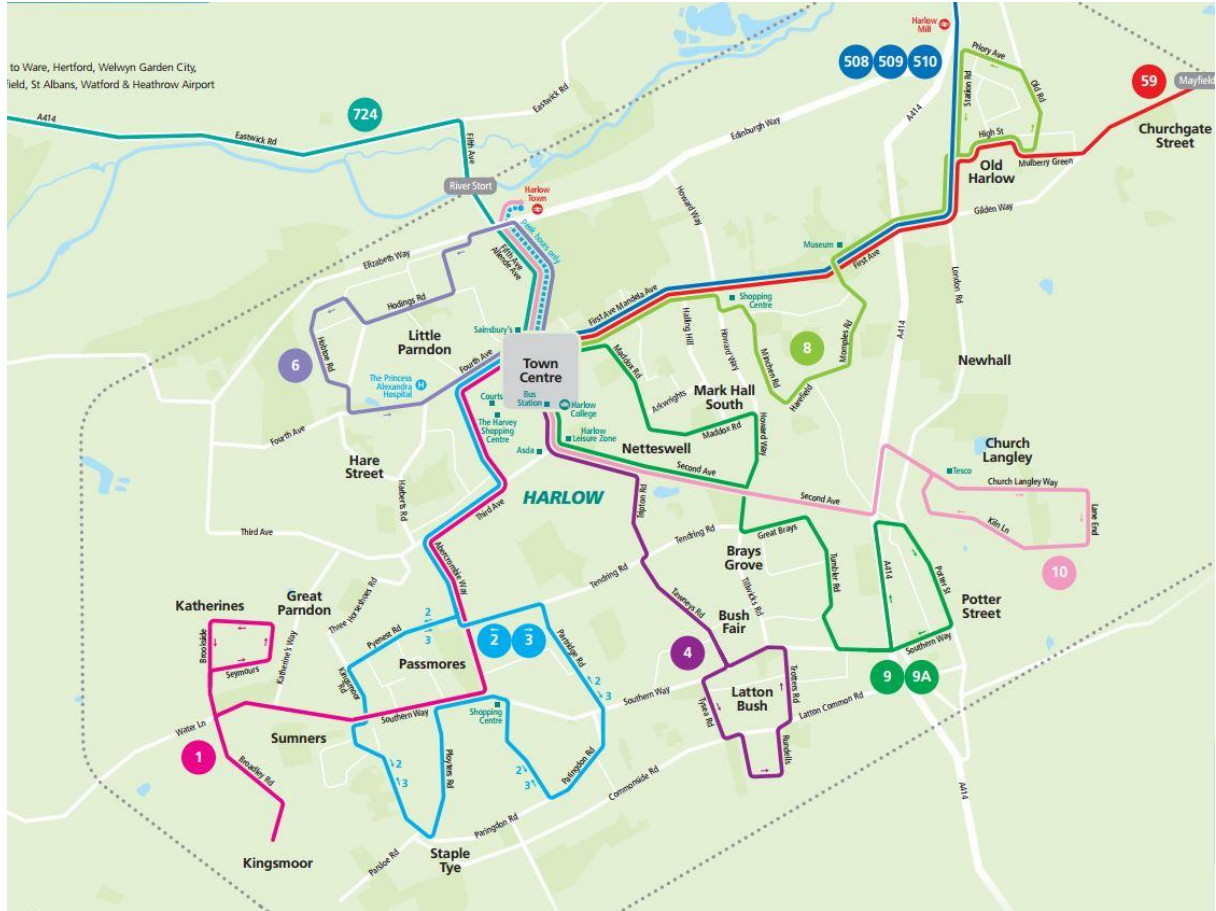
4.4.3. **Existing Provision**

4.4.4. Harlow has an extensive bus network that provides a variety of bus routes that act as spokes connecting the town centre hub to the various neighbourhoods. Harlow Town Centre Bus Station is the main bus station in the centre of town and acts a hub within the centrifugal network.

4.4.5. The bus network in Harlow is operated on a commercial basis by Arriva with some services subsidised by ECC. Arriva are a multinational public transport company. Arriva also provide frequent buses to Bishop's Stortford and London Stansted Airport plus the Greenline 724 service that runs via Ware, Hertford, Welwyn Garden City, Hatfield, St. Albans, Watford, Rickmansworth, Maple Cross, Denham and Uxbridge on its way to London Heathrow Airport.

4.4.6. See Figure 4-7 below for a plan of Harlow's existing bus network:

Figure 4-7 Harlow Bus Network



Source: Arriva (2017)

4.4.7. Essex County Council, has a statutory duty under Section 63 of the Transport Act 1985 to provide subsidised bus services where there are no commercial services and where appropriate. The Transport Act (2000) requires ECC to produce a local transport plan and a 'Bus Strategy'. This provides details on ECC plans to develop and improve local bus services. ECC published their Bus Strategy in 2015.

4.4.8. Existing Deficiencies

4.4.9. Although Harlow has a reasonable network of bus routes and services there are some existing deficiencies. Employment areas are generally poorly served by buses. This exacerbates the issues of congestion described in the Highways section above as people are forced to commute to work by car. The congestion, particularly in the centre causes issues for buses and can reduce their attractiveness to users.

4.4.10. Future Requirements in Harlow

4.4.11. To address Harlow's future growth needs following bus projects are identified:

- Enhanced bus services to Pinnacles Employment Area
- Enhanced bus services along Edinburgh Way into River Way via new EZ access
- Enhanced bus services on sustainable transport corridor (east/west)

- Enhanced bus services on sustainable transport corridor (north/south)
- Extension bus route 7 to Gilden Way Development
- Extension bus route 7 to Newhall Phase 2 Development

4.4.12. All projects are considered to be required in terms of prioritisation as they need to be delivered to support development but in terms of timing it is possible, albeit not ideally, that they can be delivered after the development has been constructed.

4.4.13. Future Requirements around Harlow

4.4.14. The future infrastructure requirements around Harlow are shown below:

Table 4-3 Bus Projects to meet the Future Growth Needs of Strategic Sites Outside Harlow (2017-2036)

Id	Project	Est Cost (£m's)	Funding (£m's)	Funding Gap	Funding Source*	Priority
B_7	New busway service to serve West of Harlow	8.5	0.0	8.5	DC, Grant	Required
Total		8.5	0.0	8.5		

Source: ECC Highways (2017)

4.4.15. Costs and Funding

4.4.16. Costs have not been provided for the individual bus projects required to meet Harlow's future growth needs. However, based on cost and funding information provided in the Essex Bus Strategy (2015) adjusted to address the increasing population associated with Harlow's future growth, assumptions can be made on the total level of public sector spending on bus projects²⁰. This is provided below:

- Estimated annual public-sector (ECC) bus spending in Harlow by 2033 = £3,730,488
- Estimated annual commercial bus spending in Harlow by 2033 = £21,139,432
- **£24,869,920 total**

4.4.17. Note this cost is an annual cost for providing the service.

4.5. Walking and Cycling

4.5.1. Information sources

4.5.2. The following information sources were referenced in the assessment of walking and cycling infrastructure.

- Direct consultation and ongoing engagement with ECC Transportation team
- Essex Transport Strategy: The Local Transport Plan for Essex (2011)
- A review of previous Harlow Infrastructure Studies.

4.5.3. Existing Provision

4.5.4. Harlow has an extensive cycle and footpath network. As a planned town, it benefits by having ample space to locate segregated cycle and walk ways in pleasant green space. These are predominantly within Harlow's Green Wedges. Important direct cycle routes in Harlow run adjacent to the following roads:

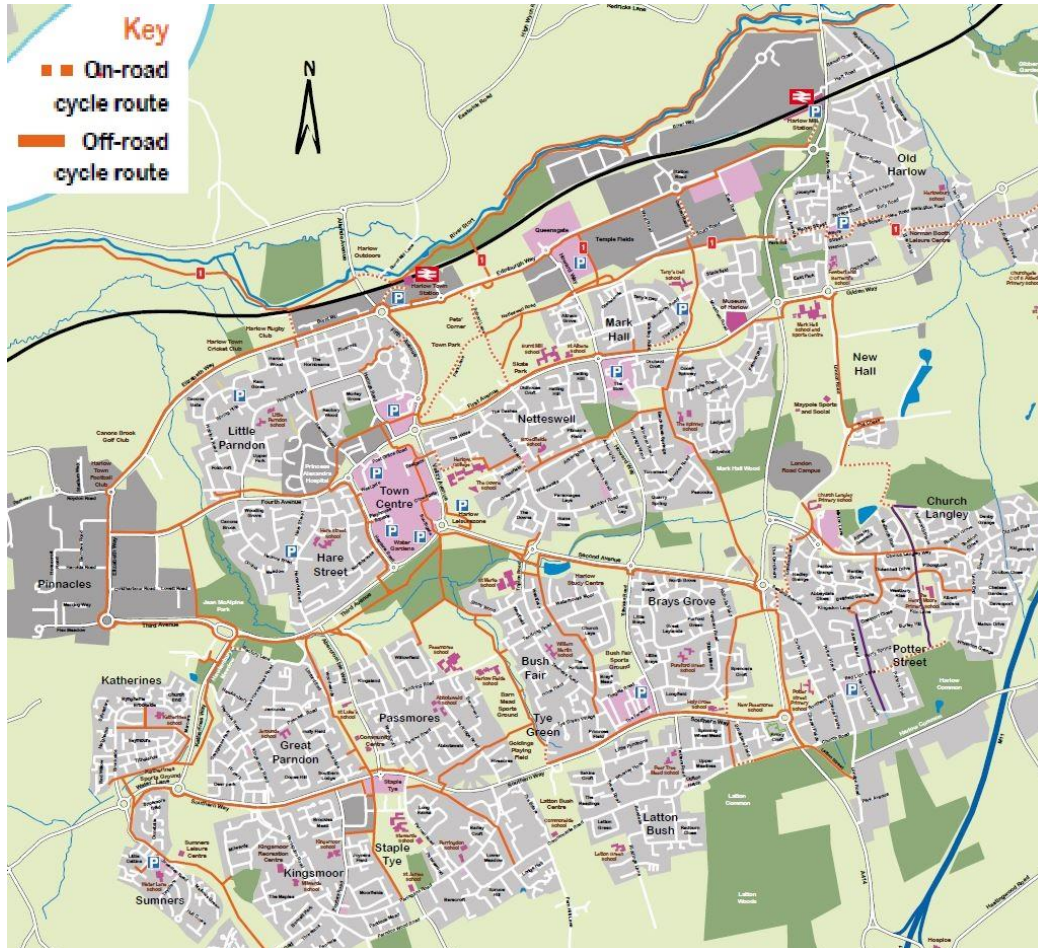
- First Avenue

²⁰ Assumptions used include that 85% of bus service spend in Essex is commercial and 15% public sector. Total public-sector annual spend is assumed to be £62.7m (source: ECC Bus Strategy 2015 para 1.13). This spend is factored up by Essex expected future growth and then Harlow's growth is apportioned based on it being approximately 6% of Essex's growth.

- Second Avenue
- Fifth Avenue
- Elizabeth Way
- A414 Edinburgh Road
- London Road
- Southern Way

4.5.5. Figure 4-8 below shows Harlow's network of cycle paths.

Figure 4-8 Harlow Cycle Network



Source: ECC (2017)

4.5.6. Existing Deficiencies

4.5.7. Although Harlow has a good cycle and walking network there are some existing issues. These are as follows:

- In winter months, the segregated cycle paths and walkways within the Green Wedges can feel inhospitable and unsafe, being dark and lack overlooking
- Large number of roundabouts and pedestrian underpasses on the road network make it unattractive for cyclists and walkers
- Lack of cycle parking, especially in the town centre.
- The busy east west A414 creates a barrier to access northern Harlow and train stations from the south and town centre.

4.5.8. Future Requirements in Harlow

4.5.9. At the time of writing the Harlow and Gilston Garden Town authorities were awaiting publication of a sustainable transport study being produced by SYSTRA. This study will outline further information on future projects and opportunities to encourage walking and cycling to meet the

future growth needs of Harlow. Two key projects for walking and cycling are the East-West and North-South sustainable transport corridors described in Highways Table 4-1 above (Projects H_9 and H_10). Previous assessments have identified the need for the following walking and cycling projects which are all an 'important' priority.

- New cycle route to connect London Road North Enterprise Zone to London Road and Newhall Phase 2 cycle network.
- Proposed cycle provision to serve Newhall Phase 2 – to provide a looping route from the existing network along The Chase, through Newhall Phase 2 and round to London Road.
- Proposed dedicated cycle route along Gilden Way (eastbound) section to connect the Gilden Way development to London Road via a new Toucan crossing at London Road/ Gilden Way roundabout.
- Proposed cycle infrastructure to serve Gilden Way residential urban extension and new primary school.
- Missing link along London Road between Newhall Phase 1 and Church Langley cycle network.
- Opportunity for a strategic north-south cycle route through Brays Grove and Mark Hall via existing footpath along Howard Way and Tillwicks Road. Would require pavement enhancement and enhanced signage without impacting carriageway.
- Southern Way gap between Bishopsfield and Parnall Road.
- Enhancements being implemented to Burnt Mill roundabout to provide enhanced east-west cycle connectivity across Fifth Avenue A414 and enhance cycle and pedestrian access to the Train Station.

4.5.10. Costs and Funding

4.5.11. No costs have been provided for the projects identified above. However, the Greater Essex Integrated Infrastructure Framework (GIF) estimates that the cost of walking and cycling infrastructure in Harlow will be around **£19m** with around **£4m** of expected funding. This leaves a funding gap of **£15m**. It should be noted that some of these costs are likely to relate to cycling and walking infrastructure connected to the sustainable transport corridors so there is a risk of 'double-counting' if these figures are combined with the highways costs. In the context of a strategic study such as this, using high level order of magnitude costs that are likely to change is not considered to be significant risk.

4.5.12. Future Requirements around Harlow

Table 4-4 Walking and Cycling Projects to meet the Future Growth Needs of Strategic Sites Outside Harlow (2017-2036)

Id	Project	Est Cost (£m's)	Funding (£m's)	Funding Gap	Funding Source*	Priority
WC_9	Pedestrian/ Cycle improvements relating to Gilston Park Estate development	0.4 ²¹	0.0	0.4	DC	Essential
		0.4	0.0	0.4		

Source: ECC Highways (2017)

4.6. Summary - Transport Costs and Funding

4.6.1. A summary of all transport projects (in and around Harlow), including their costs, phasing and delivery prioritisation scoring is shown below:

²¹ Note this figure is taken from the East Herts IDP. The total cost for this project is £1.2m however this is to meet the needs of an estimated 10,000 new dwellings not the 3,050 assumed in this study. Therefore, the total cost of £1.2m is apportioned (x 0.305) relative to the amount of housing expected to be delivered within the planning period i.e. 3,050 homes (see Table 3-5)

Table 4-5 Transport Projects to meet Harlow future Growth Needs ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
H_1	Highways	Velizy / Second Ave interim works	£4,000,000	DC	£100,000	£2,639,013	£381,316	£879,671				Essential	1,000-5,000	Site	6	ECC Highways
H_2	Highways	Edinburgh Way A414 / Howard Way	£4,000,000	GPF	£800,000	£2,114,013	381,316	£ 704,671				Essential	1,000-5,000	Site	6	ECC Highways
H_3	Highways	New Jct River Way / Cambridge Rd	£3,000,000	SELEP	£3,000,000	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
H_4	Highways	Gilden Way (B183) / London Rd roundabout	£10,000,000	s106/ ECC / SELEP	£10,000,000	£0	£0	£0				Essential	1,000-5,000	District	7	ECC Highways
H_5	Highways	Gilden Way/Harlowbury development primary site access.	£800,000	DC	£800,000	£0	£0	£0				Essential	< 1,000	Site	5	ECC Highways
H_6	Highways	Gilden Way/Harlowbury devt secondary site access	£200,000	DC	£200,000	£0	£0	£0				Essential	< 1,000	Site	5	ECC Highways
H_7	Highways	Gilden Way/ (B183) / Mulberry Green for Harlowbury	£100,000	DC	£100,000	£0	£0	£0				Important	< 1,000	Site	3	ECC Highways
H_8	Highways	Newhall Primary Rd / Bus Avenue	£3,700,000	DC	£3,700,000	£0	£0	£0				Essential	1,000-5,000	Site	6	ECC Highways
H_9	Highways	Sustainable transport corridor (North/South)	£100,000,000	DC, Grant	£0	£67,850,317	£9,532,911	£ 22,616,772				Essential	>10,000	District	9	ECC Highways
H_10	Highways	Sustainable transport corridor (East/West)	£25,000,000	DC, Grant	£0	£16,962,579	£2,383,228	£5,654,193				Essential	>10,000	District	9	ECC Highways
H_11	Highways	A414 / Cambridge Rd (A1184) / Station Rd	£10,000,000	GPF	£10,000,000	£0	£0	£0				Essential	1,000-5,000	Site	6	ECC Highways
H_12	Highways	Fifth Ave / Velizy /Fourth / First Ave	£5,000,000	TBC	£0	£3,392,516	£476,646	£1,130,839				Essential	1,000-5,000	Site	6	ECC Highways
H_13	Highways	Southern Way traffic calming	£1,000,000	DC	£0	£678,503	£95,329	£ 226,168				Essential	1,000-5,000	Site	6	ECC Highways
H_14	Highways	Southern Way lorry restrictions	£100,000	ECC	£0	£ 67,850	£9,533	£22,617				Important	< 1,000	Site	3	ECC Highways
H_15	Highways	Closure Old Rd through traffic at rail bridge adjust A1184/Old Rd signals	TBC	DC	£0	£0	£0	£0				Essential	< 1,000	District	6	ECC Highways
H_16	Highways	A1025 Second Avenue/Manston/ Tripton improvements	£4,000,000	DC	£0	£2,714,013	£381,316	£904,671				TBC	1,000-5,000	Site	4	ECC Highways
H_17	Highways	A1025 Second Avenue/Howard Way improvements	TBC	DC	£0	£0	£0	£0				TBC	1,000-5,000	Site	4	ECC Highways
H_22	Highways	Abercrombie Way/Third Avenue	£3,000,000	DC	£0	£2,035,510	£285,987	£678,503				Essential	1,000-5,000	District	7	ECC Highways
B_1	Buses	Enhanced bus services to Pinnacles Employment Area	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
B_2	Buses	Enhanced bus services along Edinburgh Way into River Way via new EZ access	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
B_3	Buses	Enhanced bus services on sustainable transport corridor (east/west)	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
B_4	Buses	Enhanced bus services on sustainable transport corridor (N/S)	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
B_5	Buses	Extension bus route 7 to Gilden Way Development	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
B_6	Buses	Extension bus route 7 to Newhall Phase 2 Development	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
WC_1	Walking / Cycling	Cycle route connect London Rd N EZ to London Rd and Newhall Phase 2	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_2	Walking / Cycling	Proposed cycle provision to serve Newhall Phase 2	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_3	Walking / Cycling	Proposed dedicated cycle route along Gilden Way (eastbound)	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
WC_4	Walking / Cycling	Proposed cycle infras to serve Gilden Way urban extension and new primary school.	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_5	Walking / Cycling	Missing link London Rd Newhall Phase 1 and Church Langley cycle network.	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_6	Walking / Cycling	Strategic n-s cycle route through Brays Grove and Mark Hall	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_7	Walking / Cycling	Southern Way gap between Bishopsfield and Parnall Road.	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_8	Walking / Cycling	Enhancements to Burnt Mill roundabout to provide enhanced cycle connectivity	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
Total			£192,900,000		£28,700,000	£102,454,312	£15,738,836	£46,006,851								

Source: Atkins (2017)

Table 4-6 Transport Projects to meet Strategic Sites Outside Harlow and future Growth Needs of the wider Harlow and Gilston Garden Town ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
H_18	Highways	M11 new junction 7a	£75,000,000	DC, RIS2	£75,000,000	£0	TBC	£0				Essential	>10,000	Strategic	10	ECC Highways Consultation
H_19	Highways	M11 Junction 7 improvements	£29,000,000	DC, RIS2/3	£0	£21,750,000	TBC	£7,250,000				Essential	>10,000	Strategic	10	ECC Highways Consultation
H_20	Highways	Second River Stort Crossing and highway link	£67,500,000	DC, Grant	£0	£50,625,000	TBC	£16,875,000				Essential	>10,000	District	9	ECC Highways Consultation
H_21	Highways	Princess Alex Hosp relocation highways works	TBC	DC, Grant	TBC	£0	TBC	£0				Essential	1,000-5,000	District	7	ECC Highways Consultation
H_23	Highways	Southern Way/Katherines Way Works to address growth in SW Harlow	£3,000,000	DC	£0	£2,250,000	TBC	£750,000				Essential	1,000-5,000	District	7	ECC Highways Consultation
H_24	Highways	Harlow Northern Bypass (route to be defined)	£250,000,000	DC, Grant	£0	£187,500,000	TBC	£62,500,000	Likely to be after 2033			TBC	5,000-10,000	District	6	ECC Highways Consultation
H_25	Highways	Replace the straight crossing on Gilden Way (W) arm of the junction at Loading Point 4 with a staggered pedestrian crossing	£1,000,000	DC, Grant	£0	£750,000	TBC	£250,000				Essential	< 1,000	Site	5	Jacobs Technical Note 5: (Sept 2016)
H_26	Highways	Provision of a left turn slip road from M11 Junction 7a link road approach to the East Harlow northern access road (Loading Point 3)	£1,000,000	DC, Grant	£0	£750,000	TBC	£250,000				Essential	< 1,000	Site	5	Jacobs Technical Note 5: (Sept 2016)
H_27	Highways	Widening of central crossing over River Stort Eastwick to Burnt Mill Rdbt	£4,880,000	DC	£0	£3,660,000	TBC	1,220,000				Essential	1,000-5,000	Site	6	East Herts IDP
H_28	Highways	Amwell roundabout	£1,281,000	DC	£0	£960,750	TBC	£320,250				Essential	1,000-5,000	Site	6	East Herts IDP
H_29	Highways	Improved access to Harlow Town Station	£610,000	DC	£0	£457,500	TBC	£152,500				Essential	< 1,000	Site	5	East Herts IDP
WC_9	Walking / Cycling	Pedestrian Cycle improvements in Gilston Park Estate development	£366,000	DC	£0	£0	TBC	£366,000				Essential	< 1,000	Site	5	East Herts IDP
B_7	Buses	New busway service to serve West of Harlow	£8,500,000	DC, Grant	£0	£1,105,000	TBC	£ 7,395,000				Required	1,000-5,000	Site	5	ECC Highways Consultation
R_1	Rail	Four tracking of the West Anglia Main Line Broxbourne to Coppermill Jct	£72,000,000	Operators/Grant	£0	£9,360,000	TBC	£62,640,000				Important	>10,000	Strategic	8	ECC Highways Consultation
R_2	Rail	Crossrail 2 and potential extension of the route from Broxbourne to Harlow	£0	Operators/Grant	£0	£0	TBC	£0				Required	>10,000	District	8	ECC Highways Consultation
R_3	Rail	Investment for station upgrades with a focus on Broxbourne, Cambridge, Cheshunt, Harlow Town and Southend Victoria stations.	£60,000,000	Operators/Grant	£0	£7,800,000	TBC	£52,200,000				Required	>10,000	District	8	ECC Highways Consultation
Total			£574,137,000		£75,000,000	£286,968,250	TBC	£212,168,750								

Source: Atkins (2017)

5. Education

5.1. Introduction

5.1.1. This section covers:

- Early years and childcare (EYCC)
- primary and secondary schools,
- post-16 further education,
- Special educational needs facilities.

5.2. Early Years and Childcare

5.2.1. Information sources

5.2.2. The following information sources were referenced in the assessment of Early Years and Childcare provision (EYCC)

- ECC Early Years Education team consultation
- ECC Schools Education team consultation
- A review of previous Harlow Infrastructure Studies
- Essex Early Years and Childcare Strategy 2015-2018
- Essex County Council Childcare Sufficiency Assessment (2011)
- Early Education and Childcare: Statutory guidance for Local Authorities (2014)
- Study of Early Education and Development (SEED): the cost and funding of early education (2017)
- Department for Education website and press releases.

5.2.3. Existing Provision

5.2.4. The Childcare Act 2006 requires local authorities to provide 'sufficient, sustainable and flexible childcare that is responsive to parents' needs'²². Essex County Council Early Years and Childcare team is responsible for meeting statutory duties relating to legislative requirements. It has an obligation to enable suitable and sufficient provision of childcare places for all children living within the county area. This duty also includes provision of Free Early Education Entitlement (FEEE).

5.2.5. FEEE is a government scheme that provides all 3 to 4-year olds in England with free early education or childcare. All children are eligible for 570 free hours per year, typically this is taken as 15 hours a week for 38 weeks of the year. Some children are eligible for up to 30 hours per week (1,140 hours per year) subject to parents' employment and earnings status meeting the defined criteria.

5.2.6. Harlow has a wide range of EYCC options including full day-care, childminders, preschool and out of school clubs. However, at present many according to ECC of these facilities are running at capacity with pre-schools, independent pre-schools and nurseries associated with primary schools operating over-capacity. There is some spare capacity within child minders and day nurseries although it should be noted that the capacity of childminders is very difficult to establish and may fluctuate as the circumstances of childminders changes. For example, a child minder may publish that they have a high capacity to attract business but then pare that back as they gain customers.

5.2.7. Spatially, EYCC facilities are well distributed across Harlow. However, since 2014 some children centres have merged, namely the ABC Children's Centre with Potter Street Children's Centre and

²²ECC, Essex Developers Guide (2016)

the Sunflower Children’s Centre with The Treehouse Children’s Centre. This is largely driven by a need to make efficiency savings²³.

5.2.8. Table 5-1 sets out the number of EYCC childcare places and take-up by type of provider across Harlow. The majority of formal childcare places are within primary school nurseries and pre-schools, both of which are currently operating above capacity. Overall, there are 2,300 EYCC places across the district and 346 vacancies, when factoring in the 5% headroom required to ensure flexible provision of places. Across the district there is enough capacity to provide the breadth of childcare type needed, although there are deficiencies in certain wards, such as Bush Fair, Harlow Common, Sumners and Kingsmoor, and Church Langley.

5.2.9. EYCC childcare places are broken down by ward in Table 5-1. This table highlights spatial variances in provision across the district.

Table 5-1 Early Years Provision within Harlow by Ward

Ward	Number of EYCC Providers	Current no. of childcare places (-5% HR)	Current Take Up	No of Vacancies (-5% HR)	Current Capacity (-5% HR)
Bush Fair	17	252	258	-6	102.4%
Great Parndon	8	147	128	19	87.1%
Old Harlow	8	327	163	164	49.8%
Mark Hall	9	100	86	14	86.0%
Sumners and Kingsmoor	7	117	119	-2	101.7%
Harlow Common	8	131	132	-1	100.8%
Netteswell	11	224	180	44	80.4%
Staple Tye	15	318	229	89	72.0%
Church Langley	18	218	220	-2	100.9%
Little Parndon and Hare Street	15	348	320	28	92.0%
Todd Brook	2	4	4	0	100.0%
Total	118	2,185	1,839	346	84.2%

Source: ECC Early Years and Childcare (2017)

5.2.10. Existing Deficiencies

5.2.11. EYCC is currently operating at 85% capacity inclusive of the 5% head room buffer required to ensure flexibility of provision. This means there are currently 346 vacancies across the district. There are spatial discrepancies in capacity with pockets of over-subscription at Bush Fair, Sumners and Kingsmoor, Harlow Common, and Church Langley. Whilst Old Harlow, Netteswell and Staple Tye have significant numbers of vacant places.

5.2.12. Future Requirements in Harlow

5.2.13. The standards that have been used to estimate the EYCC requirement are shown in Table 5-2 below. These have been taken from the ECC Developers’ Guide and the GIF.

²³ Harlow, Harlow Baseline Study (2014)

Table 5-2 Early Years and Child Care Requirement Benchmarks

Details	Benchmark
2 Bed + House	0.09 places
Places per nursery	56
Approximate sq. m per 56 places nursery	337
Places per pre-school	46
Cost per place (extension to existing facility)	£13,500 per place
Cost per place (new build)	£19,014 per place

Source: Essex Growth and Infrastructure Framework and ECC Developers' Guide to Infrastructure Contributions 2016.

- 5.2.14. Based on the growth identified in Chapter 3 and using benchmarks as set out in Table 5-2 above the following requirements have been identified. This clearly highlights that significant numbers of childcare places will be required at Old Harlow, close to the East of Newhall and Gilden Way developments. No number is given for arising childcare places in wards which have sufficient childcare places (inclusive of the 5% headroom figure) to provide for all new arising growth. However, it should be noted that though this data has been split by wards, education provision works cross boundaries and therefore residents in Old Harlow may attend schools in other wards or cross local authority boundaries into Epping Forest.

Table 5-3 Future EYCC Requirements within Harlow

Ward	Housing growth	No. EYCC places generated by housing growth (units*0.09)	No of Vacancies (-5% HR)	No of EYCC places by predicted growth inclusive of current no. of vacancies
Bush Fair	190	17	-6	23
Great Parndon	104	9	19	-
Old Harlow	5,699	513	164	349
Mark Hall	84	8	14	-
Sumners and Kingsmoor	67	6	-2	8
Harlow Common		0	-1	1
Netteswell	434	39	44	-
Staple Tye	553	50	89	-
Church Langley		0	-2	2
Little Parndon and Hare Street	871	78	28	50
Todd Brook	416	37	0	38
Total	8,418	757	346	472

Source: Atkins (2017)

5.2.15. Costs and Funding

- 5.2.16. Childcare funding is provided through a combination of private and public sources. Central government funds statutory free weekly childcare via the local education authority. This funding is for registered childcare providers only. In addition to the free statutory allowance, parents can purchase additional childcare hours and services.

- 5.2.17. The Government has recently reviewed free childcare provision and raised the universal entitlement of 15 hours free childcare for all three and four-year olds to 30 hours over term time weeks (subject to parent(s) meeting eligibility criteria). The free hours can only be claimed at a registered childcare provider.

- 5.2.18. Developers contributions are a further potential source of childcare funding. They are sought to expand existing provision or to provide new schools, where the cumulative impact of growth results in additional provision requirements. The contribution required is dependent on the size and type of development and what other competing needs for developer contributions arise. Where smaller developments are likely to have a cumulative impact on EYCC provision, as per the 2013 Community Infrastructure Levy (CIL) Regulations, up to five of these developments can be asked to contribute via s106 towards a single project²⁴. Contribution of buildings may be appropriate in lieu of financial contributions.
- 5.2.19. There are a range of further funding sources available to cater for individual children or providers. These include early years pupil premium (EYPP), disability access fund (DAF), special educational needs (SEN) inclusion fund, Early Years Investment Fund (EYIF) and Childcare Business Grants Scheme.
- 5.2.20. To estimate costs of providing the approximately 466 new EYCC places required to meet Harlow's future growth needs the cost estimates per place from Appendix G in the 2016 ECC Developers Guide can be used. These costs are £13,500 per place for extensions of existing facilities and £19,014 per place for newly built facilities as shown in Table 5-2 above.
- 5.2.21. Given there is a wide range of EYCC facilities across Harlow it is likely the numerous smaller development sites will generate needs that can be met by extending existing EYCC facilities. Therefore, for these smaller sites the £13,500 per place figure is used. However, the major growth at Old Harlow associated with the Strategic East of Newhall site will require a new facility to be built. For Old Harlow, a cost of £19,014 per place is used. The total costs of EYCC by ward are shown at Table 5-5 below.

Table 5-4 Cost and Funding of Future Early Years Requirements in Harlow

Id	Project*	Places required	Est Cost (£m's)	Funding (£m's)	Funding Gap	Funding Source*	Priority
EY_1	Bush Fair EYCC extension	23	0.3	0.0	0.3	ECC / Operators / DC	Required
EY_2	Great Parndon EYCC extension	-	0.0	0.0	0.0	as above	Required
EY_3	Old Harlow EYCC extension	349	6.6	0.0	6.6	as above	Required
EY_4	Sumners and Kingsmoor EYCC extension	8	0.0	0.0	0.0	as above	Required
EY_5	Harlow Common EYCC extension	1	0.1	0.0	0.1	as above	Required
EY_6	Netteswell EYCC extension	-	0.0	0.0	0.0	as above	Required
EY_7	Staple Tye EYCC extension	-	0.0	0.0	0.0	as above	Required
EY_8	Church Langley EYCC extension	2	0.0	0.0	0.0	as above	Required
EY_9	Little Parndon and Hare St EYCC extension	50	0.0	0.0	0.0	as above	Required
EY_10	Todd Brook EYCC extension	38	0.6	0.0	0.6	as above	Required
Total		472	8.2	0.0	8.2		

Source: Atkins (2017)* DC (Developer Contribution)

- 5.2.22. Table 5-4 shows that the total estimated cost of EYCC provision required to meet Harlow's future growth needs is approximately **£8.2m**. There is no committed funded identified as this cost is expected to be funded by developer contributions.

5.2.23. Future Requirements around Harlow

- 5.2.24. The table below sets out future EYCC requirements as a result from growth arising at the strategic sites around Harlow. As discussed in the previous section, allocation of childcare places

²⁴ HM Government, The Community Infrastructure Levy (Amendment) Regulations (2013)

can occur across local authority boundaries. With significant growth occurring at the edge and outside of Harlow's administrative boundaries, it is likely that there will be some cross-boundary flow to receive childcare. Table 5-5 provides a high-level assessment of potential impacts resulting from growth in the strategic sites around Harlow. This demonstrates the need for strategic view of childcare, in particular of nurseries and pre-schools in order to provide places for children both within Harlow and in the Strategic Sites outside Harlow.

- 5.2.25. Childcare provision is frequently co-located with other services, particularly primary schools but also community centres and libraries. This is an option for the Strategic Sites, which will also require a significant number of school places (as discussed below) as a result of the development.

Table 5-5 Future Early Years Requirements for Strategic Sites outside of Harlow

Strategic Site	District/Ward	No. of units	No. EYCC future places (units *0.09)	Estimated cost @ £19,014 per place	Description
Gilston Park	East Herts Hunsdon ward	3,050	274	£5,209,836	Families coming into Harlow might access childcare from the Great Parndon ward, Netteswell wards. Difficulties for families bringing children into Harlow during rush hour new provision would be required
East of Harlow minus East of Newhall		750	67	£1,273,938	This would affect Mark Hall and Old Harlow ward
Latton Priory	Harlow Common ward	1,050	94	£1,787,316	Harlow common ward currently little ability to increase capacity so would require new nursery alongside any new school provision. 106 contributions
West of Katherines	Great Parndon ward	1,100	99	£1,882,386	New nursery contribution required alongside any new school provision. 106 contributions
West of Sumners	Sumners and Kingsmoor ward	1,000	90	£1,711,260	New nursery contribution required alongside any new school provision. 106 contributions
Total		6,950	624	£11,864,736	

Source: ECC Early Years and Childcare (2017)

- 5.2.26. Based on additional population only (i.e. not considering existing provision) the demand arising from development across the Strategic Sites is 624 EYCC places. It should be noted that additional demand could be provided by private providers in response to market signals.

5.2.27. **Costs and Funding**

The funding arrangements for EYCC provision outside Harlow are as described above. The total estimated cost of EYCC to support future growth outside Harlow can be derived using the same cost benchmarks as shown in Table 5-2. Assuming, that the new development will require new

build accommodation and that there is no capacity within existing provision means the £19,014 per place benchmark should be used. This leads to an overall cost estimate of **£11,864,736.**

5.3. Primary Schools

5.3.1. Introduction

5.3.2. Primary school provision covers children aged between 4 and 11 years old. Provision of adequate primary school places comes under the remit of ECC under section 14 of the 1996 Education Act. Local Authorities must ensure sufficient school places are available to serve their area, and they must have the right character and equipment to provide pupils with an appropriate education.

5.3.3. ECC, under section 2 of the 2006 Education and Inspections Act, has a duty to secure diverse school places allowing for parental choice. More recent legislation has been put into place further diversification of the offer of schools through Academy Trusts and Free Schools.

5.3.4. Academies and Free Schools were introduced in 2010, giving those schools greater operational autonomy. Academies are funded directly by Central Government and are therefore independent of local education authorities. Free Schools have similar levels of autonomy but can instead be set up by a range of groups including parents, faith groups and charities.

5.3.5. Information sources

5.3.6. The following information sources were referenced in the assessment of Harlow's primary school needs.

- ECC Education team consultation
- ECC Commissioning School Places in Essex 2016-2021, (2016)
- ECC Meeting the demand for school places in Essex 10 Year Plan 2017-2026 (2017)
ECC Developers' Guide to Infrastructure Provision (2016)
- Greater Essex Growth and Investment Framework 2016-2036 (2016)

5.3.7. Existing Provision

5.3.8. Current provision of primary and secondary schools is set out in ECC's *Commissioning School Places in Essex* reports, which are updated annually. The report also includes a five-year forecast based on GP registrations, numbers of students on school rolls, planned housing development and historical trends that may affect admissions. The data from the report has been used to help identify current surplus/ deficits of school places and the impact of future growth on existing assets. Future growth has used the list of developments set out in the trajectory in Chapter 3 and not the forecasts in the *Commissioning School Places* reports for continuity. Provision for primary school places is managed by forecast planning groups, which correspond to the catchment areas of the schools. The forecast planning groups is shown at Figure 5-1 below:

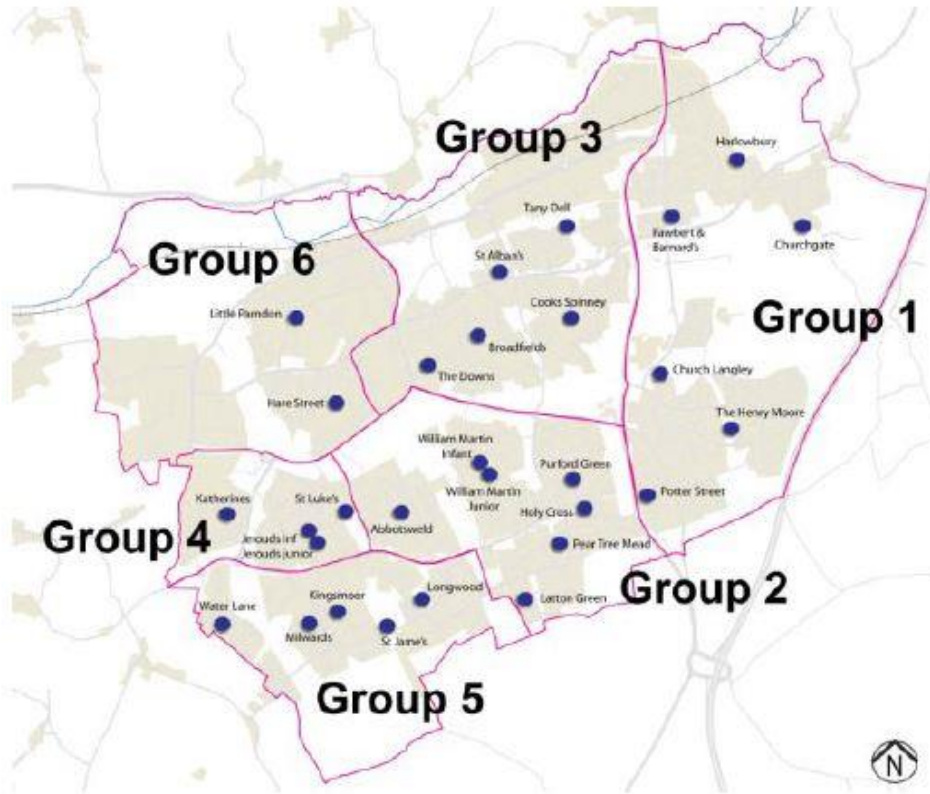
5.3.9. Temporary school places (defined by design or by planning permission) are not included in the assessment of available primary school places. There are currently 29 primary schools within Harlow, with a further primary school at New Hall Farm open from the 2018/19 academic year. As part of Sir Frederick Gibberd's original masterplan for Harlow, primary schools were located within neighbourhoods, so that they could be accessed by quiet roads and were within walking distance of homes. Assessment of school places, typically uses a 5% 'head room buffer' in order to maintain some spare capacity to support flexibility and parental choice. Therefore, a deficit in school places may be calculated, despite surplus places. The current capacity of primary schools within Harlow is 8,753, not inclusive of the 5% buffer. This provision is primarily located in the east and south of the town, which reflects the spatial aspect of demand for school places. See table 5-6 and Figure 5-1 below for existing primary school provision in Harlow.

Table 5-6 Existing Provision of Primary Schools within Harlow

Group (catchment)	Primary School	Net Capacity 2015/16	Net Capacity 2015/16 (-5%)	Number on Roll May 2016	Surplus/Deficit 2015/16	Take up	Surplus/Deficit 2015/16 (inc 5% HR)	Take up (inc 5% HR)
1	Church Langley Community Primary School	510	485	501	9	98%	-17	103%
1	Churchgate Church of England (Vluntary Aided) Primary School	210	200	194	16	92%	6	97%
1	Fawbert and Barnard (UNDL) Primary School	210	200	209	1	100%	-10	105%
1	Harlowbury Primary School	210	200	196	14	93%	4	98%
1	The Henry Moore Primary School	570	542	565	5	99%	-24	104%
1	Potter Street Academy	210	200	249	-39	119%	-50	125%
2	Abbotsweld Primary School	315	299	304	11	97%	-5	102%
2	Holy Cross Catholic Primary Academy	436	414	342	94	78%	72	83%
2	Latton Green Primary School	210	200	205	5	98%	-6	103%
2	Pear Tree Mead Primary School and Nursery	315	299	343	-28	109%	-44	115%
2	Purford Green Primary School	210	200	209	1	100%	-10	105%
2	William Martin Church of England (Voluntary Controlled) Infant and Nursery School	180	171	178	2	99%	-7	104%
2	William Martin Church of England (Voluntary Controlled) Junior School	240	228	237	3	99%	-9	104%
3	Cooks Spinney Primary	464	441	442	22	95%	-1	100%
3	The Downs Primary School and Nursery	420	399	326	94	78%	73	82%
3	Freshwaters Primary Academy	299	284	295	4	99%	-11	104%
3	St Alban's Catholic Academy	210	200	209	1	100%	-10	105%
3	Tany's Dell Community Primary School	420	399	356	64	85%	43	89%
4	Jerounds Community Primary School	420	399	402	18	96%	-3	101%
4	Katherines Primary School	315	299	298	17	95%	1	100%
4	St Luke's Catholic Primary School	210	200	197	13	94%	3	99%
5	Kingsmoor Academy	210	200	191	19	91%	9	96%
5	Longwood Primary Academy	300	285	237	63	79%	48	83%
5	Milwards Primary School and Nursery	210	200	201	9	96%	-2	101%
5	St James' Church of England Primary School	210	200	205	5	98%	-6	103%
5	Water Lane Primary School	189	180	185	4	98%	-5	103%
6	Hare Street Community Primary School	420	399	420	0	100%	-21	105%
6	Little Parndon Primary School	420	399	434	-14	103%	-35	109%
6	Pemberley Academy	210	200	72	138	34%	128	36%
Total		8,753	8,315	8,202	551	94%	113	99%

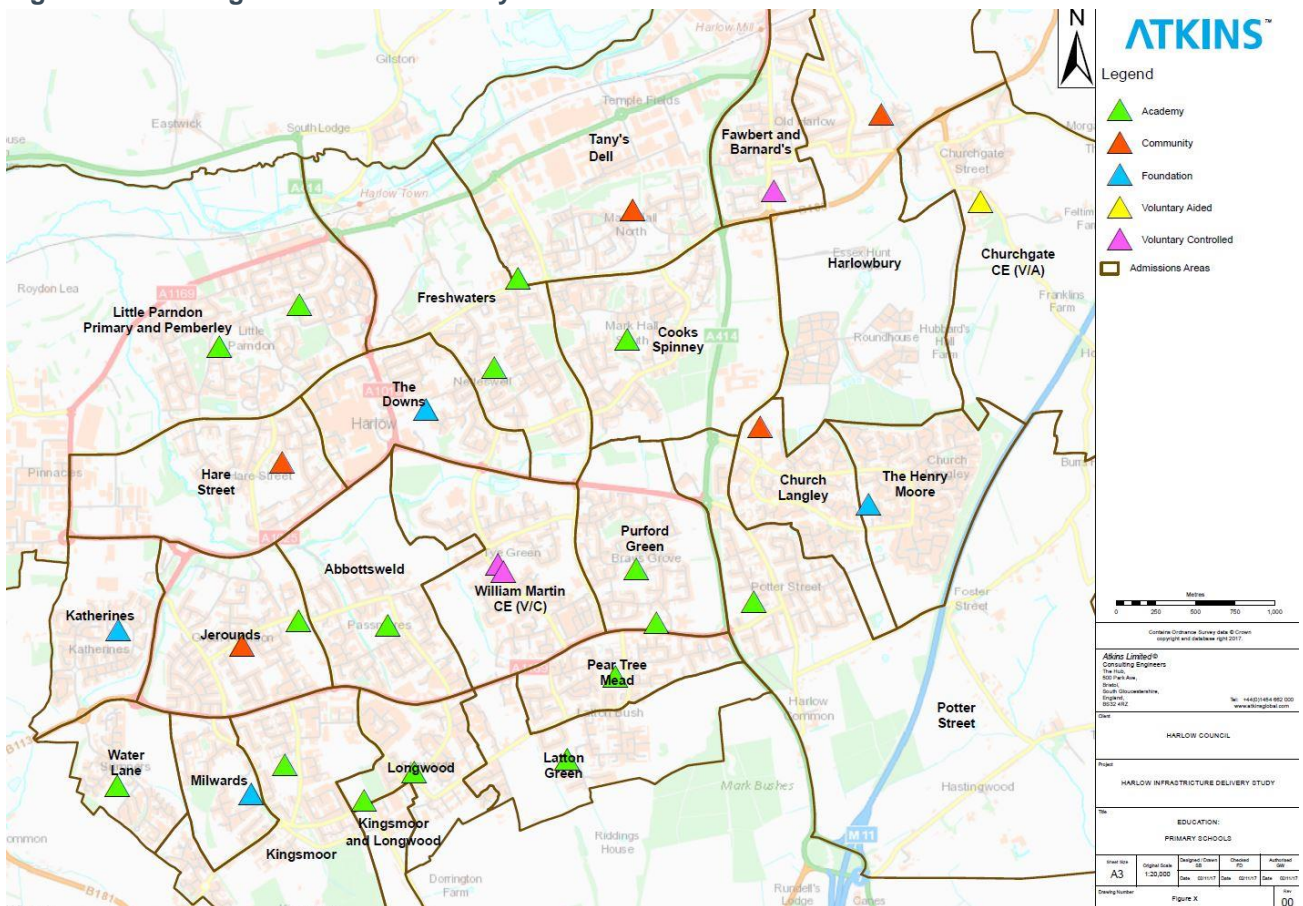
Source: ECC (2017)

Figure 5-1 Forecast planning groups ('catchment areas') in Harlow



Source: ECC (2017)

Figure 5-2 Existing Provision of Primary Schools within Harlow



Source: ECC (2017)

5.3.10. Existing Deficiencies

- 5.3.11. Schools in Harlow are close to capacity and additional places are being added to meet current demand from development. The analysis shows there are localised pockets with high levels of oversubscription within Groups 1 and 2. The opening of New Hall Farm in 2018/19 is likely to alleviate some of the pressure on school places, particularly in Catchment Group 1.
- 5.3.12. Schools that are particularly oversubscribed include Potter Street by 50 places, Little Parndon primary school by 35 places and Pear Tree Mead by 44 places.

5.3.13. Future Requirements in Harlow

- 5.3.14. Based on the housing trajectory supplied by the council, there are 8,345 houses to be built within Harlow's boundaries during the plan period. Using the benchmarks set out in Table 5-7 this level of development will give rise to a need for an estimated 2,504 additional primary school places, equivalent to 11.9 forms of entry. One form of entry (f.e.) is based on 7 year groups and 30 pupils per class (210 places). ECC guidelines stipulate that the minimum size for any new mainstream school is 2 f.e. (420 places).
- 5.3.15. Table 5-7 sets out the benchmarks set out by ECC in the developers' guide. The benchmarks have been used to forecast the demand arising from the housing trajectory.

Table 5-7 Benchmarks for Primary School provision

Details	Benchmark
2 Bed + House	0.30 primary school places
Primary School Pupils in 1 form of entry school (30 pupils per class/ 7 years)	210 primary school places
Cost per place existing facility extension	£13,755
Cost per place new build facility	£19,904

Source: ECC Developers' Guide to Infrastructure Contributions 2016; Department for Education.

- 5.3.16. By applying the benchmarks set out above to future development projected to occur in Harlow to 2033 the following primary school education needs in terms of gross places required is estimated:

Table 5-8 Gross Harlow Primary Education Requirement

Development Site/Area	Number of dwellings	Bench-mark	No. of pupils	No. of f.e. (210 pupils) – gross need
Strategic site East of Harlow	2,600	0.3	780	3.7
Land north of Gilden Way	911	0.3	273	1.3
Newhall Phase 2&3	2,009	0.3	603	2.9
All other sites	2,825	0.3	848	4.0
Total	8,345	0.3	2,504	11.9

Source: Atkins (2017)

5.3.17. Costs and Funding

- 5.3.18. Developments that generate more than 6 pupils could be required to make a developer's contribution. These are only required where local schools cannot reasonably accommodate the anticipated increase in pupil numbers.

- 5.3.19. Developers contributions can be in the form of a financial contribution or via the transfer of land for a suitable educational facility. Developer contributions are only used for 'suitable schools' including Academies, Free Schools and maintained schools. SEN schools, faith or selective schools are not funded through developers' contributions. National school delivery cost benchmarking provides indicative costs for extension of existing schools at £13,755 per pupil and £19,904 per pupil place for a new build school.
- 5.3.20. The gross figure of 11.9 f.e primary school places required shown in Table 5-8 above is based on assumptions from the ECC Developers Guide (2016). It does not necessarily take account of local factors such as locational issues, pre-agreed developer contributions for sites granted planning permission but not yet built, and specific local circumstances.
- 5.3.21. ECC Education team, who were consulted as part of the study, calculated that growth set out in Chapter 3 relating to all other sites outside Strategic East of Harlow, Gilden Way and Newhall adds around 2.6 primary school f.e. to Harlow which is lower than the 4 f.e. calculated using the Developers Guide assumptions as shown in Table 5-8. This housing growth mainly derives from numerous small sites spread relatively evenly across Harlow and, thereby, it is assumed that existing schools will be expanded to serve them, although the detailed work that would define which schools should be expanded has yet to be completed by ECC. New schools have already been included in s106 agreements for Newhall (2&3) and Gilden Way.
- 5.3.22. Also, consultation between ECC, Harlow Council and Epping Forest District Council led to refinement of this primary education needs information and agreement on the location and scale of future primary school requirements for Harlow and its fringe. Based on these various sources of information the primary school projects required to meet Harlow's primary education needs are shown in Table 5-9, including costs, funding and priority.

Table 5-9 Net Primary Education Requirement in Harlow

Id	Project*	Est Cost (£m's)	Funding (£m's)	Funding Gap	Funding Source*	Priority
PS_1	1no. new build 2f.e. Primary School (inc EY&C) at Newhall 2/3 site	9.2	0.0	9.2	DC	Required
PS_2	1no. new build 2f.e. Primary School at Newhall 2/3 to support a combination of growth at Newhall 2/3, Strategic Site to East Harlow and wider Harlow	8.4	0.0	8.4	Funded by developer contribution pro rata to the additional demand generated by new development	Required
PS_4	2.6f.e. expansion existing primary schools yet to be defined	7.5	0.0	7.5	DC	Required
PS_5	1no. new build 3f.e. Primary School for East of Harlow (3ha)	12.5	0.0	12.5	DC	Required
Total		37.6	0.0	37.6		

Source: ECC and Atkins (2017) * DC (developer contribution)

5.3.23. Future Requirements around Harlow

5.3.24. Based on comments received from ECC Education team, assessment of the East Hertfordshire IDP and 'duty to cooperate' discussions the primary education need for the strategic sites around Harlow is shown in Table 5-10 below.

Table 5-10 Net Primary Education Requirement for Strategic Sites around Harlow

Id	Project*	Est Cost (£m's)	Funding (£m's)	Funding Gap	Fund source*	Priority
PS_6	ECC Education team estimate 2no. new build totalling 4.5f.e. Primary Schools at Gilston ²⁵	18.8	0.0	18.8	DC	Required
PS_8	1no. new build 2 f.e. Primary School for Latton Priory	8.4	0.0	8.4	DC	Required
PS_10	1no. new build 2 f.e. Primary School on West Katherine site	6.3	0.0	6.3	DC	Required
Total		35.5	0.0	35.5		

Source: Atkins (2017)

5.4. Secondary Schools

5.4.1. Secondary education covers schooling between the ages of 11 and 16 years old. However, St Mark's has a sixth form facility, providing education up until the age of 18. Post 16 education is not considered here and will be discussed in the relevant section.

5.4.2. Although ECC no longer provides school places, as the County Council it retains a statutory responsibility to ensure sufficient school places are provided. Provision is commissioned through schools, academy trusts and sponsors of academy chains. Furthermore, Free Schools can be approved by the Secretary of State.

5.4.3. Information sources

5.4.4. The following information sources were referenced in the assessment of secondary school need:

- ECC Education team consultation
- Commissioning School Places in Essex 2016-2021, ECC
- ECC Developers' Guide to Infrastructure Provision
- Greater Essex Growth and Investment Framework 2016-2036

5.4.5. Existing Provision

5.4.6. There are currently 6 secondary schools serving the Harlow area, with an overall capacity of around 5,800 pupils. This includes the newly opened Sir Charles Kao University Technology College (UTC) which is an academy for 14-19 year olds dedicated to excellence in computing, science.

5.4.7. Sir Charles Kao UTC opened in 2014 so the data on attendance suggests a low take up, although this is expected to increase as the college establishes itself. If Sir Charles Kao UTC is included, and after factoring in 5% spare capacity to allow operational flexibility, there is approximately 22% spare capacity. However, it is more appropriate to exclude Sir Charles Kao for the reasons given above. If Sir Charles Kao UTC is excluded there is approximately 10% spare capacity. See Figure 5-3 and Table 5-11 for information existing secondary school provision and capacity in Harlow.

²⁵ It should be noted that Gilston is covered by Hertfordshire County Council that have different standards for calculating educational need. The estimates in this study are based on ECC standards. It is assumed more detailed requirements will be set out in a future Gilston IDP.

Figure 5-3 Existing Provision of Secondary Schools within Harlow



Source: ECC (2016) Contains Ordnance Survey data © Crown copyright and database right 2017.

Table 5-11 Secondary Schools in Harlow - Capacity

Secondary School by Forecast Planning Group	Net Capacity 2015/16	Net Capacity 2015/16 (inc. -5% HR)	No. on Roll Yrs 7-11 Jan '16	Surplus / Deficit of Y7-11 places 2015/16	Net surplus inc. 5% buffer	Take Up	Take Up (inc -5% HR)
Burnt Mill Academy	1200	1140	1158	42	-18	97%	102%
Mark Hall Academy	750	713	503	247	210	67%	71%
Passmores Academy	1200	1140	1049	151	91	87%	92%
Sir Charles Kao UTC ²⁶	500	475	136	364	339	27%	29%
St Mark's W. Essex Catholic Sch	1120	1064	781	339	283	70%	73%
Stewards Academy	1050	998	1038	12	- 41	99%	104%
Total	5,820	5,529	4,665	1,155	864	74%	78%
Total (less Charles Kao UTC)	5,320	5,054	4,529	791	525	85%	90%

Source: ECC (2017)

²⁶ Sir Charles Kao UTC provides education for 14-19 year olds

5.4.8. Existing Deficiencies

5.4.9. As per Table 5-11 above, there is currently some spare capacity in Secondary Schools. This is partly due to an historically consistent enrolment rate, with limited volatility over the last decade. However, according to 2014 ONS demographic data this is projected to change with increasing volatility in the future driven by the effects of past increased birth rates and inward migration within Harlow.

5.4.10. Demographic changes will see the number of 11-18 years olds increase in the next ten years relative to the past putting additional strain on existing provision. According to the 2014 ONS population forecasts the number of 10-19 years olds in Harlow will increase by 1,900 or 19.4% between 2014 and 2024²⁷. For this reason, it can be assumed that current secondary school provision in Harlow is operating roughly at capacity, so that any new growth linked to future housing delivery is likely to generate the need for additional secondary school capacity.

5.4.11. Future Requirements in Harlow

5.4.12. Table 5-12 sets out the benchmarks set out by ECC and the Department for Education. The benchmarks are used to forecast the demand arising from Harlow's housing trajectory.

Table 5-12 Secondary School Education Benchmarks

Details	Benchmark	Source
2 Bed + House	0.20 places per unit	Essex County Council - Developers' Guide to Infrastructure Contributions 2016
Secondary School Pupils in 1 form of entry (f.e.)	150 places per f.e.	Department for Education
Cost per pupil (new build)	£18,500.00	Essex County Council - Developers' Guide to Infrastructure Contributions 2016
Cost per pupil (extension)	£14,102.00	National School Delivery Cost Benchmarking (DfE)

Source: ECC (2017)

5.4.13. By applying the benchmarks set out above to future development projected to occur in Harlow to 2033 the following secondary school education needs in terms of gross places required can be estimated:

Table 5-13 Gross Secondary School Future Requirements in Harlow

Development	No. of units	Benchmark	No. of pupils	No. of f.e (150 pupils)
Strategic site East of Harlow	2,600	0.2	520	3.5
Land north of Gilden Way	911	0.2	182	1.2
Newhall Phase 2&3	2,009	0.2	402	2.7
All other sites	2,898	0.2	580	3.9
Total	8,418	0.2	1,669	11.2

Source: Atkins (2017)

5.4.14. Costs, Funding and Delivery

²⁷ ONS: Table 2: 2014-based Subnational Population Projections for Local Authorities and Higher Administrative Areas in England (2014). They are trend-based projections, which means assumptions for future levels of births, deaths and migration are based on observed levels mainly over the previous 5 years. They show what the population will be if recent trends continue.

- 5.4.15. Funding for secondary school provision derives from a combination of Central Government (both capital and revenue costs), via the Educational and Skills Funding Agency (ESFA)/ Department for Education (DfE), and developers (via s106 or CIL). Developers are expected to contribute to the capital costs of building new schools required to mitigate the impact of their developments. ECC, as the Local Education Authority (LEA) has responsibility for coordinating funding and admissions and in general to ensure there is sufficient school capacity to meet local educational needs.
- 5.4.16. The main grant provided by Central Government to the LEA is called Dedicated Schools Grant (DSG). In recent years DSG paid to LEA's has reduced as many schools convert to Academies and receive direct funding from Central Government. The DSG received by ECC for 2016/17 was £512.9m. An additional £475m was allocated directly by Central Government to Academies and high needs places in ECC making the total education budget in ECC in 2016/17 £988m²⁸.
- 5.4.17. As with primary school provision, translating the high-level estimates of gross need based on standard assumptions to actual projects involved consultation with ECC Education Team and 'duty to cooperate' agreements between Harlow and its neighbouring councils.
- 5.4.18. According to the ECC Education Team the opening of the new 8 f.e. Sir Frederick Gibberd Academy in September 2019 will provide sufficient capacity to meet the needs of the existing population and the smaller urban developments across Harlow. This scheme is funded by the ESFA. Also, Mark Hall Academy has spare capacity for approximately 1 f.e. It was agreed between Harlow and EFDC that the additional secondary school need generated by the significant growth to the East of Harlow could be most appropriately met from a spatial planning perspective at a site within Epping Forest's part of the site. These assumptions lead to the following additional secondary school provision being required to meet the future growth needs of Harlow.

Table 5-14 Net Additional Secondary School Future Requirements in Harlow

Id	Project*	Est Cost (£m's)	Funding (£m's)	Funding Gap	Funding Source*	Priority
SS_1 S	8 f.e. Sir Frederick Gibberd Academy	22.2	22.2	0.0	ESFA	Required
Total		22.2	22.2	0.0		

Source: Atkins (2017)

²⁸ ESFA, Dedicated schools grant (DSG): 2016 to 2017 financial year allocations (2017)

Figure 5-4 Future Secondary Schools to be delivered within Harlow



Source: ECC (2016) Contains Ordnance Survey data © Crown copyright and database right 2017.

5.4.19. **Future Requirements around Harlow**

- 5.4.20. Based on consultation with ECC Education Team and 'duty to cooperate' discussions between Harlow and its neighbouring councils the following secondary education projects are required to meet the growth needs of the Strategic Sites around Harlow . Note these costs do not include land costs as it is assumed that land will be provided by developers.
- 5.4.21. There may be a requirement for the relevant Local Planning Authority to facilitate a land value equalisation deal between the largest developers that will benefit the site they nominate to site any schools.

Table 5-15 Net Additional Secondary School Future Requirements for Strategic Sites around Harlow

Id	Project*	Est Cost (£m's)	Funding (£m's)	Funding Gap	Funding Source*	Priority
SS_2	New 4 f.e. Secondary School at undetermined location in East Herts to support Gilston development	11.1	0.0	11.1	DC	Required
SS_3	New 8 f.e. Secondary School in EFDC to support East of Harlow development	22.2	0.0	22.2	DC	Required
SS_4	New 4 f.e. Secondary School in EFDC to support Latton Priory development and growth to south and west of Harlow	11.1	0.0	11.1	DC	Required
Total		44.4	0.0	44.4		

Atkins (2017)

- 5.4.22. It is recommended that the relevant local planning authority (LPA) allocate 4.5 hectares and 9 hectares of land for D1 use to provide for a new 4 f.e. and 8 f.e. secondary school respectively as this will provide sufficient space for secondary school need and some post 16 provision (if required) and also a little flexibility to ensure any 'bulges' in demand can be met. This will avoid the land attaining 'hope value' for residential use which could affect site viability.

5.5. Post 16 Education

5.5.1. Information sources

5.5.2. The following information sources were referenced in the assessment of post 16 education.

- ECC Education team consultation
- Commissioning School Places in Essex 2016-2021, ECC
- ECC Developers' Guide to Infrastructure Provision
- Greater Essex Growth and Investment Framework 2016-2036

5.5.3. Existing Provision

5.5.4. Since 2015 and the introduction of Raising the Participation Age (RPA) young people have been required to stay in education or training until the age of 18. Local authorities have a duty to promote participation in education and training, and to ensure that sufficient places are available, meeting the reasonable needs of all young people. ECC's Employability and Skills Unit works with schools, colleges and training providers to ensure a range of training and learning opportunities are available to young people in order to promote and support participation.

5.5.5. Within Harlow there are 3 providers of post-16 education and training: St Mark's 6th Form, Harlow College and Sir Charles Kao University Technical College (UTC). Harlow College is the only Further Education (FE) College. St Mark's 6th Form provides academic education offering A levels and BTEC qualifications, whilst Harlow College provides a range of study options including A-Levels, BTECs, HNCs, HNDs and a range of vocational courses and apprenticeships. The Sir Charles Kao UTC caters for a wider age range for 14-19 years old. The college focuses on medical technologies and smart environments, providing practical and academic education and training. In the wider area there are several 'sixth form' colleges/schools in nearby Bishops Stortford and Ware. Potential post 16 education providers in and around Harlow are shown below.

Table 5-16 Post 16 Education Providers in and around Harlow

Post 16 Education provider	District
St Mark's West Essex Catholic School 6 th Form	Harlow
Sir Charles Kao UTC	Harlow
Harlow College	Harlow
Leventhorpe School and Sixth Form	East Hertfordshire
Hockerill Anglo European College	East Hertfordshire
Herts & Essex High School	East Hertfordshire
Bishop's Stortford School for Boys	East Hertfordshire
Presdales School and Sixth Form, Ware	East Hertfordshire

Source: Atkins (2017)

5.5.6. Information on Harlow College provision is provided below. It is assumed that there is effectively no spare capacity at Harlow College:

Table 5-17 Post 16 Education Provision at Harlow College 2015/16

Type of Provision	No. learners
16 to 19 Study Programmes	2,422
Apprenticeships	864
Adult Learning	2,481
Traineeships	5
High needs learners	45
Higher education	214
Total	6,031

Source: Harlow College Annual Report (2016)

5.5.7. Existing Deficiencies

5.5.8. There is no evidence that there is significant spare capacity or existing deficiencies in post 16 education provision in and around Harlow. Therefore, for the purpose of this study it is assumed that new growth will generate need for additional provision.

5.5.9. Future Requirements in Harlow

5.5.10. Based on analysis of the Greater Essex Growth and Infrastructure Framework the following post 16 education needs are identified in Harlow (2017 to 2033). This is based on consultation with ECC and benchmarks of 32% of 16-19 years olds using sixth form education:

- 154 additional Sixth Form places
- 110 additional adult learning places
- 264 total places

5.5.11. Costs and Funding

5.5.12. Post 16 educational funding is provided annually by the Education and Skills Funding Agency (ESFA), which sits within the Department for Education (DfE). Local Authorities have a duty to 'encourage, enable and assist' participation of young people in education and training (DfE 2016)

5.5.13. Based on the Greater Essex Growth and Infrastructure Framework an estimated cost of **£3,900,000** for post 16 education provision to support future growth in Harlow (2017-2033) can be calculated. This works out at approximately £14,750 per place.

5.5.14. Future Requirements around Harlow

5.5.15. No post 16 educational requirement outside of Harlow was identified by either the East Herts IDP or the Epping Forest IDP. It is assumed that the increased provision in Harlow will accommodate the needs of the wider Harlow and Gilston Garden Town.

5.6. Special Educational Needs and Disability

5.6.1. Information sources

5.6.2. The following information sources were referenced in the assessment:

- ECC Consultation
- ECC Special Education Needs Joint Strategic Needs Assessment (SEN JSNA) (2015)

5.6.3. Existing Provision

5.6.4. Special Educational Needs and Disability (SEND) services are coordinated by Essex County Council. Provision of SEND services can be as a unit within a mainstream school or as an independent specialist educational facility. All schools are required to have a teacher responsible for special educational needs (a SENCO) and to make arrangements to support children with additional needs. Each school must produce a SEN information report on how they identify, assess and make provision for students with special educational needs. The report must be updated annually. Harlow Fields School is a community special school, open to students between the ages of 3 and 19 years old. The school is open to pupils with moderate, severe or complex learning difficulties. According to the SEN JSNA (2015) in 2015 Harlow had 105 SEN pupils at Harlow Fields School.

5.6.5. Existing Deficiencies

5.6.6. Based on the research the existing SEND facilities in Harlow are assumed to be meeting existing needs relatively efficiently with no significant existing surplus or deficit of provision. However, the SEN JSNA does state that fewer Essex residents with SEN attend specialist provision than the national average with 6.3% of Essex primary pupils with a statement attended an Enhanced Provision in 2014 compared to 14.2% nationally. Similarly, at secondary, 8.8% did in Essex whereas 14.2% did nationally.

5.6.7. Future Requirements in Harlow

5.6.8. No identified additional provision has been identified although it is noted that the SEN JSNA (2015) suggests a growth in SEND needs across ECC of approximately 2% per annum. This suggests that the additional housing growth in Harlow will generate a need for additional SEND facilities although it is not possible to quantify at this point.

5.6.9. Future Requirements around Harlow

5.6.10. As above no additional facilities have been identified but the future housing growth around Harlow is likely to generate the need for additional provision.

5.6.11. Costs and Funding

5.6.12. There are a variety of funding mechanism to meet SEND needs. The Designated School Grant (DSG) includes an element of funding for 'high needs'. Essex County Council is committed to improving SEND provision across the county. In partnership with Schools Forum, Essex County Council has committed a £50m capital investment to fund SEND accommodation over the next three years.

5.7. Summary - Education Costs and Funding

5.7.1. A summary of all education projects (in and around Harlow), including their phasing and delivery prioritisation scoring is shown below:

Table 5-18 Education Projects to meet Harlow future Growth Needs ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
EY_1	Early Years	Bush Fair EYCC extension	£310,500	ECC / Operators / Developers	£0	£175,138	£135,362	£0				Required	< 1,000	District	5	ECC Education
EY_3	Early Years	Old Harlow EYCC extension	£6,635,886	ECC / Operators / Developers	£0	£3,742,986	£2,892,900	£0				Required	1,000-5,000	District	6	ECC Education
EY_4	Early Years	Sumners and Kingsmoor EYCC extension	£108,000	ECC / Operators / Developers	£0	£ 60,918	£47,082	£0				Required	< 1,000	District	5	ECC Education
EY_5	Early Years	Harlow Common EYCC extension	£13,500	ECC / Operators / Developers	£0	£ 7,615	£ 5,885	£0				Required	< 1,000	District	5	ECC Education
EY_8	Early Years	Church Langley EYCC extension	£27,000	ECC / Operators / Developers	£0	£ 15,229	£ 11,771	£0				Required	< 1,000	District	5	ECC Education
EY_9	Early Years	Little Parndon and Hare Street	£594,000	ECC / Operators / Developers	£0	£335,047	£258,953	£0				Required	< 1,000	District	5	ECC Education
EY_10	Early Years	Todd Brook	£513,000	ECC / Operators / Developers	£0	£289,359	£ 223,641	£0				Required	< 1,000	District	5	ECC Education
PS_1	Primary	1no. new build 2f.e. Primary School (inc EY&C) at Newhall 2/3	£9,200,000	DC	£0	£47,649	£8,247,011	£ 905,340				Required	1,000-5,000	District	6	ECC Education
PS_2	Primary	1no. new build 2f.e. Primary School at Newhall 2/3 to support a combination of growth at Newhall 2/3, Strategic Site to East Harlow and wider Harlow	£8,400,000	Funded by DC pro rata to additional demand generated by new devt then residual funded by ECC	£0	£125,725	£5,885,508.54	£2,388,767				Required	1,000-5,000	District	6	ECC Education
PS_4	Primary	2.6f.e. expansion existing primary schools yet to be defined	£7,500,000	DC	£0	£101,328	£5,473,449.52	£1,925,223				Required	1,000-5,000	District	6	ECC Education
PS_5	Primary	1no. new build 3f.e. Primary School for East of Harlow (3ha)	£12,500,000	DC	£0	£130,077	£9,898,459.53	£2,471,463				Required	1,000-5,000	District	6	ECC Education
SS_1	Secondary	8 f.e. Sir Frederick Gibberd Academy	£22,200,000	ESFA	£22,200,000	£0	£0	£0				Required	5,000-10,000	District	7	ECC Education
AE_1	Sixth Form	Post 16 education provision to support future growth in Harlow	£3,900,000	ESFA	£0	£0	£0	£3,900,000				Required	5,000-10,000	District	7	ECC Education
Total			£71,901,886		£22,200,000	£5,031,070	£33,080,023	£11,590,793								

Source: Atkins (2017)

Table 5-19 Education Projects to meet future Growth Needs of Strategic Sites Outside Harlow ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
EY_11	Early Years	Gilston Park	£5,209,836	ECC / Operators / Developers	£0	£5,209,836	TBC	£0				Required	1,000-5,000	District	6	East Herts IDP
EY_12	Early Years	East of Harlow minus East of Newhall	£1,273,938	ECC / Operators / Developers	£0	£1,273,938	TBC	£0				Required	< 1,000	District	5	ECC Education
EY_13	Early Years	Latton Priory	£1,787,316	ECC / Operators / Developers	£0	£1,787,316	TBC	£0				Required	< 1,000	District	5	ECC Education
EY_14	Early Years	West of Katherines	£1,882,386	ECC / Operators / Developers	£0	£1,882,386	TBC	£0				Required	< 1,000	District	5	East Herts IDP
EY_15	Early Years	West of Sumners	£1,711,260	ECC / Operators / Developers	£0	£1,711,260	TBC	£0				Required	< 1,000	District	5	ECC Education
PS_6	Primary	2no. new build totalling 4.5f.e. Primary School at Gilston Park Estate	£18,800,000	DC	£0	£940,000	TBC	£17,860,000				Required	1,000-5,000	District	6	East Herts IDP
PS_8	Primary	1no. new build 2 f.e. Primary School for Latton Priory	£8,400,000	DC	£0	£420,000	TBC	£7,980,000				Required	1,000-5,000	District	6	ECC Education
PS_10	Primary	1no. new build 2 f.e. Primary School on West Katherine site	£6,300,000	DC	£0	£315,000	TBC	£5,985,000				Required	1,000-5,000	District	6	ECC Education
SS_2	Secondary	New 4 f.e. Sec Sch at TBC location in East Herts to support Gilston devt	£11,100,000	DC	£0	£555,000	TBC	£10,545,000				Required	1,000-5,000	District	6	East Herts IDP
SS_3	Secondary	New 8 f.e. Secondary School in EFDC to support East of Harlow development	£22,200,000	DC	£0	£1,110,000	TBC	£21,090,000				Required	1,000-5,000	District	6	ECC Education
SS_4	Secondary	New 4 f.e. Secondary School in EFDC to support Latton Priory development and growth to south and west of Harlow	£11,100,000	DC	£0	£ 555,000	TBC	£10,545,000				Required	1,000-5,000	District	6	ECC Education
Total			£89,764,736		£0	£15,759,736	TBC	£74,005,00								

Source: Atkins (2017)

6. Health and Social Care

6.1. Introduction

6.1.1. This section covers both primary and secondary healthcare in and around Harlow. The components of primary healthcare in this section include:

Primary Healthcare

- GPs;
- Dentists;
- Pharmacies.

Secondary Healthcare

- Hospitals;
- Adult social care; and,
- Mental health service provision.

6.2. Primary Healthcare Overview

6.2.1. Primary care services provide the first point of contact for people requiring healthcare. These services include General Practice (GPs), health visitors, dentists and opticians and can act as a gateway to secondary healthcare services and specialist services.

6.2.2. NHS England is responsible for commissioning primary healthcare services in England under the Health and Social Care Act 2012. It is a non-departmental body and is accountable to the Department of Health (DfH) and Secretary of State for Health.

6.2.3. Clinical Commissioning Groups (CCG) have become a core part of reforms to the health and social care system in England, replacing primary care trusts as the commissioners of most services funded by the NHS in England. In terms of Harlow, the West Essex Clinical Commissioning Group have developed their plan at a time when the West Essex health care system is facing population growth, financial constraints and public health challenges.

6.3. GP surgeries

6.3.1. Information sources

6.3.2. The following information sources were referenced in the assessment of GP surgeries.

- ECC consultation
- Harlow Baseline Infrastructure Study (2014)
- Transforming Primary Care in Essex (NHS, 2014)
- Five Year Strategic Plan for West Essex Health and Care System 2015-2020

6.3.3. Existing Provision

6.3.4. GP services in Harlow fall under the West Essex CCG alongside Epping Forest and Uttlesford. There are 35 GPs in the West Essex CCG, 10 of which are located in Harlow. See Table 6-1 below for information on existing GP provision in Harlow.

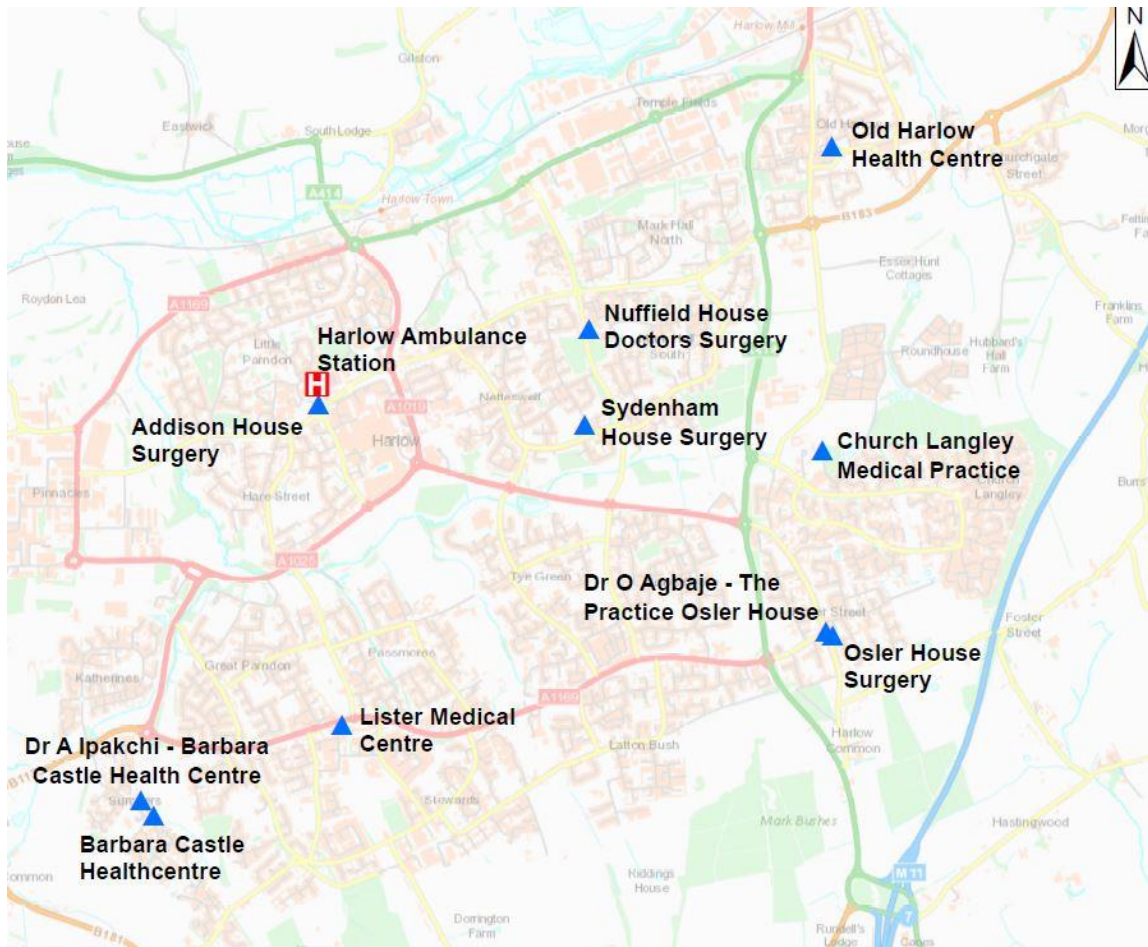
Table 6-1 GP Surgeries in Harlow

Name	Ward	No. GPs (FTE)	Floorspace (Sq. m)
Addison House - Haque Practice		4	639
Barbara Castle Health Centre	Sumners	2	217
Church Langley Medical Practice	Church Langley	5	373
Harlow Walk in Centre	Old Harlow	3.65	588
Lister Medical Centre	Great Parndon	8.83	598
Nuffield House Health Centre	The Stow	4.75	484
Osler House Medical Centre	Potter Street	2	174
Sydenham House Surgery	Long Ley/ Mark Hall South	1	249
The Hamilton Practice	Bush Fair	5	498
The Ross Practice	Bush Fair	5.25	484
Total		41.5	4,304

Source: Atkins (2017)

6.3.5. Table 6-1 shows that Harlow has around 1 GP per 2,150 population. The map below presents the spatial distribution of GP surgeries in Harlow. Generally, the GPs surgeries are well distributed, reflecting the planning of Harlow's residential areas.

Figure 6-1 Harlow GP Surgeries and Hospital



Source: Atkins (2017) Contains Ordnance Survey data © Crown copyright and database right 2017.

6.3.6. Existing Deficiencies

6.3.7. According to consultation with CCG a review of relevant literature across the West Essex CCG there is a relatively high patient per GP rate compared to national averages. According to the Greater Essex GIF the average in Greater Essex is 1,919 population per GP whereas in Harlow it is 2,150. There is a requirement for replacement health facilities at Osler House Medical Centre and Lister Medical Centre. Furthermore, there are severe capacity shortages at Lister Medical Centre, Addison House Surgery, Nuffield House Health Centre.

6.3.8. The information reviewed identifies that many primary healthcare facilities to be constrained in terms of boundaries and ownership. Subsequently, there are constraints which prevent the ability to expand these facilities.

6.3.9. Future Requirements in Harlow

6.3.10. Future requirements have been calculated using the benchmarks set out in the table below. However, it must be noted that different patient needs are apparent in different locations, therefore the NHS do not set standards for FTE GPs per 1,000 patients per practice. Based on the projected population increase linked to new housing there is estimated to be need for an additional 6.3 GPs in Harlow to 2033.

Table 6-2 GP Surgery Benchmarks

Details	Benchmark	Source
People per FTE GP	1,919	GIF (Greater Essex)
GP per 1000 people	0.56	Planning Benchmark Standard
Sq. m per GP	165	NHS Healthy Urban Development Model
Cost per sqm	£2,000	BCIS Q1 2013 Price Index – Health facilities in East Anglia (as per baseline study)

Source: Atkins (2017)

6.3.11. Costs and Funding

6.3.12. The General Medical Services (GMS) and Personal Medical Services (PMS) are the primary sources of funding for GP practices. Developer contributions provide an additional source of funding for GP services, however, this must be balanced against other needs in the district.

6.3.13. The estimated cost of providing 6.3 new GPs in Harlow is shown below:

Table 6-3 Costs Within Harlow

Location	No of GPs (newly arising demand over plan period)	Floorspace GIA (Newly arising floorspace demand over plan period)	Est cost	Funding source
Within Harlow	6.3	1,040	£2,080,000	GMS/ PMS

Source: Atkins (2017)

6.3.14. At £2,000 per sq. m, the total cost of increased GP surgery provision in Harlow is estimated to be **£2,080,000**.

6.3.15. Future Requirements around Harlow

6.3.16. It is assumed that there is no spare capacity in GPs surgeries on the Harlow fringe given there is currently limited development in these areas. Therefore, the future GP need is based on the expected population increase in the Harlow fringe factored by the GP per population Table 6-4 below outlines the estimated need for 5.5 new GPs. GPs are considered to be a required priority.

6.3.17. Costs and Funding

6.3.18. The cost for GP surgeries totals **£1,710,000** for the Strategic Sites around Harlow as shown in Table 6-4 below.

Table 6-4 Costs for Strategic Sites Outside Harlow

Location	No of GPs (newly arising demand over plan period)	Floorspace GIA (Newly arising floorspace demand over plan period)	Est cost (£m)	Funding (£m)	Funding gap (£m)	Funding source
Gilston Park Estate	2	378	0.8	0.0	0.8	GMS/ PMS
East Harlow (minus Newhall)	0.5	92.4	0.2	0.0	0.2	GMS/ PMS
Latton Priory	1	130.4	0.3	0.0	0.3	GMS/ PMS
West of Katherines	1	130.4	0.3	0.0	0.3	GMS/ PMS
West of Sumners	1	123.8	0.2	0.0	0.2	GMS/ PMS
Total	5.5	855	1.7	0.0	1.7	

Source: Atkins (2017)

6.4. Dentists

6.4.1. Information sources

6.4.2. The following information sources were referenced in the assessment of Dental Surgeries.

- ECC consultation
- Essex GIF
- Five Year Strategic Plan for West Essex Health and Care System 2015-2020
- Health and Social Care Information Centre, 2016

6.4.3. Existing Provision

6.4.4. According to information sources there are 273 dental practices across the Greater Essex area, with much of the provision of facilities based around major urban centres. Essex-wide 2016 forecasts indicate that there are 46 dental practices within the NHS West Essex CCG²⁹. Within Harlow, the spatial distribution of dental practices is displayed in the map below. These take various forms of service, such as community dental services, private dental and hospital out of hours services. The practices are also listed in the table below alongside the number of dentists for each practice.

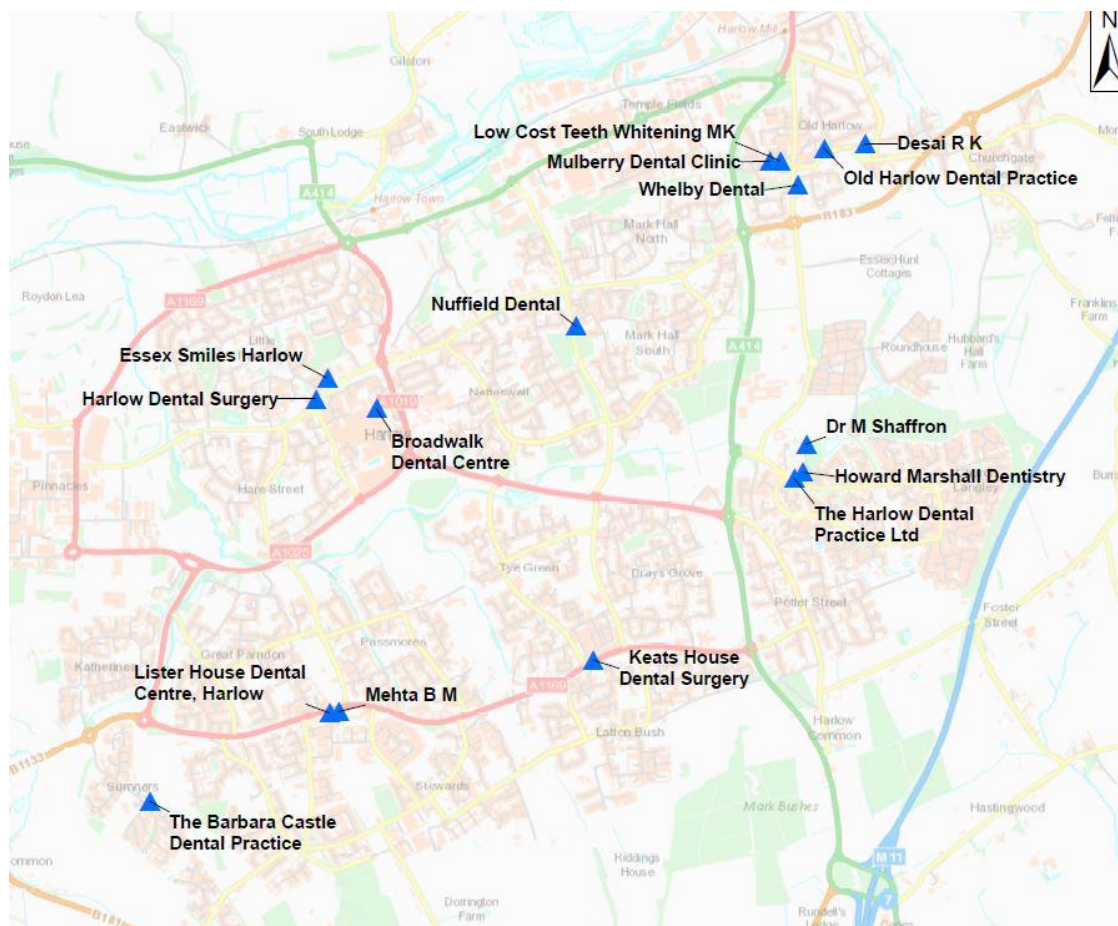
²⁹ Health and Social Care Information Centre, 2016

Table 6-5 Dental Practice Provision

Practice	Number of Dentists
Harlow Dental Surgery	7
Lister House Dental Centre	5 ^{30*}
Barbara Castle Dental Practice	5*
Keats House Dental Surgery	5
Nuffield Dental	6
Old Harlow Dental Practice	4
Broadwalk Dental Centre	5*
Church Langley Dental Practice	8
Howard Marshall Dentistry	5
Whelby Dental	5*
Mulberry Dental Clinic	5
Total	60

Source: Atkins (2017) research on Dentist surgery websites

Figure 6-2 Dental Practices in Harlow



Source: Atkins (2017) Contains Ordnance Survey data © Crown copyright and database right 2017.

6.4.5. Existing Deficiencies

³⁰ No information on number of dentists so an interpolation made based on the average number of dentists from other dental practices in Harlow/

6.4.6. The number of dentist outlined in Table 6-5 compared to the current estimated population of Harlow allows an estimate of current provision of 1 dentist per 1,450 people in Harlow. Therefore, the current provision is fit for purpose and there are no existing deficiencies within Harlow and in fact, based on national benchmarks of provision (see Table 6-6 below) it could be argued that there is a relative surplus of supply to meet existing needs.

6.4.7. **Future Requirements in Harlow**

6.4.8. See Table 6-6 below for relevant dentist benchmark information.

Table 6-6 Dentist Benchmarks

Details	Benchmark	Source
People per Dentist	1,750	Ratio of Dentists to England population 2016 (based on General Dental Council 2016 Data)
Dentists per 1000 people	0.57	Ratio of Dentists to England population 2016 (based on General Dental Council 2016 Data)
Sq. m per Dentist	50	Greater Essex GIF
Cost per sq. m.	£2,000	Atkins cost estimate

Source: Atkins (2017)

6.4.9. Based on the benchmark figure of 1,750 people per dentist and Harlow’s current total population of 87,000, an indicative local need of approximately 50 dentists can be estimated. As Harlow currently has 60 Dentists there are effectively 10 additional dentists above the benchmark requirement. These 10 additional dentists could support an additional 17,500 people based on the benchmark of 1,750 population per dentist. Therefore, the current spare capacity of 10 dentists could meet Harlow’s meet future growth needs without the need to create additional provision.

6.4.10. **Future Requirements around Harlow**

6.4.11. Based on the projected total population growth for the Strategic Sites outside Harlow of 22,000, taking account of the current spare capacity within existing dentists which can meet needs of additional 17,500 population there will be a need for an additional 3 dentists to meet the growth needs of these Strategic Sites.

6.4.12. **Costs, Funding and Delivery**

6.4.13. When applying the requirement of 3 additional dentists to meet the growth in and around Harlow, at 50 sq. m per dentist against the GP figure of £2,000 per sq. m, the total cost of the required additional dental practice floorspace totals **£300,000.**

6.4.14. Dental practices generally offer both private and NHS services. In terms of funding, dental practices are provided by independent practitioners, with the NHS subsidising through funding for NHS patients. There is no identified funding for additional dentist provision to meet future needs. It is likely that a small dentist practice would be required at the new development to the east of Harlow. This could be co-located within any new community space that it likely to be required. This is likely to be within Epping Forest.

6.5. Pharmacies

6.5.1. Information sources

6.5.2. The following information sources were referenced in the assessment of pharmacies.

- ECC consultation
- Essex Joint Strategic Needs Assessment (JSNA) Pharmaceutical Needs Assessment (2015)
- NHS England Five Year Forward View (2014)

6.5.3. Existing Provision

6.5.4. Pharmacies in Essex are provided by the Essex Health and Wellbeing Board and the NHSE Area Team. The following table displays the current provision of pharmacies by type in Harlow. There are 17 pharmacies in total.

Table 6-7 Pharmacy Provision

Pharmacy Name	Specific Type
Asda Pharmacy	100 hour
Boots UK Limited	n/a
Boots UK Limited	n/a
Church Langley Pharmacy	n/a
BUPA Home Healthcare	Distance selling pharmacy
Harlow Pharmacy	100 hour
Medicare Pharmacy	n/a
Metwest Ltd Pharmacy	n/a
Netteswell Pharmacy	n/a
Ramco Chemist	n/a
Sainsbury Pharmacy	n/a
Tesco In-Store Pharmacy	100 hour
The Co-Operative Pharmacy	n/a
The Co-Operative Pharmacy	n/a
The Potter Street Pharmacy	n/a
Your Local Boots Pharmacy	n/a
Your Local Boots Pharmacy	n/a

Source: Essex Pharmaceutical Needs Assessment (2015)

6.5.5. Our calculation found that the population of 87,000, with a total of 17 pharmacies, means each pharmacy in Harlow serves approximately 5,100 people.

6.5.6. Existing Deficiencies

6.5.7. Resident surveys associated with the Essex Pharmaceutical Needs Assessment concluded that 84% of respondents in the West Essex locality stated they have experienced no problems accessing their usual pharmacy. Furthermore, provision of necessary and relevant pharmaceutical services in the locality is considered to be adequate³¹.

6.5.8. From this it can be concluded that there are no current deficiencies in the provision of pharmacies in Harlow, with the current population well served by the existing stock.

6.5.9. Future Requirements in Harlow

6.5.10. Arising from the calculation of 1 pharmacy per 5,100 people in Harlow, the forecast additional population of 12,000 creates an additional demand for just over **2 pharmacies** in Harlow, to keep the provision at the current rate per pharmacy.

6.5.11. Future Requirements around Harlow

6.5.12. , The additional population of approximately 10,000 people in the Harlow fringe (of 22,000 in total across the Strategic Sites outside Harlow) will create a demand for just under **2 new pharmacies**. It is possible that the distribution of the proposed new pharmacies and the precise number could be determined by whether they will serve Harlow alone or the wider Harlow area.

6.5.13. Costs and Funding

6.5.14. Pharmacists are private facilities. They receive funding or 'remuneration' via the NHS to cover the costs of free prescriptions and to subsidise standard prescriptions. NHS funding is in period of change with pressures to increase efficiency and reduce the burden on public sector finances leading to uncertainty in the future. The Pharmacy Integration Fund (PhIF) has been created by the Department of Health as part of the package of proposals under consideration to transform the way pharmacy and community pharmacy services are commissioned from 2016/17 and beyond. According to the NHS PhIF is expected to make £20m available in 2016/17 which will rise to £100m by 2020/21 so that over the course of 5 years £300m will be distributed through the Fund.

6.5.15. As many pharmacies are commercial operations the construction of new pharmacies can be a private sector initiative. The individual needs vary on a case by case basis so it is difficult to estimate a cost of providing the 4 additional pharmacies required to support Harlow and its wider urban area's growth. A nominal £1m cost per facility is provided in the absence of benchmark figures. This equates **to £2m for Harlow and £2m for the Strategic Sites outside Harlow**. This high-level order of magnitude estimate is based on professional judgement and is provided to feed into the estimate of total infrastructure costs. It should not be used for site specific purposes.

6.6. Secondary healthcare overview

6.6.1. Information sources

6.6.2. The following information sources were referenced in the assessment of Secondary Health Care.

- NHS England Consultation (2017)
- NHS England Five Year Forward View (2014)
- West Essex CCG Interim Strategic Estates Plan (Nov 2015)
- West Essex CCG JSNA Report (2015)
- Care Quality Commission; Princess Alexandra Hospital Quality Report (2016)

³¹ Essex Pharmaceutical Needs Assessment (2015)

6.7. Hospitals

6.7.1. Existing Provision

6.7.2. The Princess Alexandra Hospital (PAH) NHS Trust is the main hospital for Harlow and its surrounding area. It addresses Harlow's acute health needs. PAH is a 460 bedded District General Hospital providing a comprehensive range of safe and reliable acute and specialist services to a local population catchment area of approximately 350,000 people. The Princess Alexandra Hospital NHS Trust has 5 sites in the wider area; Princess Alexandra Hospital, St Margaret's Hospital, Herts and Essex Hospital, Cheshunt Community Hospital and Rectory Lane Clinic.

6.7.3. The PAH NHS trust sees on average around 350 patients a day in its emergency department (ED). There are 501 beds in the trust with 388 for emergency and elective adult inpatients.

6.7.4. The main commissioning CCG at this trust is West Essex CCG and East and North Herts CCG. The trust employs 2,817 staff (FTE). The trust revenue is £196.1million and cost was £233.8million, leaving a 2015/16 deficit of £37.7million. There were approximately 115,000 A&E attendances at this trust between 2015/16 and 72,120 inpatient admissions. There were 210,017 outpatient attendances between April 2015 and March 2016.

Table 6-8 Harlow Hospital

Facility	Beds	Staff	Floorspace NIA (sqm)	Source
Princess Alexandra Hospital	460	2,817	50,600	West Essex CCG Interim Strategic Estates Plan (Nov 2015)

Source: West Essex CCG (2015)

6.7.5. Existing Deficiencies

6.7.6. According to the latest NHS England data PAH is operating at around 95% capacity in terms of beds available³². However, there is evidence of existing deficiencies in the wider service offered by PAH. The reasons for this are complex. PAH was originally designed to serve a population of approximately 60,000 people but is now serving a much larger population. Also, more generally the NHS in England is under severe financial pressures as a result of a combination of an ageing population and associated increasing financial burden on the public purse in the context of a Government policy to reduce the public-sector deficit.

6.7.7. In June 2016, the health and social care regulator the Care Quality Commission (CQC) conducted an unannounced inspection of PAH. The CQC concluded that PAH was inadequate and as a result the trust was put into special measures to increase its performance. In part to address existing deficiencies identified in the CQC report. The PAH has recently undergone a £1m programme of improvements to the A&E department. However, the long-term plan is to relocate the hospital to a more appropriate site in or around Harlow.

6.7.8. Future Requirements in Harlow

6.7.9. There is no accepted system for estimating acute hospital need linked to future housing growth. There are plans to potentially relocate PAH to a new site. At the time of writing the location and the specification of the re-located PAH is yet to be defined. However, it is assumed that the new PAH hospital will be designed to meet the existing and future needs of Harlow and its wider area.

6.7.10. For the purposes of the study it is possible to use benchmarks to provide an indication of future acute health requirements and costs to meet Harlow's growth needs. This is based on the benchmarks shown in Table 6-9. Table 6-10 shows how these benchmarks are used to estimate future needs.

³² NHS England Average daily number of available and occupied beds open overnight by sector (Q1 2017-18)

Table 6-9 Acute Hospitals Benchmarks

Details	Benchmark	Source
Beds per 1000 People	1.96	Ratio of Hospital Beds to England population 2016 (based on NHS England Data)
Sq. m per Acute Bed	160	Greater Essex GIF benchmark data
Cost per sq. m acute and mental health provision	£3,338.56	Greater Essex GIF benchmark data ³³

Source: Greater Essex GIF (2016)

Table 6-10 Harlow Future Acute Health Needs

Facility	Projected population growth	No. of beds (newly arising over plan period)	Floorspace (newly arising demand over plan period)	Indicative Cost
Re-located Princess Alexandra Hospital NHS Trust (location TBC)	12,000	23.5	3,763	<u>£12,563,001</u>

Source: Atkins (2017)

6.7.11. Future Requirements around Harlow

- 6.7.12. PAH currently provides acute health services for the wider Harlow urban area and hinterland, including in Epping Forest and East Herts. Therefore, the acute health needs linked to future growth will be met by the relocated PAH. For indicative purposes based on the same benchmarks shown in Table 6-9 the future needs and cost for Strategic Sites around Harlow are shown in Table 6-11 below:

Table 6-11 Strategic Sites Outside Harlow Acute Health Needs

Facility	Projected population growth	No. of beds (newly arising over plan period)	Floorspace (newly arising demand over plan period)	Indicative Cost
Re-located Princess Alexandra Hospital NHS Trust (location TBC)	9,994	19.6	3,134	<u>£10,463,442</u>

Source: Atkins (2017)

³³ This figure is based on p69 of the Greater Essex GIF total acute and mental health floorspace required to 2036 (104,000 sq. m) and the total cost of that provision £347,210,000. It should be noted that this covers both mental health and acute provision and in reality, there is likely to be differences between the relative costs of these two types of provision. This figure is used in the absence of more specific data.

6.7.13. **Costs and Funding**

6.7.14. The NHS currently fund acute hospital needs so it can be assumed that the total cost of **£23,026,443** across the Harlow and Gilston Garden Town will be fully funded. It should be noted that this figure is a high-level estimate of the number of new beds and floorspace required to meet the needs of the new population generated by future housing growth. The cost estimate is based on standard cost assumptions. It is not the total cost of the new Princess Alexandra Hospital but the cost of providing additional beds to address the needs of the increased population resulting from housing growth.

6.7.15. It should also be noted that this is an indicative figure for strategic planning purposes. In reality, the service delivery model and associated cost and funding of both health and social care services is changing. In general, the NHS are moving away from bed based care for both physical and mental health and putting a greater emphasis on avoiding hospital admissions and nursing/residential home placements. Therefore, the costs presented here could alternatively be lower if a change in funding and service regime occurs.

6.8. **Mental Health**

6.8.1. **Information sources**

6.8.2. The following information sources were referenced in the assessment of mental health care.

- ECC consultation (2017)
- Greater Essex GIF (2016)
- West Essex CCG 5 Year Plan (2015)
- West Essex CCG JSNA Report (2016)
- North Essex Mental Health Joint Commissioning Strategy for Adults (2014)

6.8.3. **Existing Provision**

6.8.4. A number of organisations in Essex provide mental health services, including Foundation Trusts, NHS trusts and social enterprises. Within Harlow, these include the Princess Alexandra Hospital NHS Trust. The North Essex Mental Health Joint Commissioning Strategy provides information on secondary mental healthcare which covers West Essex in addition. The West Essex CCG JSNA Report identifies 2,007 mental health patients on the WECCG register. Within Harlow, the Community Mental Health Team is located in the Latton Bush Centre on Southern Way. Also, the Derwent Health Centre is connected to the main Princess Alexandra Hospital NHS Trust. Figure 6-3 shows the existing mental health centres in Harlow.

Figure 6-3 Existing Mental Health Provision in Harlow



Source: ECC (2016) Contains Ordnance Survey data © Crown copyright and database right 2017.

6.8.5. Existing Deficiencies

6.8.6. The Princess Alexandra Hospital NHS Trust currently does not provide beds for mental illnesses and learning disabilities. The evidence and consultation suggests that Harlow’s capacity to deal with mental health issues is currently ‘stretched to the limit’. Therefore any future growth will place a greater burden on existing infrastructure necessitating a need for increased provision.

6.8.7. Future Requirements in Harlow

6.8.8. For the purposes of the study, benchmarks can be used to indicate future mental healthcare requirements to meet Harlow’s future projected growth. Based on the benchmarks outlined in the table below, the following mental healthcare requirements are identified to meet population growth within Harlow.

Table 6-12 Mental Health Hospital Benchmarks

Details	Benchmark	Source
Beds per 1000 People	0.40	Ratio of Hospital Beds to England population 2016 (based on NHS England Data)
Sq. m per Bed	85	Greater Essex GIF benchmark data
Cost per sq. m mental health provision	£3,338.56 ³⁴	Greater Essex GIF benchmark data

Source: Greater Essex GIF (2016)

Table 6-13 Harlow Mental Health Needs

No. of beds (newly arising over plan period)	Floorspace (newly arising over plan period)	Cost
4.8	408	<u>£1,362,132</u>

Source: Atkins (2017)

6.8.9. Future Requirements around Harlow

6.8.10. The following table outlines future mental health requirements for the Strategic Sites outside Harlow . It should be noted that there is no information on likely sites for the new mental healthcare floorspace, therefore only the numerical requirements are outlined.

Table 6-14 Strategic Sites Outside Harlow Mental Health Needs

No. of beds (newly arising over plan period)	Floorspace (newly arising over plan period)	Cost
4.0	340	<u>£1,135,110</u>

Source: Atkins (2017)

6.8.11. Costs and Funding

6.8.12. The NHS currently fund mental healthcare so it can be assumed that the total cost of **£2,497,242** across the Harlow and Gilston Garden Town will be fully funded. It should be noted that this is an indicative figure for strategic planning purposes. In reality, the service delivery model and associated cost and funding of both health and social care services is changing. In general, the NHS are moving away from bed based care for mental health and putting a greater emphasis on avoiding hospital admissions and nursing/residential home placements. Therefore, the costs presented here may be lower if a change in funding and service regime occurs.

³⁴ This figure is based on p69 of the Greater Essex GIF total acute and mental health floorspace required to 2036 (104,000 sq. m) and the total cost of that provision £347,210,000. It should be noted that this covers both mental health and acute provision and in reality, there is likely to be some differences between the relative costs of these two types of provision. This figure is used in the absence of more specific data.

6.9. Adult Social Care

6.9.1. Information sources

6.9.2. The following information sources were referenced in the assessment of adult social care.

- ECC consultation (2017)
- Greater Essex GIF (2016)
- West Essex CCG 5 Year Plan (2015)
- West Essex CCG JSNA Report (2016)
- North Essex Mental Health Joint Commissioning Strategy for Adults (2014)

6.9.3. All health and social care services in England are registered and regulated by the Care Quality Commission (CQC). In Essex, the Council commissions adult social care services. ECC also refers and places clients with learning disabilities and physical and sensory impairment. Social care services are delivered by a mix of public and private providers.

6.9.4. The sub-categories of nursing homes, residential care homes and extra-care bedrooms have been used to distinguish differing types of adult social care provision.

6.9.5. A nursing home is a place where personal care and accommodation are provided together. Both the care that people receive and the premises are regulated. In addition, qualified nursing care is provided, to ensure that the person's needs are met. Residential care homes, however, share similar characteristics but without qualified nursing care. Finally, extra care services refer to purpose built accommodation units where support can be offered when required.

6.9.6. Existing Provision

6.9.7. Existing adult social care services in Harlow consist of the following.

Table 6-15 Adult Social Care Provision

	Existing Care Provision			
	Nursing	Residential	Nursing and Residential Beds per 10,000 people	Extra Care
Harlow	239	165	48	42

e: Essex County Council database of social care providers Year End 15-16, supplemented with CQC database for Unitary Authorities, Shaping Futures: Market Position Statement, Independent Living Position Statement (April 2016)

6.9.8. Existing Deficiencies

6.9.9. When analysing the Harlow figures above against the benchmark figures, there is evidence of additional capacity in Harlow for nursing home provision. However, there is evidence of a deficit in residential care provision.

6.9.10. **Future Requirements in Harlow**

6.9.11. See Table 6-16 below for adult social care benchmarks.

Table 6-16 Adult Social Care Benchmarks

Details	Benchmark	Source
Nursing Home bedroom per 1,000 persons over 75	25	The Housing Learning and Improvement Network (LIN) SHOP TOOL - Demand levels based prevalence rates from "More Choice, Greater Voice".
Residential Care bedroom per 1,000 persons over 75	65	
Extra Care bedroom per 1,000 persons over 75	45	
Nursing Home demand change 2016-2036	-46%	ECC Social Care Data - Review of change in demand places from 2010 - 2015 extrapolated forward (logarithmic trendline)
Residential Care demand change 2016-2036	-82%	
Typical Nursing Care Unit Bed Number per facility	80	Kent and Medway Social Care Research - Estuary View Medical Centre Plans for Expansion (whilst not in Essex this is a comparable benchmark for use in Greater Essex).
Typical Residential Care Unit Bed Number per facility	80	
Typical Extra Care Unit Bed Number per facility	80	AECOM Cost Consultants Extra Care Facility Planning Guidelines 2015
Average cost of 80 bed nursing / residential / extra care facility	£5,530,768	Atkins assumption based on Greater Essex GIF total cost of social care provision / number of beds required (2016-36)
Indicative cost per bed	£69,134	As above

Source: Greater Essex GIF (2016) & ONS Mid Population estimates (2014)

6.9.12. Based on the benchmarks above and the estimated future population of 75+ year olds in Harlow from the 2014 ONS mid population estimates the following adult social care requirements can be estimated:

Table 6-17 Adult Social Care Requirements Within Harlow

Location	2017-2033 additional requirement (for over 75s)		
	Nursing Care Beds	Residential Care beds	Extra Care Beds
Harlow	36	94	65

Source: Atkins (2017)

6.9.13. Using the benchmarks provided, the additional growth in Harlow requires an additional 36 nursing care beds, 94 residential care beds and 65 extra care beds. This has been derived from an overall population increase of 1,448 people over the age of 75.

6.9.1. Costs and Funding

6.9.2. The total costs below are derived from the additional requirements outlined previously. Requirements are rounded up and down to equate to a facility. In the case of nursing care, the cost is proportioned based on requirement inside and outside Harlow due to one facility being required to cover the wider Harlow and Gilston Garden Town.

Table 6-18 Costs Within Harlow

Identifier	Provision	Est. cost (£m's)	Funding (£m's)	Funding Gap	Funding Source	Priority
HSC_5 u r c e	1 x Nursing Home (Harlow's proportion of a home covering the wider Harlow area)	3.0	0.0	3.0	Private sector	Required
HSC_6 A	1 x Residential Home	5.5	0.0	5.5	Private sector	Required
HSC_7 i	1 x Extra-care Home	5.5	0.0	5.5	Private sector	Required
Total		14.0	0.0	14.0		

(2017)

6.9.3. Table 6-18 indicates the requirement for one nursing home to cover the Harlow and the wider area. The number of beds has been rounded up to equate to one nursing home, with the table showing Harlow's indicative share of the cost³⁵.

6.9.4. The total number of beds for the residential and extra care homes has been rounded up / down to meet the threshold for one centre each. There is evidence of sufficient demand to meet Harlow's requirements without sharing costs with the Strategic Sites outside Harlow.

6.9.5. Future Requirements Around Harlow

Table 6-19 Adult Social Care Requirements for Strategic Sites Outside Harlow³⁶

Location	No of over 75s	2017-2033 additional requirement (for over 75s)		
		Nursing Care Beds	Residential Care beds	Extra Care Beds
Gilston Park Estate	526	13	34	24
East Harlow (minus Strategic Site East of Harlow)	129	3	8	6
Latton Priory	181	5	12	8
West of Katherines	189	5	12	9
West of Sumners	173	4	11	8
TOTAL	1,198	30	77	55

Source: Atkins (2017)

³⁵ Harlow's cost of £3m is derived from its 55% (12,000) share of the overall projected 22,000 increase in population.

³⁶ Assuming 12% population over 75

6.9.6. The adult social care requirements for Strategic Sites outside Harlow outlined above are derived from a total number of 1,198 over 75s as part of the projected increase in population.

6.9.7. **Costs and Funding**

Table 6-20 Costs for Strategic Sites Outside Harlow

Identifier	Provision	Est. cost (£m's)	Funding (£m's)	Funding Gap	Funding Source	Priority
AC_4 S o u r	1 x Nursing (Outside Harlow's proportion of a home covering the wider Harlow area)	2.5	0.0	2.5	Private sector	Required
AC_5 e	1 x Residential Home	5.5	0.0	5.5	Private sector	Required
AC_6 A t	1 x Extra-care Home	5.5	0.0	5.5	Private sector	Required
Total		13.5	0.0	13.5		

ns (2017)

6.9.8. The nursing home cost of £2,500,000³⁷ represents the remaining share of the split cost detailed in Table 6-18. For residential and extra care, numbers of required beds have again been rounded up / down in order to meet the requirements of one home each to serve the wider Harlow area.

6.9.9. In terms of funding, adult social care services are mostly funded privately. However, Essex County Council subsidise a number of bed spaces based on contracts with providers. Funding derived from Developer Contributions is another potential source of capital, however the extent of funding from these sources is likely to be limited in terms of distributing across Harlow's adult social care requirements.

6.10. **Summary – Health and Social Care Costs and Funding**

6.10.1. A summary of all transport projects (in and around Harlow), including their phasing and delivery prioritisation scoring is shown below:

³⁷ Outside Harlow's cost of £2.5m is derived from its 45% (10,000) share of the overall projected 22,000 increase in population.

Table 6-21 Health Projects to meet Harlow future Growth Needs ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
HS_1	GPs	6.3 new GPs and 1,040 sq. m provided at extended GPs surgeries in Harlow	£2,080,000	GMS/ PMS	£0	£171,997	£360,026	£1,547,976				Required	5,000-10,000	District	7	Atkins estimate based on various sources inc ECC consult
HS_2	Pharmacies	2 x new pharmacies in Harlow	£2,000,000	Private sector	£2,000,000	£0	£0	£0				Required	1,000-5,000	District	6	As above
HS_3	Hospital	3,763 sq. m 23.5 new beds at the relocated Princess Alexandra Hospital	£12,563,001	NHS	£12,563,001	£0	£0	£0				Required	>10,000	Strategic	9	As above
HS_4	Mental Health	4.8 new beds and 408 sq. m of mental health provision	£1,362,132	NHS	£1,362,132	£0	£0	£0				Required	1,000-5,000	District	6	As above
HS_5	Adult Social Care	1 x Nursing Home (Harlow's proportion of a home covering the wider Harlow area)	£3,000,000	ECC / NHS / Developers / Operators	£0	£620,183	£ 519,269	£1,860,548				Required	1,000-5,000	District	6	As above
HS_6	Adult Social Care	1 x Residential Home	£5,500,000	ECC / NHS / Developers / Operators	£0	£1,137,002	£ 951,993	£3,411,005				Required	1,000-5,000	District	6	As above
HS_7	Adult Social Care	1 x Extra-care Home	£5,500,000	ECC / NHS / Developers / Operators	£0	£1,137,002	£951,993	£3,411,005				Required	1,000-5,000	District	6	As above
Total			£32,005,133		£15,925,133	£3,066,184	£2,783,281	£10,230,535								

Source: Atkins (2017)

Table 6-22 Health Projects to meet future Growth Needs of Strategic Sites Outside Harlow ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
HS_8	GPs	Extend GP provision for Gilston Park Estate	£800,000	GMS/ PMS	£0	£80,000	TBC	£720,000				Required	1,000-5,000	District	6	Atkins estimate based on various sources inc ECC consult
HS_9	GPs	Extend GP provision for East Harlow (minus Newhall)	£200,000	GMS/ PMS	£0	£20,000	TBC	£180,000				Required	1,000-5,000	District	6	As above
HS_10	GPs	Extend GP provision for Latton Priory	£300,000	GMS/ PMS	£0	£30,000	TBC	£270,000				Required	1,000-5,000	District	6	As above
HS_11	GPs	Extend GP provision for West of Katherines	£300,000	GMS/ PMS	£0	£30,000	TBC	£270,000				Required	1,000-5,000	District	6	As above
HS_12	GPs	Extend GP provision for West of Summers	£200,000	GMS/ PMS	£0	£20,000	TBC	£180,000				Required	1,000-5,000	District	6	As above
HS_13	Dentists	150 sq. m of dentist space	£300,000	Private Sector	£300,000	£0	TBC	£0				Required	1,000-5,000	District	6	As above
HS_14	Pharmacies	2 x new pharmacies to meet needs of Harlow fringe growth	£2,000,000	NHS	£2,000,000	£0	TBC	£0				Required	5,000-10,000	District	7	As above
HS_15	Hospital	3,134 sq. m 19.6 new beds at the relocated Princess Alexandra Hospital	£10,500,000	NHS	£10,500,000	£0	TBC	£0				Required	>10,000	Strategic	8	As above
HS_16	Mental Health	4.0 new beds and 340 sq. m of mental health provision	£1,100,000	ECC / NHS / Developers / Operators	£0	£110,000	TBC	£990,000				Required	5,000-10,000	District	7	As above
HS_17	Adult Social Care	1 x Nursing Home (Outside Harlow's proportion of a home covering the wider Harlow area)	£2,500,000	ECC / NHS / Developers / Operators	£0	£625,000	TBC	£1,875,000				Required	5,000-10,000	District	7	As above
HS_18	Adult Social Care	1 x Residential Home	£5,500,000	ECC / NHS / Developers / Operators	£0	£1,375,000	TBC	£4,125,000				Required	5,000-10,000	District	7	As above
HS_19	Adult Social Care	1 x Extra-care Home	£5,500,000	ECC / NHS / Developers / Operators	£0	£1,375,000	TBC	£4,125,000				Required	5,000-10,000	District	7	As above
Total			£29,200,000		£12,800,000	£3,665,000	TBC	£12,735,000								

Source: Atkins (2017)

7. Emergency Services

7.1. Introduction

7.1.1. This section covers all emergency services provision in Harlow, including the ambulance service, policing and the fire and rescue service.

7.2. Ambulance

7.2.1. Information sources

7.2.2. The following information sources were referenced in the assessment of ambulance provision.

- Stakeholder consultation
- Greater Essex GIF (2016)
- ECC Developers' Guide (206)

7.2.3. Existing Provision

7.2.4. Harlow's ambulances are provided by the East of England Ambulance Service NHS Trust (EEAST) which covers Bedfordshire, Hertfordshire, East Anglia and Essex. Air ambulances are charitably funded. Across these areas there are 130 sites and a fleet of 1,000 vehicles³⁸. Harlow has 1 ambulance station, located on Wych Elm in Little Parndon.

Figure 7-1 Ambulance Service in Harlow



7.2.5. Existing Deficiencies

7.2.6. Following consultation and review of literature sources listed above, no immediate deficiencies in the existing ambulance provision for Harlow was identified.

7.2.7. Future Requirements in Harlow

7.2.8. There are no specific assumptions for additional requirements for Harlow and the surrounding area for ambulance provision. Across the area served by the EEAST, there is a view from stakeholders consulted that the current provision is below the national standard. However, this is partly linked to the wider issues of lack of hospital capacity and long waits within the region³⁹.

7.2.9. Future Requirements around Harlow

7.2.10. As above, there are no identified additional requirements for the Strategic Sites around Harlow .

7.2.11. Costs and Funding

7.2.12. The Ambulance service is funded by NHS England, unlike policing and fire and rescue which are funded by Central Government. There is an overall conclusion across the EEAST that there will be significant challenges with managing the capacity with the growth in demand⁴⁰. Therefore, in order to grow the ambulance service in Harlow, alternative sources of funding will need to be sought.

7.3. Police Services

7.3.1. Information sources

7.3.2. The following information sources were referenced in the assessment of police services.

- Consultation with Police service
- Greater Essex GIF
- ECC Developers' Guide

7.3.3. Existing Provision

7.3.4. Harlow's policing is covered by Essex Police. Essex Police's headquarters are located in Chelmsford, and has a large amount of front desk premises (27) when compared to other police services nationally⁴¹. There is currently 1 main police station in Harlow, located in the Toddbrook ward in Harlow, as illustrated by the map below.

³⁹ EEAST annual report 2016-17

⁴⁰ *ibid*

⁴¹ Greater Essex Growth and Infrastructure Framework 2016-2036

Figure 7-2 Police Service in Harlow



Source: ECC (2016) Contains Ordnance Survey data © Crown copyright and database right 2017.

7.3.5. Existing Deficiencies

7.3.6. Following consultation and review of literature sources listed above, no immediate deficiencies in the existing police provision for Harlow was identified. The police service is funded through a combination of Central Government grants and council tax revenues. A significant funding gap is evident however, resulting in a reduction in 50% of the current estate over Essex.

7.3.7. Future Requirements in Harlow

7.3.8. There are no additional requirements for Harlow and the surrounding area for police provision.

7.3.9. Future Requirements around Harlow

7.3.10. As above, there are no identified additional requirements for the Strategic Sites around Harlow.

7.3.11. Costs and Funding

7.3.12. At a regional level, it is widely accepted that the existing formula for police provision is not appropriate. Subsequently, the Government is reviewing this formula coincide with anticipated growth. This was launched through a consultation on potential reforms in 2015, which was then reviewed by the Home Affairs Committee in 2017. The aim of the reforms is based on a new simplified and transparent funding model based on three broad elements that, while not themselves drivers of individual criminal activity, correlated highly and strongly with long term patterns of crime and overall police demand:

- population levels;

- the underlying characteristics of a local population, such as data on households with no adults employed and dependent children, hard pressed population and Council Tax Band D equivalent properties; and
- the environmental characteristics of police force areas, indicated by data on the density of licensed bars in an area⁴².

7.4. Fire and Rescue Services

7.4.1. Information sources

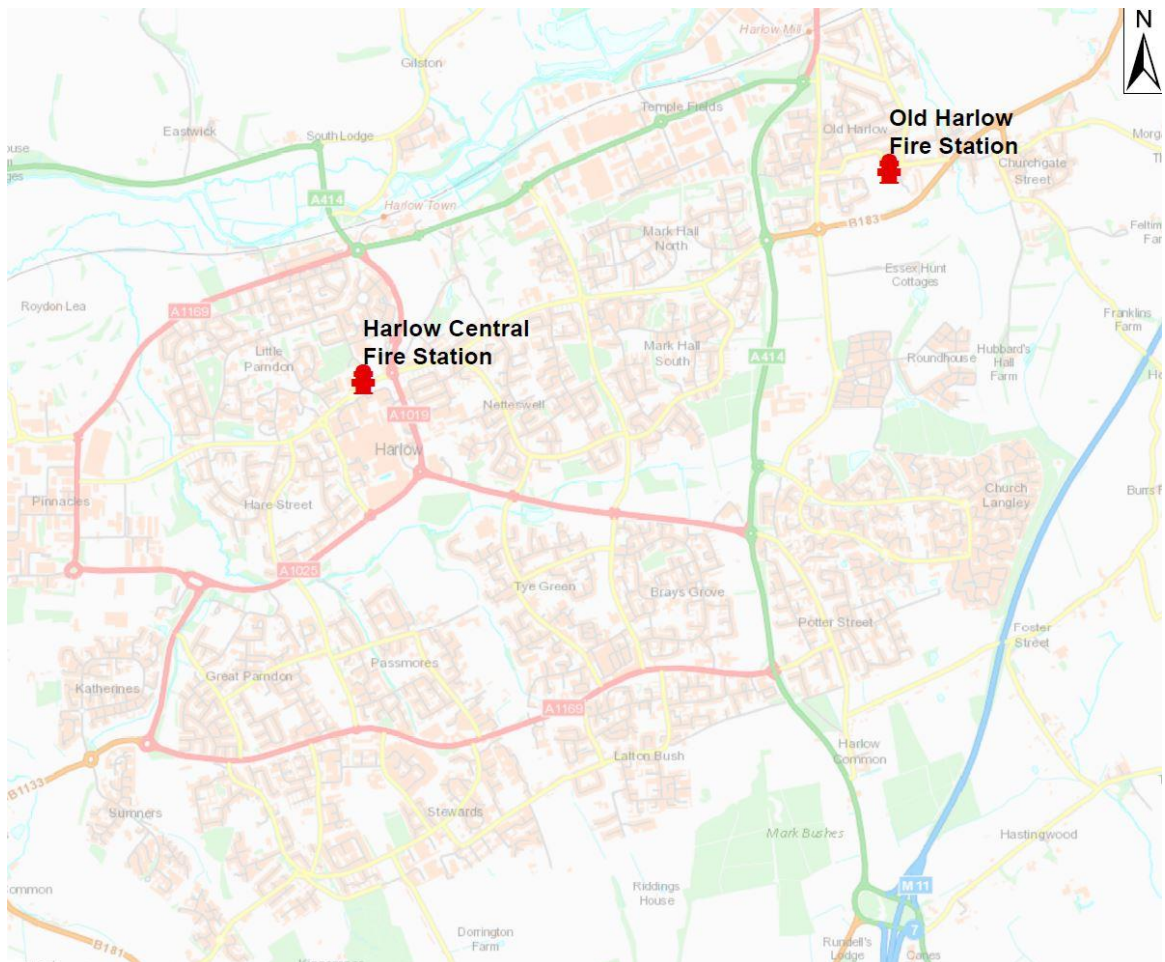
7.4.2. The following information sources were referenced in the assessment of police services.

- Consultation with Essex County Fire & Rescue Service (ECFRS).

7.4.3. Existing Provision

7.4.4. The fire service provider in Harlow is the ECFRS. Harlow is directly served by two Fire Stations. Harlow Town has a Whole Time two pump station, whilst Old Harlow has a one pump On Call (Retained Duty) station. Current usage is adequately met by current capacity. The Fire service does not see any need at this time to increase the number of stations. The two fire stations are located on the map below.

Figure 7-3 Fire and Rescue Service in Harlow



Source: ECC (2016) Contains Ordnance Survey data © Crown copyright and database right 2017.

⁴² Parliament.uk

7.4.5. **Future Needs**

7.4.6. The proposed increase in dwellings is unlikely to necessitate additional ECFRS resource. At this point no figure has been provided by ECFRS and no assumption is realistic as the needs vary depending on circumstances. The ECFRS will consider areas of growth when they conduct future Integrated Risk Management Planning.

7.4.7. An area of some concern to ECFRS is street size on modern estates and the parking provision that is often prescribed in planning permissions. Experience to date indicates that developers tend to maximise the amount of land for housing, leaving streets as narrow as permissible. Parking is an issue as families can move in to a property with at least two, sometimes three and on occasion's four vehicles. Flatted developments mostly come with one parking space per flat, when the occupants often have two cars. ECFRS appliances are large and with parking on both sides of a street, access has proved difficult from time to time. This can include parking around a mini-roundabout, surrounded by dwellings. Overall, this has meant, unfortunately, that in order to get to an incident, damage is caused to parked cars and to ECFRS appliances.

7.4.8. **Cumulative Needs of wider Harlow Urban Area**

7.4.9. According to ECFRS it is not envisaged, at this point in time, that existing ECFRS locations will change in order to meet future needs. However, resources within those facilities may change. Additional resource from around the County, nearest first, would be mobilised to assist with Harlow based resources.

7.4.10. **Costs & Funding**

7.4.11. As no additional provision is identified no costs are provided. The fire and rescue service is funded through a combination of Central Government grants and a levy on local council tax revenues. However, from 2010-11 to 2015-16, funding for fire and rescue authorities has fallen for stand-alone authorities by 28%.

8. Community, Leisure and Sports Facilities

8.1. Introduction

8.1.1. This section covers the provision of community, leisure and sports facilities. This includes the following:

- Libraries
- Youth centres / services
- Village and community halls
- Indoor / outdoor sports facilities.

8.2. Libraries

8.2.1. Information sources

8.2.2. The following information sources were referenced in the assessment of libraries.

- ECC consultation
- Greater Essex GIF (2016)
- ECC Developers' Guide (2015)
- East Herts IDP (2017)
- Consultation with consultants producing draft Epping Forest IDP (2017-18)

8.2.3. Existing Provision

8.2.4. Libraries in Harlow are provided and maintained by Essex County Council. There is approximately 4,312⁴³ sq. m of library space in Harlow, which equates to approximately 50 sq. m per 1,000 population. This is almost double the Essex-wide figure which is 26 sq. m per 1,000 population⁴⁴.

8.2.5. The current provision of libraries in Harlow is shown at Table 8-1 and Figure 8-1 below.

Table 8-1 Harlow Library Provision

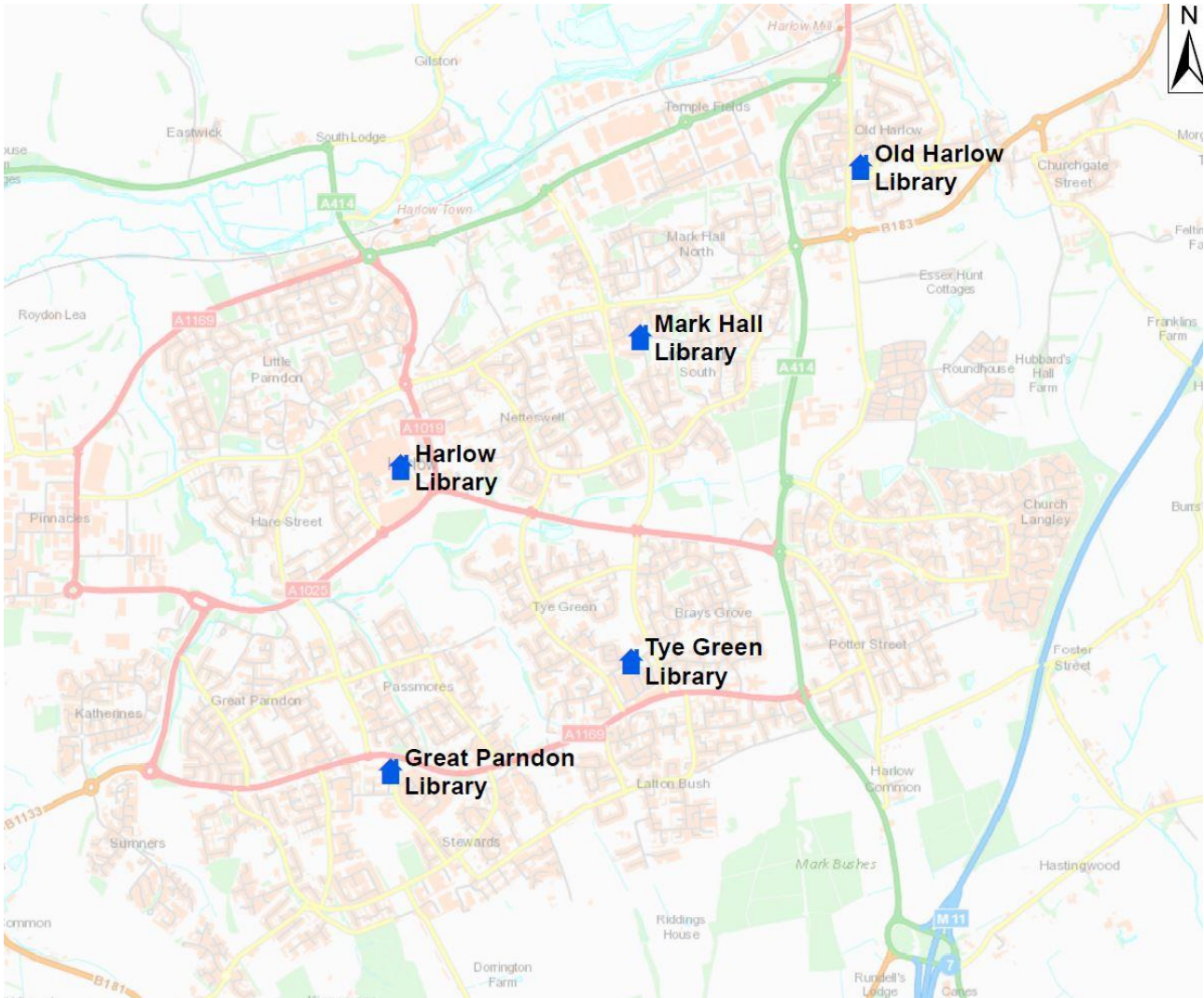
Facility	Ward	Floorspace (sq. m)
Great Parndon Library	Great Parndon	543
Harlow Central Library	Toddbrook	2,187
Mark Hall Library	Mark Hall	181
Old Harlow Library	Old Harlow	168
Tye Green Library	Bush Fair	386 + 847 (community building)
Total		4,312 (Average approx. 50 sq. m floor space per 1,000 people (GIF))

⁴³ Alan Hardy, Property & Facilities Officer, ECC

⁴⁴ Greater Essex Growth and Infrastructure Framework 2016-2036

8.2.6. The main Central Library includes the basement, ground and first floors and incorporates both the freehold and leasehold parts of the building. In addition, adjoining Tye Green Library is also a Community Association building in ECC ownership, with a floorspace of 847 sq. m.

Figure 8-1 Library Provision in Harlow



Source: ECC (2016) Contains Ordnance Survey data © Crown copyright and database right 2017.

8.2.7. Existing Deficiencies

8.2.8. No deficiencies in the current floorspace identified for libraries in Harlow and the provision is considered to be fit for purpose. The benchmark space per 1,000 population in the ECC Developers Guide is 30 sq. m. per 1,000 population⁴⁵ and a growth in population of 7,000 should equate to one new library. This suggests that as Harlow has approximately 50 sq. m. per 1,000 population there is currently a theoretical ‘surplus of provision’. This surplus could help meet the needs of new population generated by housing growth.

8.2.9. Future Requirements in Harlow

8.2.10. Based on a population growth of 12,000 in Harlow to 2033 and the 30 sq. m. per 1,000 population would suggest there would be a need for 360 sq. m. of additional floorspace. However, as described above Harlow has a relative spare library capacity so this need could be met in existing supply.

⁴⁵ Essex County Council *Developers’ Guide to Infrastructure Contributions* (2016)

8.2.11. **Future Requirements around Harlow**

8.2.12. In terms of future requirements for the Strategic Sites around Harlow, based on ECC Developer Guide benchmarks and an additional 10,000 population, there would be a need for 300 sq. m. This would equate to one new library.

8.2.13. **Costs and Funding**

8.2.14. Based on the cost per sq. m. used in the Greater Essex GIF (2016) of £1,717.44 per sq. m of new library space and the 300 sq. m required to meet the growth needs of the Strategic Sites outside Harlow the total estimated cost of this provision is **£515,232**.

8.2.15. Libraries in the UK are funded by the local authority and sometimes via developer contributions (s106 and CIL). However, through a bidding process there are other avenues whereby public libraries can gain public sector funding. These include the Arts Council and the Big Lottery fund. Library expansion is likely to co-locate with a range of other community uses. However, the decision whether to build a new library building or extend an existing building is not known at this stage and will be subject to further analysis by the relevant local authority before a decision is made.

8.3. **Youth Services**

8.3.1. **Information sources**

8.3.2. The following information sources were referenced in the assessment of youth services.

- ECC consultation (2017)
- Greater Essex GIF (2016)
- ECC Developers' Guide (2016)

8.3.3. **Existing Provision**

8.3.4. Youth services in Harlow are generally run by the Essex Youth Service. At a county-wide level, the County Council retains ownership of a reduced number of physical Youth Centres. Overall there are 3 youth centres in Harlow, at a provision rate of 0.4 centres per 1,000 young people aged 13-19, which is higher than the Greater Essex average of 0.2 centres per 1,000 13-19-year-old⁴⁶. According to the ONS 2014-based Subnational population projections there are approximately 7,300 13-19 years olds in Harlow in 2017. The current provision is summarised in Table 8-2 and Figure 8-2 below.

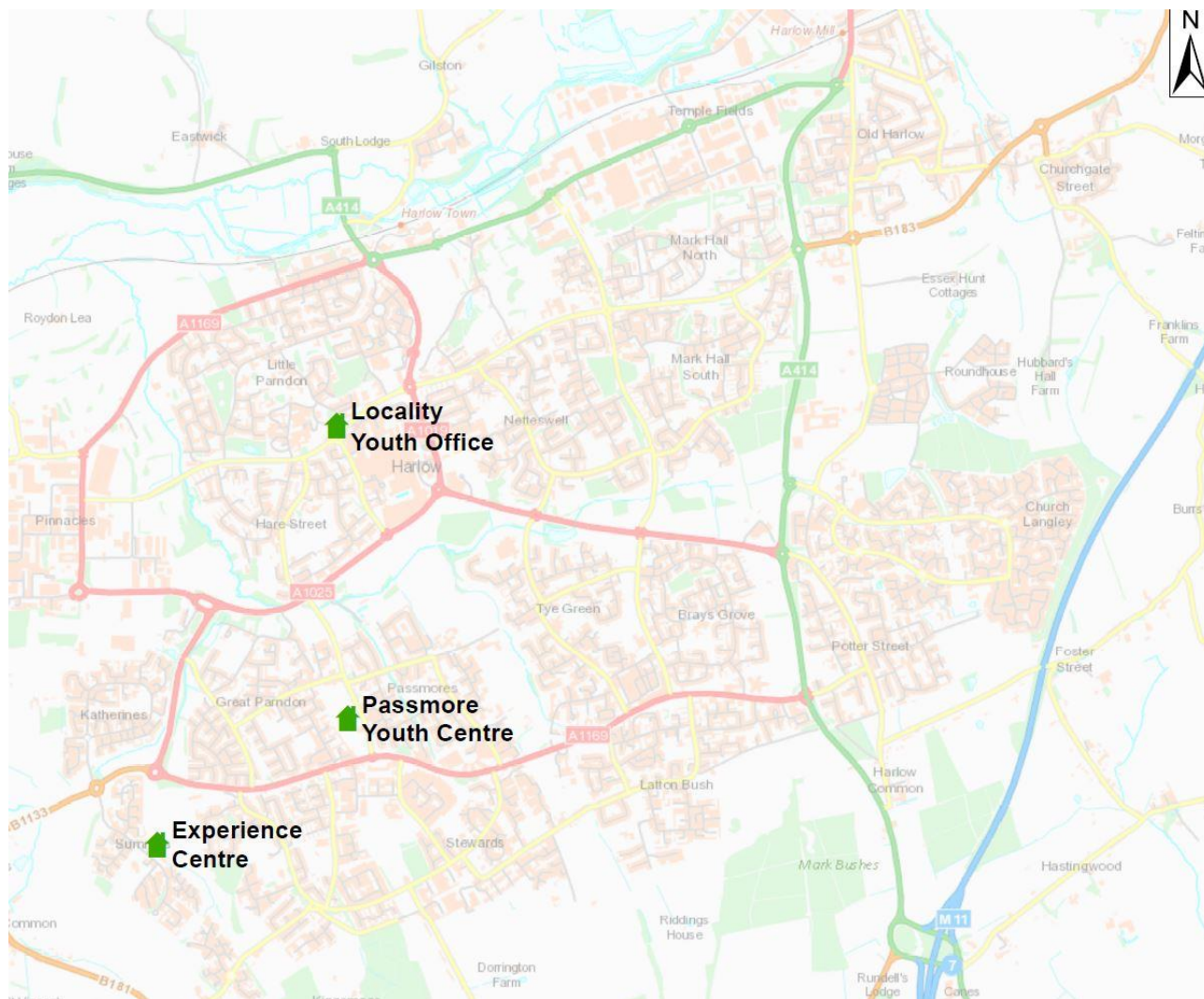
Table 8-2 Harlow Youth Services

Facility	Ward
Harlow Locality Youth Office	Little Parndon & Hare Street
The Experience Centre	Sumners and Kingsmoor
Passmores Youth Centre	Great Parndon

Source: ECC (2016)

⁴⁶ Greater Essex Growth and Infrastructure Framework 2016-2036

Figure 8-2 Youth Services in Harlow



Source: ECC (2016) Contains Ordnance Survey data © Crown copyright and database right 2017.

8.3.5. Existing Deficiencies

8.3.6. At present, there is no immediate deficiencies in youth centres availability in Harlow. The current provision is fit for purpose, as youth centres are operating efficiently with further reductions in service seen as highly unlikely⁴⁷.

⁴⁷ Greater Essex Growth and Infrastructure Framework 2016-2036

8.3.7. Future Requirements in Harlow

Table 8-3 Youth Centre Benchmarks

Details	Benchmark	Source
Clients per 1,000 children	26.00	Essex GIF - Aggregate figures based on comparable project research
Clients per youth facility	60.00	Essex GIF - Essex County Council - Developers' Guide to Infrastructure Contributions 2016 Edition

ECC (2016)

8.3.8. The standards that have been used to estimate the youth service requirement are shown in Table 8-2 above. According to the Essex GIF, between 2016-2036 there will be an additional 78 youth clients in Harlow, resulting in the need for 1 additional youth facility to be provided.⁴⁸ Based on ONS analysis⁴⁹ and the standards in the developer guide and the Essex GIF, projections to 2033 identify an additional 2,400 13-19 year olds in Harlow. When based against the benchmark figure of 26 clients per 1,000 0-15 year olds, a calculation of 62.4 clients is identified. It would be reasonable to suggest that this equates to one additional youth facility.

8.3.9. Costs and Funding

8.3.10. According to the ECC Developers' Guide, the capital cost of a facility with the capacity to provide for the projected additional youth clients is approximately £700,000. Therefore, the cost to provide additional youth facilities to meet Harlow's future needs is estimated to be **£700,000**.

8.3.11. Future Requirements around Harlow

8.3.12. Based on ONS analysis and the standards in the developer guide and the Essex GIF, projections to 2033 identify an additional 2,000 13-19 year olds in the Strategic Sites around Harlow⁵⁰. When based against the benchmark figure of 26 clients per 1,000 clients, a calculation of 52 clients is identified. This could be reasonably interpreted as an additional requirement of one youth facility.

8.3.13. Costs and Funding

8.3.14. According to the ECC Developers' Guide, the capital cost of a facility with the capacity to provide for the projected additional youth clients is approximately £700,000. Therefore, the total approximate cost for additional youth space for Strategic Sites around Harlow equates to be **£700,000**. It is important to consider, however, that most youth provision is delivered through flexible community spaces. Furthermore, developer contributions should be considered on a case-by-case basis.⁵¹

⁴⁸ Greater Essex Growth and Infrastructure Framework 2016-2036

⁴⁹ ONS 2014 Subnational Population Projections

⁵⁰ Based on analysis of ONS 2014 subnational population projections

⁵¹ Essex County Council *Developers' Guide to Infrastructure Contributions 2016*

8.4. Village and Community Halls

8.4.1. Information sources

8.4.2. The following information sources were referenced in the assessment of village and community halls.

- Greater Essex GIF (2016)
- ECC Developers' Guide (2016)

8.4.3. Existing Provision

8.4.4. There are currently 4 community halls located in Harlow, with a provision rate of 0.5 centres per 10,000 people.⁵² However, previous studies have identified that community space can take various forms⁵³, with the term covering a wide range of buildings with the possibility of space being made available for multi-uses, such as youth facilities.

8.4.5. The community centres in Harlow are summarised in Table 8-4 and Figure 8-3 below.

Figure 8-3 Village and Community Halls in Harlow



Source: ECC (2016) Contains Ordnance Survey data © Crown copyright and database right 2017.

⁵² Greater Essex Growth and Infrastructure Framework 2016-2036

⁵³ Nathaniel Lichfield & Partners *Infrastructure & Environmental Capacity Appraisal* St Edmundsbury Borough Council & Forest Heath District Council

Table 8-4 Village and Community Halls in Harlow

Facility	Ward
Potter Street Community Association	Harlow Common
Tye Green Community Centre	Bush Fair
Mark Hall & Netteswell Community Centre	Mark Hall
Church Langley Community Centre	Church Langley

Source: ECC (2016)

8.4.6. Existing Deficiencies

8.4.7. There are currently no deficiencies in terms of provision of village and community halls in Harlow, with the current population well served by the existing stock.

8.4.8. Future Requirements in Harlow

Table 8-5 Future Village and Community Hall Benchmark Requirement in Harlow

Details	Benchmark	Benchmark Source
Sq. m per 1,000 population	65.00	Essex GIF - Aggregate figures based on comparable project research

Source: GIF (2016)

8.4.9. Table 8-5 above outlines the benchmark figures for future provision of community halls in and around Harlow. When checked against the benchmark figure of 65 sq. m per 1,000 additional population, our calculation results in the requirement for an extra 780 sq. m of community hall floor space in Harlow, due to the approximate forecasted growth of 12,000 people inside Harlow.

8.4.10. Costs and Funding

8.4.11. It has not been possible to derive any cost assumptions for community centres from the Essex Developers' Guide. However, the Essex GIF has provided an estimated cost of £2,000 per sq. m.⁵⁴ Therefore, the total projected cost for 780 sq. m. of additional community floorspace in Harlow is estimated to be **£1,560,000.**

8.4.12. The funding for community halls comes from developer contributions (s106 and CIL) and other various public and voluntary sector sources. ECC Funding and Investment team provides funding to support the voluntary and community sectors across Essex. The county council uses the Open for Community service, which helps local organisations identify appropriate funding streams.

8.4.13. Future Requirements around Harlow

8.4.14. The following community projects were identified in the East Herts IDP and the Epping Forest IDP as required to meet the needs of growth at strategic sites around Harlow:

- East Herts IDP - Community Centres - £1.2m⁵⁵
- Epping Forest IDP – 250sq m of community centre space to support growth in East of Harlow - £0.4m
- Epping Forest IDP – 350 sq m of community centre space to support growth in South of Harlow - £0.6m
- Epping Forest IDP – 690 sq m of community centre space to support growth in West of Harlow - £1.2m

8.4.15.

⁵⁴ Based of Essex GIF cost per sq. m assumptions page 122

⁵⁵ Total cost in East Herts IDP (p103) is £4m relating to 10,000 homes to the North of Harlow. £1.2m cost is apportioned based on 3,050 houses out of 10,000 (i.e. 30.5% of £4m)

8.5. Sports Facilities

8.5.1. Information sources

8.5.2. The following information sources were referenced in the assessment of sports facilities.

- Harlow Council Sports Facilities Assessment and Strategies Study, Nortoft (2017)
- Sport England consultation (2017)
- Greater Essex GIF (2016)
- ECC Developers' Guide (2016)
- Harlow Open Space, Sport & recreation SPD (2007)

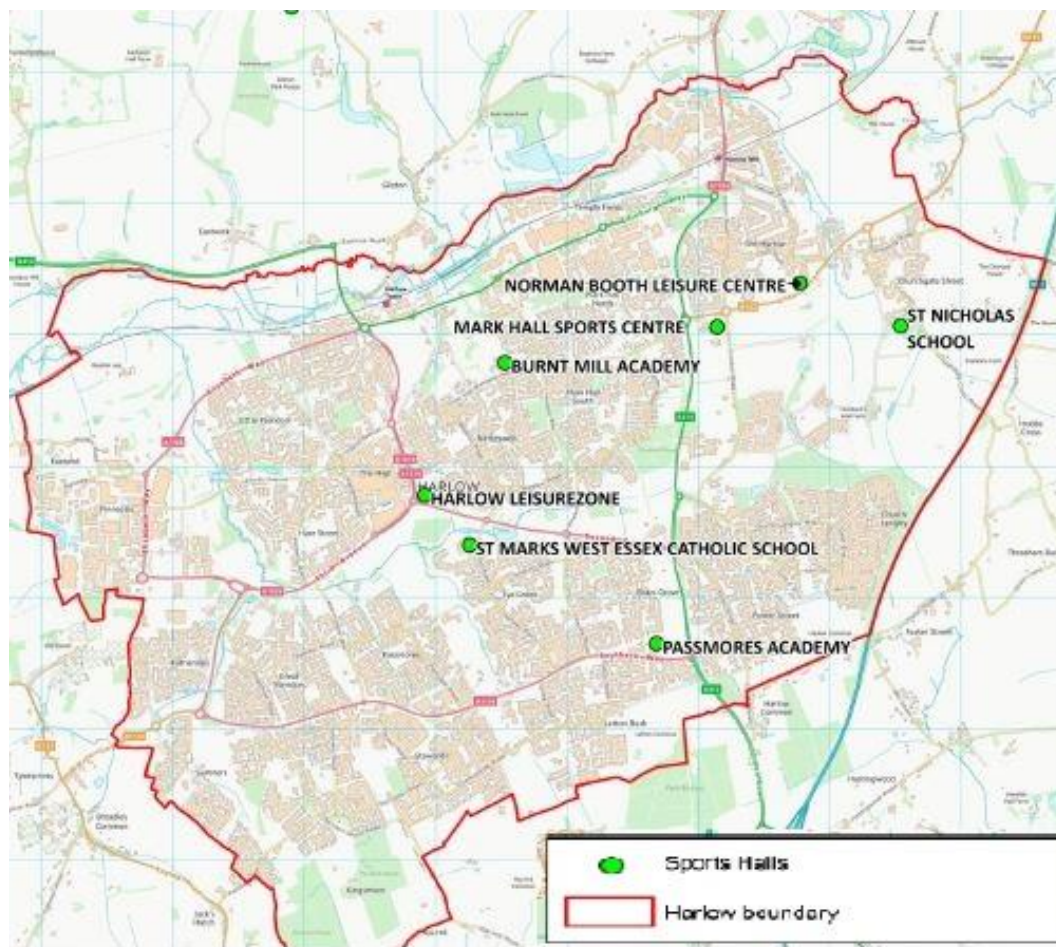
8.5.3. Existing Provision

8.5.4. For a comprehensive review of Harlow Sports Facilities see Harlow Council Sports Facilities Assessment and Strategies Study, Nortoft (2017). This section provides a summary of existing sports facilities in and around Harlow which consists of several different types of sports provision, including:

- Swimming
- Health and fitness facilities
- Athletics track
- Bowls
- Tennis
- Squash
- Gymnastics
- Golf
- Football pitches
- Cricket pitches
- Rugby pitches
- Hockey pitches

8.5.5. The main sports facility in Harlow is Harlow 'Leisurezone'. In addition, there are a variety of sports halls at Schools and other facilities in Harlow. These are shown on the map below.

Figure 8-4 Sports Facilities Provision in Harlow (3+court sports halls)



Contains Ordnance survey data © Crown copyright and database right. 2016

Source: Nortoft (2017)

8.5.6. Mark Hall Sports Centre provides an athletics track to the population of Harlow, alongside fitness classes, an Astro Turf pitch, fitness gym, tennis and netball courts. Leisurezone provides facilities such as an 8-lane swimming pool, indoor tennis courts, fitness gym, sports halls and a health spa.

8.5.7. Existing Deficiencies

8.5.8. The 2017 Harlow Sports Facilities Assessment and Strategies Study states that all sports facilities in Harlow are operating at over 90% capacity with the exception of St. Nicholas independent school⁵⁶. The same study suggests swimming pools are operating over capacity and most other sports facilities and playing fields are operating at capacity.

8.5.9. Future Requirements in Harlow

8.5.10. Table 8-7 below shows the assessment of future sports facilities requirement to meet Harlow's growth needs as defined by the 2017 Harlow Sports Facilities Assessment and Strategies Study.

⁵⁶ Harlow Council Sports Facilities Assessment and Strategies Study, Nortoft (2017) para 4.15

Table 8-6 Harlow Future Sports Facilities Requirement and Costs

Project	Description	Delivery and funding sources	Delivery date	Estimated cost
Harlow Leisure Centre Site TBC	New affordable community leisure centre comprising: 25m x 6 lane pool, Teaching pool, 4 court sports hall, 100-150 station fitness suite, 2 x studios	Harlow Council S106	2021-26	£9.27m (assuming land for free)
New secondary school (site TBC)	4 court sports hall designed to support community sport. Formal joint use agreement or planning condition for secure long-term community use.	Harlow Council S106 Essex CC	2026	£2.22 m
Dedicated gymnastics centre Site TBC	Development of a dedicated gymnastics centre Costs depend on site, size etc. May be a converted warehouse or similar.	Harlow Council S106 British Gymnastics	2021-2026	£2.22m Depending on site, size
Athletics – measured routes Sites tbc	Develop measured running/walking routes in parks and new open spaces within Harlow and adjacent authorities' developments	Harlow Council S106 England Athletics Athletics clubs Parkrun	2017-2033	TBC
Mark Hall Sports Centre	3G pitch in centre of track (subject to feasibility study)	Mark Hall Academy Mark Hall operator Harlow Council S106 Football Assn	2021	£700k excl fees and VAT
Indoor bowls centre Site TBC	Development of specialist indoor 6-rink bowls centre dependent of future demand	Harlow Council S106 English Indoor Bowls Assn	2026-33	£2.08m excl clubroom
Town Park	Develop pitch and putt and footgolf in the Town Park.	Harlow Council	2017-18	tbc
Traffic free walking and cycling routes	Protect the current network of existing routes and develop the network to ensure greater connectivity to Greater Harlow.	Harlow Council East Herts Council Epping Forest Council Developers	On-going	tbc
Enhancements / improvements to existing provision				
Mark Hall Sports Centre	Athletics track improvements to bring up to competition standards	Harlow Council Mark Hall Academy Mark Hall operator England Athletics	2017	tbc
Burnt Mill Academy	Improvements to pool and ancillary facilities	Harlow Council Burnt Mill Academy	2019	tbc
Stewards Academy	Improvements to pool and ancillary facilities	Harlow Council Stewards Academy	2019	tbc
Harlow Lawn Tennis Club	Improvements to club house and ancillary facilities	Harlow Lawn Tennis Club LTA	2021	tbc

Project	Description	Delivery and funding sources	Delivery date	Estimated cost
		Harlow Council		
Total				£16.5m

Source: Nortoft (2017)

8.5.11. Future Requirements around Harlow

8.5.12. Table 8-7 below shows the assessment of future sports facilities requirement to meet the growth need of the Strategic Sites around Harlow as defined by the 2017 Harlow Sports Facilities Assessment and Strategies Study.

8.5.13. Table 8-7 outlines the future requirements for each type of provision generated by future growth within Harlow.

Table 8-7 Future Sports Facilities Requirement and Costs for Strategic Sites Outside Harlow

Project	Description	Delivery and funding sources	Delivery date	Estimated cost
The Gilston Area Leisure Centre [also within the East Herts draft strategy] Site tbc	New affordable community leisure centre adjacent to and with shared use by the secondary school comprising: 25m x 6 lane pool, Teaching pool, 4 court sports hall, 170 station fitness suite and 2 x studios	East Herts Council S106 Herts CC (education)	Phased with secondary school. Required by end of development	£9.27m (assuming land for free)
Gilston Area tennis site tbc	3 floodlit hard courts with ancillary facilities	Developer	2033	£360,000 courts £250,000 clubhouse
Epping Forest Site tbc	Archery centre	Epping Forest DC Club	2026	tbc
Total				£9.9m

Source: Nortoft (2017)

8.6. Children's Play Space

8.6.1. Information sources

8.6.2. The following information sources were referenced in the assessment of children's playgrounds.

- Greater Essex GIF (2016)
- ECC Developers' Guide (2016)
- Open Space, Sport & recreation SPD (2007)

8.6.3. Existing Provision

8.6.4. The existing children's play / outdoor facilities in and around Harlow consist of primary 'dedicated' play space and secondary space where the primary purpose of the green space is not necessarily dedicated to children's play space, for example a village green, but in effect it can perform part of that function. See Table 8-9 for primary play space and Table 8-9 for secondary play space in Harlow:

Table 8-8 Harlow primary ‘dedicated’ child play space

Site Name	Area (ha)
Stilecrofts Play Area	0.199
Tilbury Meads	0.322
Carters Mead Play Area	0.497
Rushes Mead Play Area	0.424
Felmongers Play Area	0.197
Norman Booth Play Area	0.395
Joyners Field Play Area	0.196
Total	2.23

Source: Harlow Open Space and Green Infrastructure Study (2013)

- 8.6.5. There are approximately 63 secondary sites in Harlow which provide some child play space within them. This is shown in Table 8-9 below by ward.

Table 8-9 Harlow secondary child play space

Site Name	Area (ha)
Bush Fair and Harlow Common	3.71
Church Langley	6.52
Great Parndon and Toddbrook	1.31
Hare Street and Little Parndon	0.83
Netteswell and Mark Hall	4.3
Old Harlow	3.53
Sumners, Kingsmoor and Staple Tye	8.02
Total	28.22

Source: Harlow Open Space and Green Infrastructure Study (2013)

- 8.6.6. The standards/benchmarks to assess whether there is sufficient play space currently and to establish the future requirements to meet Harlow and its wider area’s growth needs are shown in Table 8-10 below. Note in the context of this assessment LEAPS can be considered primary space and NEAPS secondary space:

Table 8-10 Child Play Space Benchmarks

Provision	Benchmark (per 1,000 population)	Source
LEAPs	0.3ha	Open Space, Sport & recreation SPD
NEAPs	0.4ha	Open Space, Sport & recreation SPD
Total Children’s playing space	0.7 ha	Open Space, Sport & recreation SPD

Source: Open Space, Sport & Recreation SPD (2007)

8.6.7. Existing Deficiencies

8.6.8. Based on the benchmarks in Table 8-10, Harlow's population of 87,000 should require around 60.9 hectares of child space. The current approximately 30 hectares would therefore appear to be below the standard set out in the 2007 Harlow Open Space, Sport and Recreation SPD suggesting existing deficiencies. However, in reality the standards set out in the 2007 SPD are guidance and targets with a primary purpose of guiding developer contributions. It does mean that any new development will generate a need for additional child space provision.

8.6.9. Future Requirements in Harlow

8.6.10. The 2013 Harlow Open Space and Green Infrastructure Study identifies the need to provide the following typologies of children's play / outdoor facilities in and around Harlow and these are used in this study to define future needs:

- Local equipped play areas (LEAPs)
- Neighbourhood equipped play areas (NEAPs)

8.6.11. Based on the benchmark figures in Table 8-10 above, the following requirements for children's play space within Harlow using our calculation is outlined in Table 8-11 below.

Table 8-11 Harlow Future Child Space Requirements

Provision	Requirement
LEAPs	0.3ha x 12,000 (population) = 3.6 ha
NEAPs	0.4ha x 12,000 (population) = 4.8 ha
Total Children's playing space	0.7 ha x 12,000 (population) = 8.4 ha

Source: Atkins (2017)

8.6.12. Costs and Funding

8.6.13. The following costs have been identified through Table 3 of the Open Space, Sport and Recreation SPD document. These figures have also been adjusted against RPI inflation from the Bank of England Inflation Calculator which contains RPI, at 2.7% per year, in order to reflect today's costs⁵⁷.

Table 8-12 Harlow Additional Child Space Cost

Provision	Cost
LEAPs	3.6 ha x 10,000 sq. m x £115 per sq. m. = £4,140,000
NEAPs	4.8 ha x 10,000 sq. m = £65 per sq. m. = £3,120,000
Total Children's playing space	4,140,000 + 3,120,000 = <u>£7,260,000</u>

Source: Atkins (2017)

⁵⁷ <http://www.bankofengland.co.uk/education/Pages/resources/inflationtools/calculator/default.aspx> accessed 06/11/17.

8.6.14. **Future Requirements around Harlow**

8.6.15. The requirements for children’s play space for the Strategic Sites outside of Harlow is outlined below.

Table 8-13 Children’s Play Space Projects to meet Strategic Sites Outside Harlow Future Growth Needs (2017-2036)

Id	Project	Est Cost (£m’s)	Funding (£m’s)	Funding Gap	Funding Source*	Priority
CF_24	EFDC child play-space	0.3	0.0	0.3	DC/LPA	Important
		0.3	0.0	0.3		

Source: EFDC IDP (2017)

8.7. Summary – Sports and Community Costs and Funding

8.7.1. A summary of all sports and community projects (in and around Harlow), including their phasing and delivery prioritisation scoring is shown below:

Table 8-14 Sport & Community Projects to meet Harlow future Growth Needs ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
CF_2	Youth Facilities	1 x Youth Facility	£700,000	DC / LPA	£0	£0	£121,163	£578,837				Important	1,000-5,000	District	5	ECC Developer Guide
CF_3	Village Halls	750 sq. m of new community space	£1,600,000	DC / LPA	£0	£0	£ 276,943	£1,323,057				Important	1,000-5,000	District	5	ECC Developer Guide
CF_4	Sports facilities	Harlow Leisure Centre (Site TBC) New affordable community leisure centre comprising	£9,270,000	DC / LPA	£0	£0	£1,604,541	£7,665,459				Important	1,000-5,000	District	5	2017 Harlow Sports Facilities Assessment Study
CF_5	Sports facilities	New secondary school (site TBC) 4 court sports hall	£2,220,000	DC / LPA	£0	£0	£ 384,259	£1,835,741				Important	1,000-5,000	District	5	As above
CF_6	Sports facilities	Dedicated gymnastics centre (Site TBC)	£2,220,000	DC / LPA	£0	£0	£384,259	£ 1,835,741				Important	1,000-5,000	District	5	As above
CF_7	Sports facilities	Athletics – measured routes (Sites TBC)	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_8	Sports facilities	Mark Hall Sports Centre 3G pitch in centre of track	TBC	DC / LPA	£0	£0	£121,163	£ 578,837				Important	1,000-5,000	District	5	As above
CF_9	Sports facilities	Indoor bowls centre (Site TBC) specialist indoor 6-rink bowls centre	TBC	DC / LPA	£0	£0	£360,026	£1,719,974				Important	1,000-5,000	District	5	As above
CF_10	Sports facilities	Town Park pitch and putt and footgolf	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_11	Sports facilities	Traffic free walking and cycling routes	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_12	Sports facilities	Mark Hall Sports Centre Athletics track improvements	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_13	Sports facilities	Burnt Mill Academy improvements to pool and ancillary facilities	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_14	Sports facilities	Stewards Academy improvements to pool and ancillary facilities	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_15	Sports facilities	Harlow Lawn Tennis Club improvements to pool and ancillary facilities	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_16	Child play space	3.6 ha LEAP	£4,140,000	DC / LPA	£0	£0	£ 716,591	£3,423,409				Important	1,000-5,000	District	5	ECC Developer Guide & Sports England
CF_17	Child play space	4.8 ha NEAP	£3,120,000	DC / LPA	£0	£0	£540,040	£2,579,960				Important	1,000-5,000	District	5	ECC Developer Guide & Sports England
Total			£26,050,000		£0	£0	£4,508,984	£21,541,016								

Source: Atkins (2017)

Table 8-15 Sport & Community Projects to meet future Growth Needs of Strategic Sites Outside Harlow ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
CF_18	Library	300 sq. m of additional library space	£515,232	DC / LPA	£0	£0	TBC	£515,232				Important	5,000-10,000	District	6	ECC Developer Guide
CF_19	Youth Facilities	1 additional youth facility	£700,000	DC / LPA	£0	£0	TBC	£700,000				Important	5,000-10,000	District	6	ECC Developer Guide
CF_20	Village Halls	Community space to meet development needs including 1,290 sq m to support Epping Forest (East, South and West of Harlow) and Gilston	£3,400,000	DC / LPA	£0	£0	TBC	£3,400,000				Important	5,000-10,000	District	6	ECC Developer Guide
CF_21	Sports facilities	The Gilston Area Leisure Centre affordable community leisure centre	£9,270,000	DC / LPA	£0	£0	TBC	£9,270,000				Important	5,000-10,000	District	6	2017 Harlow Sports Facilities Assessment Study
CF_22	Sports facilities	Gilston Area tennis site tbc 3 floodlit hard courts	£610,000	DC / LPA	£0	£0	TBC	£610,000				Important	5,000-10,000	District	6	As above
CF_23	Sports facilities	Epping Forest (Site tbc) Archery centre	TBC	DC / LPA	£0	£0	TBC	TBC				Important	5,000-10,000	District	6	As above
CF_24	Child play space	EFDC child playspace	£280,424	DC / LPA	£0	£0	TBC	£280,424				Important	5,000-10,000	District	6	Epping Forest IDP
Total			£14,775,656	£0	£0	£0	TBC	£14,775,656								

Source: Atkins (2017)

9. Open Space and Green Infrastructure

9.1. Introduction

9.1.1. The open space and green infrastructure category covered in this section includes the following sub-categories:

- natural and semi-natural greenspace
- parks and gardens,
- amenity greenspace,
- allotments,
- burial space.

9.1.2. The sub categories have been grouped together in order to present the information in tabular format for ease of viewing.

9.2. Greenspace, Parks and Allotments

9.2.1. Information sources

9.2.2. The following information sources were referenced in the assessment of open space and green infrastructure.

- Greater Essex GIF (2016)
- ECC Developers' Guide (2016)
- Harlow Open Space & Green Infrastructure Study (2013)
- East Herts IDP (2017)
- Consultation with consultants producing draft Epping Forest IDP (2017-18)

9.2.3. Existing Provision

9.2.4. As a planned town Harlow has a significant provision of green space. One of the key principles of the Sir Gibberd's original Harlow Masterplan was to intersperse 'green wedges' of undeveloped green space between housing and commercial development. The existing provision of open space and green infrastructure in Harlow is summarised in Table 9-1 below.

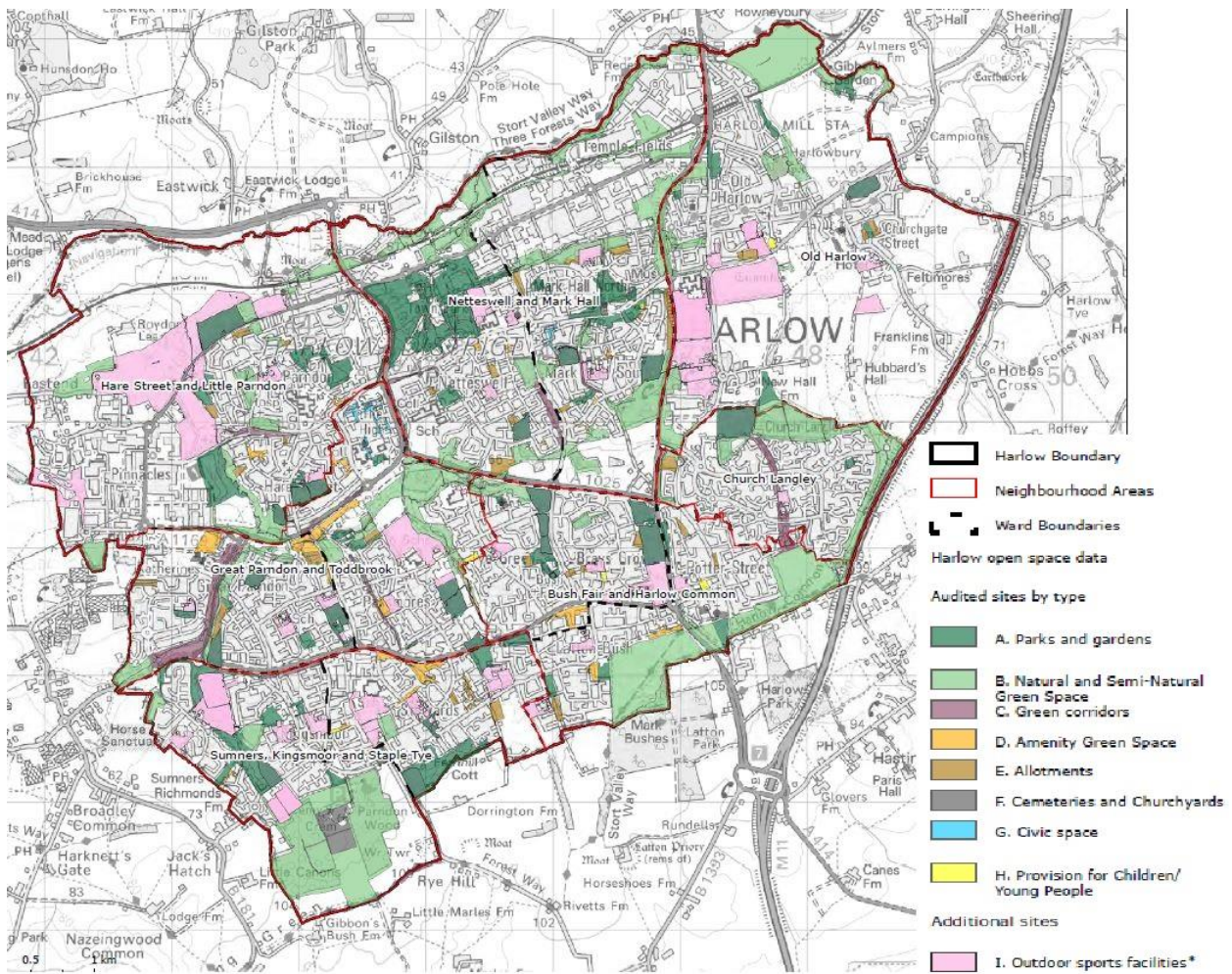
Table 9-1 Provision of Open Space & Green Infrastructure

Typology	Total Provision in Harlow (ha)
Natural / semi-natural greenspace	364.36
Parks and gardens	179.92
Amenity Greenspace	19.8
Allotments	22.76
Burial Space	9.63
Total	596.47

Source: Harlow Open Space and Green Infrastructure Study (2013)

9.2.5. The locations of the open space and green infrastructure provision in Harlow is illustrated in the following map.

Figure 9-1 Open Space and Green Infrastructure in Harlow



Source: Harlow Open Space and Green Infrastructure Study (2013). Reproduced from Ordnance Survey digital map data © Crown copyright 2012. All rights reserved. Licence numbers 100047514, 0100031673

Table 9-2 Green Infrastructure Benchmarks in Harlow

Typology	Benchmark (ha per 1,000 population)
Natural / semi-natural greenspace	2.50
Parks and gardens	2.25
Amenity Greenspace	2.00
Allotments	0.25
Burial Space	0.11 (based on existing provision source: Harlow Open Space & Green Infrastructure Study 2013)

Source: Harlow Open Space and Green Infrastructure Study (2013)

9.2.6. Existing Deficiencies

9.2.7. An assessment of current provision of natural and semi-natural greenspace and parks and gardens shows that there are no immediate deficiencies in Harlow, with the current population well served in quantitative terms by the existing stock. At around 600 hectares there is a significant level of provision that is roughly level with the requirement based on the benchmarks shown in Table 9-2. However, the 2013 Harlow Open Space Study and the Greater Essex GIF (2016) indicates that provision of amenity greenspace and allotments are in deficit in qualitative terms.

9.2.8. Future Requirements in Harlow

9.2.9. The 2013 Harlow Open Space Study recommends the following projects and policy recommendations are required in Harlow to accommodate the needs of the current and projected population growth:

- Town Park – aim for Green Flag status for this important space.
- Local parks and gardens in Hare Street and Little Parndon.
- Natural green spaces at Harlow Common and along the River Stort tributary through Great Parndon and Toddbrook, Hare Street and Little Parndon, Bush Fair and Church Langley.
- All amenity green space which is high quality and high value should be protected and enhanced.
- Some allotment sites in Netteswell and Mark Hall, and Bush Fair and Harlow Common, which have been identified as highly valued by local residents, but of currently poor quality.
- Those spaces for children and young people which scored high on value, but low quality, should be prioritised for investment. This includes the larger sites in Church Langley, Old Harlow, and Netteswell and Mark Hall.

9.2.10. In quantitative terms, the benchmarks identified by the 2013 Open Space Study can be applied to the project population growth of 12,000 (2017 to 2033) to identify the open space and green infrastructure requirements to meet Harlow’s future growth needs.

Table 9-3 Green Infrastructure Requirements in Harlow

Typology	Benchmark (ha per 1,000 population)	Total Requirement in Harlow (ha)
Natural / semi-natural greenspace	2.50	30
Parks and gardens	2.25	27
Amenity Greenspace	2.00	24
Allotments	0.25	3
Burial Space	0.11 (based on existing provision source: Harlow Open Space & Green Infrastructure Study 2013)	1.32
Total		85.32

Source: Harlow Open Space and Green Infrastructure Study (2013)

9.2.11. The figures in Tables 9-3 and 9-4 relate to specific benchmark figures based on forecast growth and requirement in Harlow, with the exception of burial space, where the benchmark figure is derived from existing provision of cemeteries and burial space in Harlow only. This assumes the current provision is appropriate.

9.2.12. Costs and Funding

9.2.13. The indicative costs for the future provision of open space and green infrastructure in Harlow are summarised in the following table.

Table 9-4 Cost of Green Infrastructure to Meet Harlow's Future Growth Needs

Typology	Cost
Natural / semi-natural greenspace	n/a*
Parks and gardens	£6.44 per sq. m x 270,000 = £1,738,800
Amenity Greenspace	n/a*
Allotments	£13.7 per sq. m x 30,000 sq. m = £411,000
Burial Space	n/a*
Total	£2,149,800

Source: Table 3 Open Space SPD (2007) adjusted by Bank of England RPI inflation calculator & Harlow Open Space and Green Infrastructure Study (2013) * No cost available due to lack of benchmark and because this land could be provided 'in kind' by the developers without a cost

9.2.14. The costs listed above as n/a represent costs which are unable to be quantified at present. These costs will be defined more clearly through the planning system when developers negotiate developer contributions. Funding for green infrastructure and open space can be provided through the Community Infrastructure Levy (CIL). However, funding for open space projects tend to be restricted to charitable trusts. These trusts include Forestry Commission's annual grant payments, the Woodland Premium Scheme and the Woodland Management Scheme.

9.2.15. Future Requirements around Harlow

9.2.16. The following table outlines the open space and green infrastructure requirements for the Strategic Sites outside Harlow based on an assessment of the East Herts IDP and the evolving Epping Forest IDP.

Table 9-5 Green Infrastructure Requirements for Strategic Sites outside Harlow

ID	Project	District	Delivery and funding sources	Delivery date	Estimated cost
GI_6	Green Infrastructure, Country parks, play areas, public amenity green space and cemetery if there is a demonstrable need.	East Herts	DC	2022 onwards	£14.3m ⁵⁸
GI_7	Appropriate provision of public parks and gardens in line with Fields in Trust Standards and agreement with EFDC. The estimated land required by sub area is as follows: <ul style="list-style-type: none"> • East of Harlow - 1.40 ha • South of Harlow – 1.97 ha • West of Harlow – 3.88 ha 	Epping Forest	EFDC / Developers	2021 - 2031	£1.9m
GI_8	Appropriate provision of amenity greenspace in line with Fields in Trust Standards and agreement with EFDC. The estimated land required by sub area is as follows: <ul style="list-style-type: none"> • East of Harlow – 1.05 ha • South of Harlow – 1.48 ha • West of Harlow – 2.91 ha 	Epping Forest	EFDC / Developers	2021 - 2031	£0.8m
GI_9	Appropriate provision of provision for children and young people in line with Fields in Trust Standards and agreement with EFDC. The estimated land required by sub area is as follows: <ul style="list-style-type: none"> • East of Harlow – 0.44 ha • South of Harlow – 0.62 ha • West of Harlow – 1.21 ha 	Epping Forest	EFDC / Developers	2021 - 2031	£0.5m
GI_10	Appropriate provision of allotments in agreement with EFDC. The estimated land required by sub area is as follows: <ul style="list-style-type: none"> • East of Harlow – 0.35 ha • South of Harlow – 0.49 ha • West of Harlow – 0.97 ha 	Epping Forest	EFDC / Developers	2021 - 2031	£0.04
	Total				£19.4m

Source: East Herts IDP (2017) & Epping Forest IDP (unpublished)

9.3. Summary – Green Infrastructure Costs and Funding

9.3.1. A summary of all Green infrastructure projects (in and around Harlow), including their phasing and delivery prioritisation scoring is shown below:

⁵⁸ Total cost of project in East Herts IDP is £47m but this relates to needs generated by 10,000 new homes whereas there is projected to be 3,050 new homes in the Gilston area within the planning period therefore the cost used in this IDP is 30.5% of the total cost.

Table 9-6 Green Infrastructure Projects to meet Harlow future Growth Needs ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
GI_1	Natural / semi-nat green	30 ha natural space but no cost as assumed provided in kind	£0	DC	£0	£0	£0	£0				Important	5,000-10,000	District	6	Harlow Open Space & Green Infra Study 2013
GI_2	Parks and gardens	27 ha parks and gardens	£1,738,800	DC	£0	£0	£300,968	£1,437,832				Important	5,000-10,000	District	6	As above
GI_3	Amenity Greenspace	24 ha of amenity greenspace but no cost estimated as assumed provided in kind	£0	DC	£0	£0	£0	£0				Important	5,000-10,000	District	6	As above
GI_4	Allotment	3 ha allotments	£411,000	DC	£0	£0	£71,140	£339,860				Important	5,000-10,000	District	6	As above
GI_5	Burial Space	1.32 ha burial space	£0	DC	£0	£0	£0	£0				Important	5,000-10,000	District	6	As above
Total			£2,149,800		£0	£0	£372,108	£1,777,692								

Source: Atkins (2017)

Table 9-7 Green Infrastructure Projects to meet future Growth Needs of Strategic Sites Outside Harlow ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
GI_6	Green Infrastructure	East Herts Green Space	£14,300,000	DC	£0	£0	TBC	£14,300,000				Important	5,000-10,000	District	6	East Herts IDP
GI_7	Public Parks	EFDC parks 1.4ha East, 1.97ha South and 3.88ha West	£1,900,000	DC	£0	£0	TBC	£1,900,000				Important	5,000-10,000	District	6	EFDC IDP
GI_8	Amenity Greenspace	EFDC amenity greenspace 1.05ha East, 1.48ha South and 2.91ha West	£800,000	DC	£0	£0	TBC	£800,000				Important	5,000-10,000	District	6	As above
GI_9	Young people playspace	EFDC playspace 0.44ha East, 0.62ha South and 1.21ha West	£500,000	DC	£0	£0	TBC	£500,000				Important	5,000-10,000	District	6	As above
GI_10	Allotments	EFDC allotments 0.35ha East, 0.49ha South and 0.97ha West	£40,000	DC	£0	£0	TBC	£40,000				Important	5,000-10,000	District	6	As above
Total			£19,400,000		£0	£0	TBC	£19,400,000								

Source: Atkins (2017)

10. Utilities, Waste and Flood Defences

10.1. Introduction

10.1.1. This section covers the following infrastructure:

- Utilities (Water, Waste Water, Electricity, Gas, Telecommunications)
- Waste Management
- Flood defences

10.2. Water

10.2.1. Information sources

10.2.2. The following information sources were referenced in the assessment of water provision and requirements:

- Future Water – The Government's Water Strategy for England (2011)
- Final Water Resources Management Plan (WRMP) 2015-2040, Affinity Water (2014)
- Consultation with Affinity Water

10.2.3. The government launched its water strategy for England in 2011 which sets out plans for reducing demand, improving infrastructure, supply of water, proposal to time limit abstraction licences and reducing leakage.

10.2.4. Existing Provision

10.2.5. The Water Services Regulation Authority (OFWAT) is a non-ministerial government department, that acts as the economic regulator for water in England and Wales under sections 2 and 3 of the Water Industry Act 1991 (WIA91) as amended. OFWAT provide licences to companies to supply water and wastewater services to non-household customers. Their duties include securing that water companies properly carry out their statutory functions and their licenced activities, as well as ensuring that water companies take steps to enable long-term resilience and meet the need for water supplies and wastewater services.

10.2.6. Harlow falls into the Upper Lee catchment and the Upper Lee catchment abstraction licensing strategy. Potable water supply in Harlow falls under Affinity Water's remit. Under the Water Act 2003, Affinity Water have a statutory duty to publish a Water Resource Management Plan (WRMP) every five years, setting out how Affinity Water will maintain a balance between demand and supply over a 25-year period. In June 2014 Affinity Water published a plan covering 2015 to 2040. As part of delivering the plan, customers, other stakeholders and statutory consultees were consulted on the draft WRMP. Across Affinity Water's licenced area, water comes from 130 groundwater sources, four river intakes on the River Thames, as well as one impounding reservoir and 12 bulk supply imports from neighbouring water companies.

10.2.7. Harlow is situated within Affinity Water's central region, which abstracts 60% of its water supply from groundwater sources and 40% from surface water sources and imports from neighbouring water companies, including Thames Water, Anglian Water and Cambridge Water. Affinity Water also exports water to South East Water and Cambridge Water.

10.2.8. The Central region is further subdivided into six water resource zones (WRZs) that broadly follow customer supply networks, with Harlow district being in the WRZ 5: Stort. See Figure 10-1 below for Affinity Water's Central region.



Figure 10-1 Map of Affinity Water's Central region

Source: Affinity Water (2017)

10.2.9. Existing Deficiencies

10.2.10. The WRMP, as noted in the Essex GIF, identifies sustainability reductions as the biggest challenge faced in the water resource planning for Affinity Water's operable area. It is anticipated that there will be a reduction of almost 6% of available deployable output (about 70 millilitres a day m(l/d)) from existing groundwater sources under average conditions.

10.2.11. The Stort WRZ has ongoing agreements with Essex and Suffolk Water and Cambridge Water to import water for residential and commercial properties. The WRMP highlights a supply-demand deficit across 5 of 8 of the WRZ including Stort WRZ. The Stort WRZ is anticipated to remain in deficit throughout the planning period, with all areas with the exception of the Brett region falling into deficit during the plan period.

10.2.12. Future Requirements in and around Harlow

10.2.13. As the water infrastructure cross local authority boundaries, it is not possible to differentiate between requirements in and around Harlow. Across Affinity Water's central region, the following wider strategic infrastructure is identified as being required to ensure there is not a water deficit during the planning period created by the demands of new housing:

- Proposed universal metering by end of AMP7 (2024/25)
- Leakage reduction
- Water efficiency for airport
- Increase license in Stansted
- Source optimisation in Widford, Hempstead and Great Dunmow.

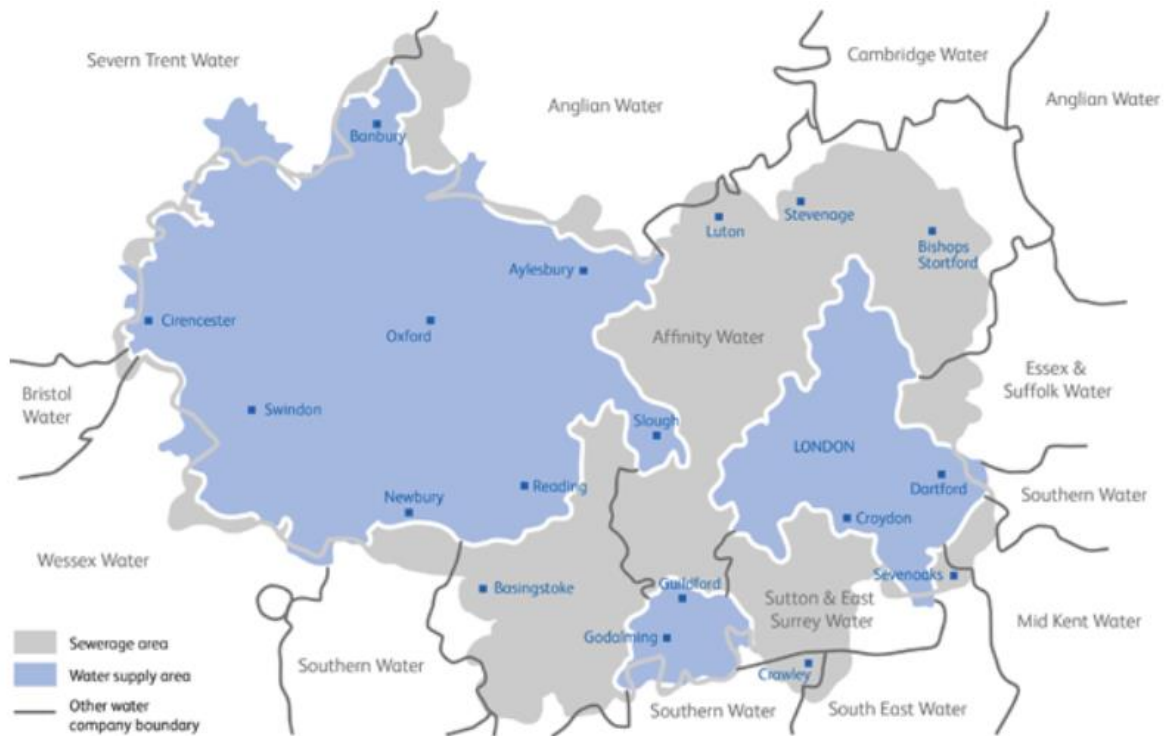
10.2.14. **Costs and Funding**

- 10.2.15. Affinity Water have not provided indicative costs for the wider strategic infrastructure requirements identified above. According to the Greater Essex GIF the cost of water and waste water infrastructure for Harlow to meet the needs of the future growth identified is approximately £13.5million. A working assumption of 50% of this cost can be used for the purpose of estimating a total indicative order of magnitude water infrastructure costs for Harlow. The remaining 50% is applied to the waste water and sewerage category below. This would mean water infrastructure is **£6,750,000**. This covers a variety of water network reinforcement projects across the Harlow area that are likely to be required to accommodate the needs of the additional housing growth.
- 10.2.16. Water infrastructure is currently funded through a combination of utility company direct funding outlined in their Asset Management Plan Period (AMP) forward investment plans, which are approved by OFWAT, and charges to developers who connect to the network. However, note that there are fundamental changes to the way water infrastructure is likely to be funded in the future with a levy on new development put in place to help pay for the infrastructure.
- 10.2.17. The 2014 Water Act includes provisions to bring in a new charging system which aims to streamline the charging process so that developers do not have to go through major site-specific modelling to determine a connection charge. Water companies must set out their connection charges in a single document, which explains how charges are derived.
- 10.2.18. Affinity Water will have to invest in infrastructure in order to reduce environmentally unsustainable water abstractions, combat climate change and allow for future growth. Some of the deficit in deployable output will be set off against reductions in leakage and demand management.
- 10.2.19. In this study, it is assumed that future water infrastructure will be funded by a combination of developer contributions and direct utility firm funding.

10.3. **Waste Water Treatment and Sewerage**

- 10.3.1. Thames Water is responsible for waste water in Harlow and the surrounding area including for Epping Forest and Uttlesford. Waste water assets are planned in 5 yearly cycles (Asset Management Plans or AMPs). AMP6 is currently underway and covers the period 2015 to 2020. The AMPs are informed by Local Authority Local Plan discussions and consultation allowing waste water infrastructure providers to ensure that the required infrastructure is in place to accommodate planned growth.
- 10.3.2. Waste water treatment network infrastructure comprises of the sewerage network, which takes flows from properties and the Wastewater Treatment Works (WwTWs) that treat the sewerage flows and release the treated effluent back into the watercourses.
- 10.3.3. **Information sources**
- 10.3.4. The following information sources were referenced in the assessment of waste water and sewerage infrastructure needs:
- Thames Water consultation
 - Thames Water Position Statement on Development in the Greater Harlow area (June 2017)
 - Water Management Plan 2015-2040, Thames Water (2014)
- 10.3.5. **Existing Provision**
- 10.3.6. Thames Water are the regulated wastewater company operating in the area. They provide wastewater services to more than 15 million customers across London and the Thames Valley. There are over 7,500 pumping stations in the region that are now Thames Water's responsibility. They operate over 350 sewage treatment works, treating an average of 4.2 billion litres of sewage each day.

Figure 10-2 Thames Water service area



Source: Thames Water (2017)

- 10.3.7. Thames Water are currently undertaking a growth study which aims to enhance the existing foul sewer network to accommodate flows from proposed developments across the Harlow area up to the 2026/27 design horizon. As the time of production of this IDP report the Thames Water assessment or any emerging conclusions were not available. Initial assessment indicates limited capacity in the foul water network and that there will be a need for upgrades to accommodate predicted growth. A foul water network solution will be implemented on a phased basis based on provided trajectory.
- 10.3.8. **Existing Deficiencies**
- 10.3.9. Rye Meads Sewage Treatment Works (STW) currently treats a population equivalent (pe) of 396,000 inclusive of residential population plus trade and business discharges converted to a residential equivalent. The STW is currently undergoing upgrades to increase capacity and improve discharge quality standards.
- 10.3.10. Once completed in 2018, the STW will have a treatment capacity of 447,134 pe. The main limiting constraint on treatment capacity is within the main treatment, the Activated Sludge Plant (ASP). It is anticipated that the current upgrade will provide enough capacity until 2024, after which the STW will require investment to overcome the capacity constraint.
- 10.3.11. Thames Water have stated that they will provide ongoing review of housing growth and sewage treatment capacity in Harlow and the surrounding authorities within Rye Meads STW catchment area and will incorporate these findings into each 5-year plan as they are prepared.

10.3.12. **Future Requirements in and around Harlow**

10.3.13. As waste water and sewer infrastructure crosses local authority boundaries, it is not possible to differentiate between requirements in and around Harlow. Consultation with Thames Water and position statements released by Thames Water have highlighted issues in assessing current sewer capacity in Harlow. Thames Water has indicated that there will be a need to upgrade elements of the sewerage network and continue to monitor regularly the scale of development coming forward to ensure sufficient capacity is available.

10.3.14. **Costs and Funding**

10.3.15. Thames Water are not able to advise of the estimated costs for infrastructure provision at this stage. As part of Thames Water's five-year business plan Thames Water advise OFWAT on the funding required to accommodate planned growth. Thames Water base their investment programmes on a range of factors, including population projections and development plan allocations, which help to form the clearest picture of the future shape of the community as set out in the National Planning Policy Framework (paragraph 162) and the Planning Practice Guidance. Thames Water are currently preparing their business plan for AMP7 (the period from 1st April 2020 to 31st March 2025).

10.3.16. In the absence of any information from Thames Water it is possible to use the information from the Greater Essex GIF. As outlined in the water infrastructure costs in section 10.2.14 above, the Greater Essex GIF identifies a cost of approximately £13.5million for water and waste water infrastructure for Harlow to meet the needs of the future growth. In terms of specific projects this cost relates mainly to upgrades to Rye Meads Sewage Treatment Works (STW). Additional smaller scale reinforcement projects will be required to the associated network. A working assumption of 50% of this cost can be used for the purpose of estimating a total indicative order of magnitude waste water and sewer infrastructure costs for Harlow. This would mean waste water and sewer infrastructure is **£6,750,000**. This cost is assumed to be funded through a combination of developer and utility firm sources.

10.4. **Electricity**

10.4.1. **Information sources**

10.4.2. The following information sources were referenced in the assessment of electricity provision.

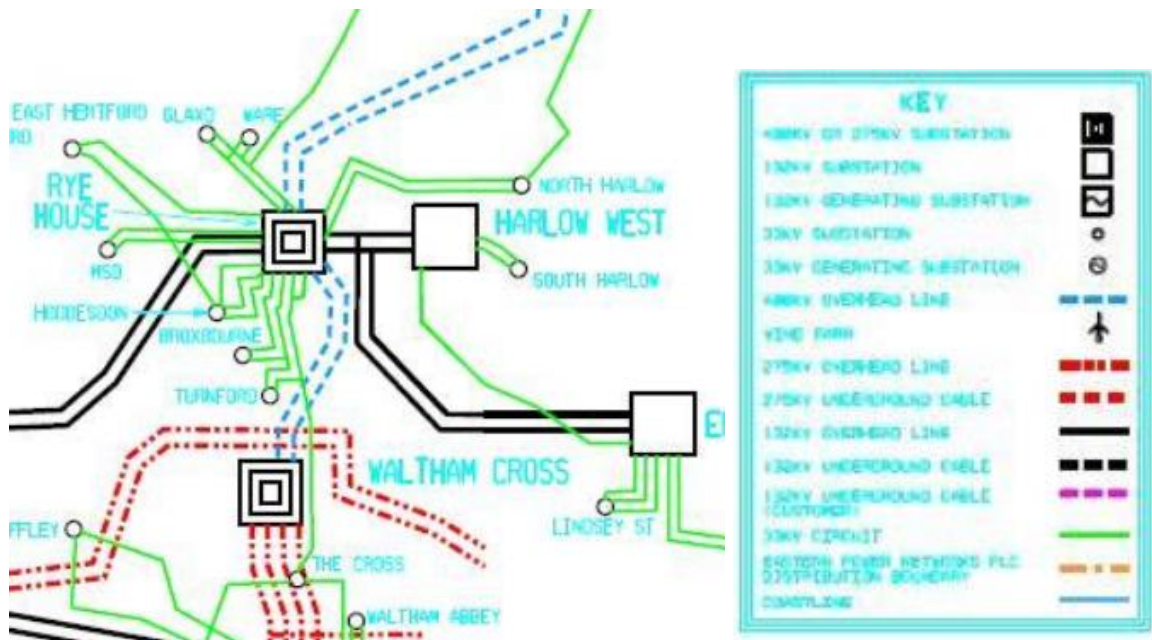
- Consultation with UK Power Networks
- ECC consultation
- Essex GIF
- UK Power Networks Regional Development Plan – Elstree & Rye House 2014

10.4.3. **Existing Provision**

10.4.4. Electricity services in and around Harlow are provided through the UK Power Networks (UKPN) Eastern distribution area, which is responsible for the provision of electricity for 3.5 million customers. UKPN assets include a 96,000km-long distribution network alongside 69,000 substations.

10.4.5. Harlow is supplied from the Harlow West Grid substation. This grid consists of two 90MVA, 132/33kV transformers supplied by a dual circuit 132kV overhead line from Rye House 132. This is illustrated in Figure 10-3 below.

Figure 10-3 Harlow West Grid Substation



Source: UKPN Regional Development Plan (2014)

10.4.6. Existing Deficiencies

10.4.7. Harlow West Grid is reaching the limit of firm capacity. Furthermore, the 2 x 33kV wood pole circuits from Rye House Grid to North Harlow are in poor condition and require rebuilding.

10.4.8. Future Requirements in Harlow

10.4.9. In terms of modelling future electricity network reinforcement requirements, UKPN Regional Development Plan (2014) includes a growth assumption of 16,000 dwellings in and around Harlow. This is equivalent to the growth assumptions of this IDP and so demonstrates that UKPN have considered the growth implications in their forward utilities planning process.

10.4.10. UKPN state that a number of customer enquiries related to future growth in and around Harlow have been received⁵⁹. These are outlined below and are indicative of the sort of future projects that will be required to meet the needs of future growth in and around Harlow.

- Significant connection activity on the West side of Harlow with several separate quotation requests for Data Centres varying from 5MVA up to 100MVA
- The former Merck-Sharp-Dohme site to the north of Harlow at Terlings Park has been decommissioned and it is expected that this site will be re-developed in the next few years
- Eastwick (DR247), to the north of Harlow, is a proposed development initially indicated to involve up to 25,000 homes and associated facilities. No formal requests have been received
- Latton Priory will involve a housing development to the south east of Harlow with a load of up to 16MW. No formal requests have been received
- The west side of Harlow has been designated a development zone and a number of quotes have been issued for the connection of data centres varying from 5MVA up to 100MVA.

⁵⁹ UKPN Regional Development Plan p. 12

10.4.11. Costs and Funding

10.4.12. The UKPN Regional Development Plan outlines various costs associated with improved and increased electricity provision in Harlow. These projects are as follows:

Table 10-1 Electricity Infrastructure to meet Harlow Growth Needs

Id	Project	Est. cost (£m's)	Funding (£m's)	Funding Gap	Funding Source	Priority
EL_1	New Harlow 33/11kV Primary sub-station	0.9	0.0	0.9	DC/Utility Provider	Essential
EL_2	South Harlow 33/11kV Primary sub-station & 11kV interconnection	1.1	0.0	1.1	DC/Utility Provider	Essential
EL_3	Rye House/Harlow West 132kV Tower Line	5.4	0.0	5.4	DC/Utility Provider	Essential
EL_4	Replacement of 33kv switchgear at Harlow West substation	1.4	0.0	5.5	DC/Utility Provider	Essential
Total		8.8	0.0	8.8		

Source: UKPN Regional Development Plan (2014)

10.4.13. The total estimated cost of electricity network reinforcements to meet Harlow's future growth needs (2017-2020) is approximately **£8,800,000**.

10.4.14. In terms of funding network reinforcements to meet the future growth needs of an area, the burden lies with a combination of the utilities firm who will recoup the costs from charging end users through their bills as agreed with OFWAT, and the developer who pays a connection and infrastructure charge. This is negotiated on a case by case basis. For this IDP study it is assumed that the costs are split between these two parties. There is no committed funding but an expectation that the cost will be fully funded.

10.4.15. Future Requirements around Harlow

10.4.16. The requirements for electricity infrastructure for Strategic Sites outside of Harlow is outlined below..

Table 10-2 Electricity Infrastructure Projects to meet Strategic Sites Outside Harlow Future Growth Needs (2017-2036)

Id	Project	Est Cost (£m's)	Funding (£m's)	Funding Gap	Funding Source*	Priority
EL_5	Electricity infrastructure to enable growth East Herts	8.8 ⁶⁰	0.0	8.8	DC/Providers	Essential
		8.8	0.0	8.8		

Source: EFDC IDP & EH IDP (2017)

⁶⁰ Total cost of project in East Herts IDP is £29m but this relates to needs generated by 10,000 new homes whereas there is projected to be 3,050 new homes in the Gilston area within the planning period therefore the cost used in this IDP is 30.5% of the total cost.

10.5. Gas

10.5.1. Information sources

10.5.2. The following information sources were referenced in the assessment of the provision of gas.

- Consultation with Cadent
- Greater Essex GIF (2016)

10.5.3. Existing Provision

10.5.4. Cadent, formerly National Grid Gas, is responsible for providing and distributing gas in Greater Essex. Including the Eastern of England area, within which Harlow is located, Cadent operate in 4 of the 8 Gas Distribution Networks (GDNs) in the UK. These are split further into Local Distribution Zones (LDZs) with the Greater Essex zone located adjacent to the East Anglia and North Thames zones.

10.5.5. Existing Deficiencies

10.5.6. There are no existing deficiencies in the provision of gas in Harlow, subject to further consultation with Cadent.

10.5.7. Future Requirements in Harlow

10.5.8. In order to ascertain any potential requirements in Harlow, further consultation will need to take place with Cadent.

10.5.9. Future Requirements around Harlow

10.5.10. The requirements for gas infrastructure for Strategic Sites outside of Harlow is outlined below.

Table 10-3 Gas Infrastructure Projects to meet Strategic Sites Outside Harlow Future Growth Needs (2017-2036)

Id	Project	Est Cost (£m's)	Funding (£m's)	Funding Gap	Funding Source*	Priority
G_1	Gas infrastructure to enable growth in East Herts	4.9 ⁶¹	0.0	4.9	DC/ Providers	Essential
		4.9	0.0	4.9		

Source: EFDC IDP & EH IDP (2017)

10.5.11. Costs and Funding

10.5.12. All costs associated with gas provision are covered by Cadent, including building, operating and maintaining gas transmission infrastructure.

10.6. Telecommunications

10.6.1. Information sources

10.6.2. The following information sources were referenced in the assessment of telecommunications infrastructure.

- ECC consultation
- Essex GIF

⁶¹ Total cost of project in East Herts IDP is £16m but this relates to needs generated by 10,000 new homes whereas there is projected to be 3,050 new homes in the Gilston area within the planning period therefore the cost used in this IDP is 30.5% of the total cost.

10.6.3. Existing Provision

10.6.4. Both BT and Virgin Media have significant Network infrastructure in Harlow. Both companies will provide any new development over 30 homes fibre to the premises free of charge, the builder will need to make contact with the relevant 'new sites' team to ensure timely provision to new homes and businesses.

10.6.5. Both of the above suppliers would need to provide additional local capacity to cope with housing growth and the new site process will trigger a review of the backhaul capability. BT and Virgin Media provide new developments over 30 homes free of charge, smaller developments can be explored on a case by case basis.

10.6.6. Existing Deficiencies

10.6.7. There are no existing deficiencies in the provision of telecommunications in Harlow, subject to further consultation with infrastructure providers.

10.6.8. Future Requirements in Harlow

10.6.9. In order to ascertain any potential requirements in Harlow, further consultation will need to take place with infrastructure providers.

10.6.10. Future Requirements around Harlow

10.6.11. The requirements for telecommunications infrastructure for Strategic Sites outside of Harlow is outlined below. .

Table 10-4 Telecommunications Projects to meet Strategic Sites Outside Harlow Future Growth Needs (2017-2036)

Id	Project	Est Cost (£m's)	Funding (£m's)	Funding Gap	Funding Source*	Priority
TC_1	Telecoms infrastructure to enable growth in East Herts	2.3 ⁶²	0.0	2.3	DC/ Providers	Essential
		2.3	0.0	2.3		

Source: EFDC IDP & EH IDP (2017)

10.6.12. Costs and Funding

10.6.13. No additional funding is currently targeted at improving Harlow's connectivity, as the town benefitted from significant commercial investment leaving it coverage in excess of the Government's 95% target. The Greater Essex GIF identifies a cost of **£2.5m** for broadband infrastructure in Harlow.

10.7. Waste Management

10.7.1. Introduction

10.7.2. Waste management is a key challenge facing the wider Essex county. There is a general remit to depart from traditional forms of waste management to focus on sustainable solutions to waste management. These include increased re-use initiatives, increased recycling and also recovery. However, despite the change in focus on forms of waste management, there is still a responsibility for the local authority to identify potential sites for the use of waste management.

10.7.3. Information sources

10.7.4. The following information sources were referenced in the assessment of waste provision.

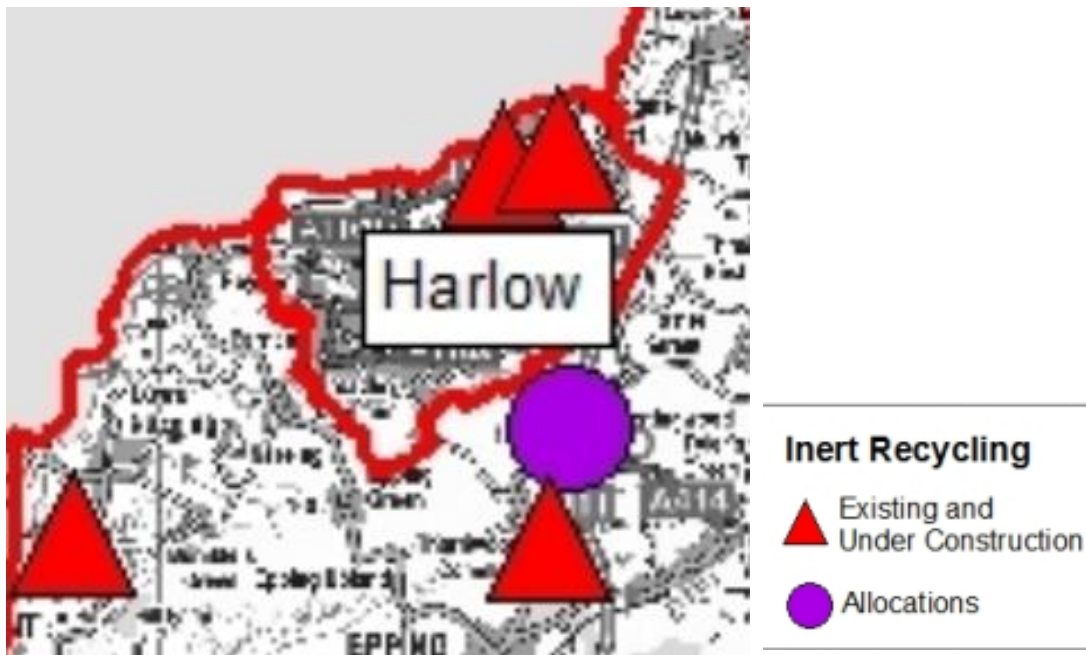
⁶² Total cost of project in East Herts IDP is £7.5m but this relates to needs generated by 10,000 new homes whereas there is projected to be 3,050 new homes in the Gilston area within the planning period therefore the cost used in this IDP is 30.5% of the total cost.

- ECC consultation
- Essex GIF
- Essex Waste Plan 2015
- Essex Joint Waste Strategy 2007-2032
- Essex & Southend RWLP Inspectors Report
- Replacement Waste Local Plan Non-Technical Summary (2016)

10.7.5. Existing Provision

10.7.6. Existing provision of waste management facilities in and around Harlow are identified in various maps located in the Replacement Waste Local Plan Non-Technical Summary (2016). These are shown below.

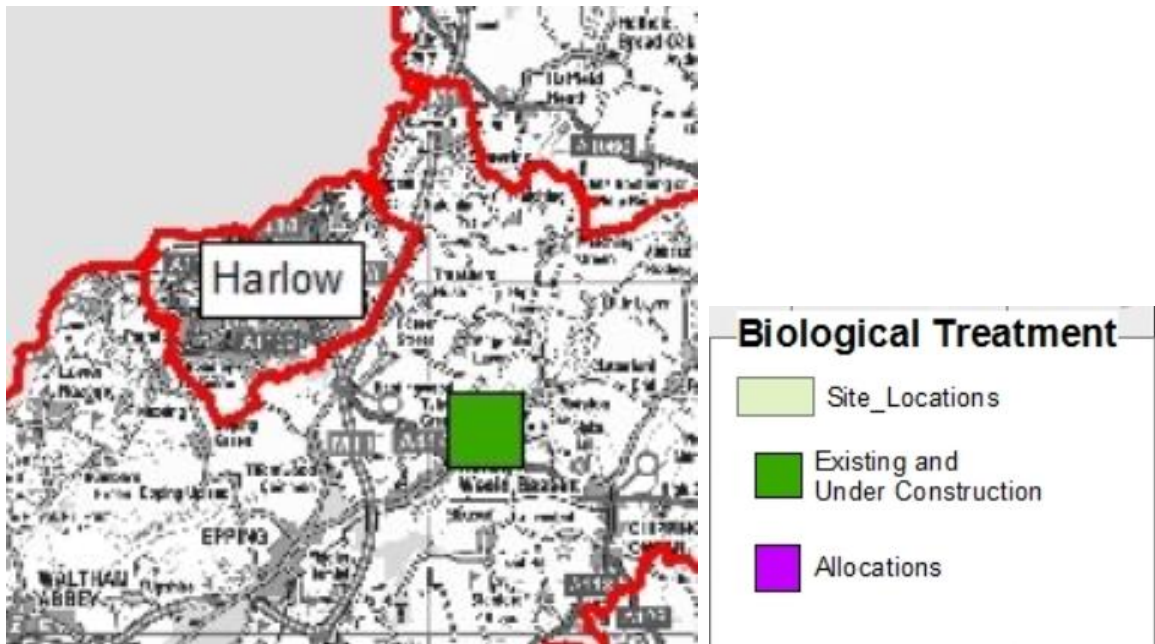
Figure 10-4 Existing, Under-Construction (2012) & Preferred Sites for Construction, Demolition and Excavation.



Source: Essex County Council & Southend-On-Sea Borough Council (2015)

10.7.7. Figure 10-4 above indicates two existing sites inside Harlow relating to construction, demolition and excavation. However, allocations show there is no plan to increase the number of sites inside Harlow. There is however, an allocation for a site located to the south in the Epping Forest district. Figure 10-5 below provides results for biological treatment facilities, with no facilities located in or around Harlow. However, due to there being no allocation for additional facilities, a conclusion can be made that there are no deficiencies in the Harlow urban area.

Figure 10-5 Existing, Under-Construction (2012) & Preferred Sites for Biological Treatment Facilities



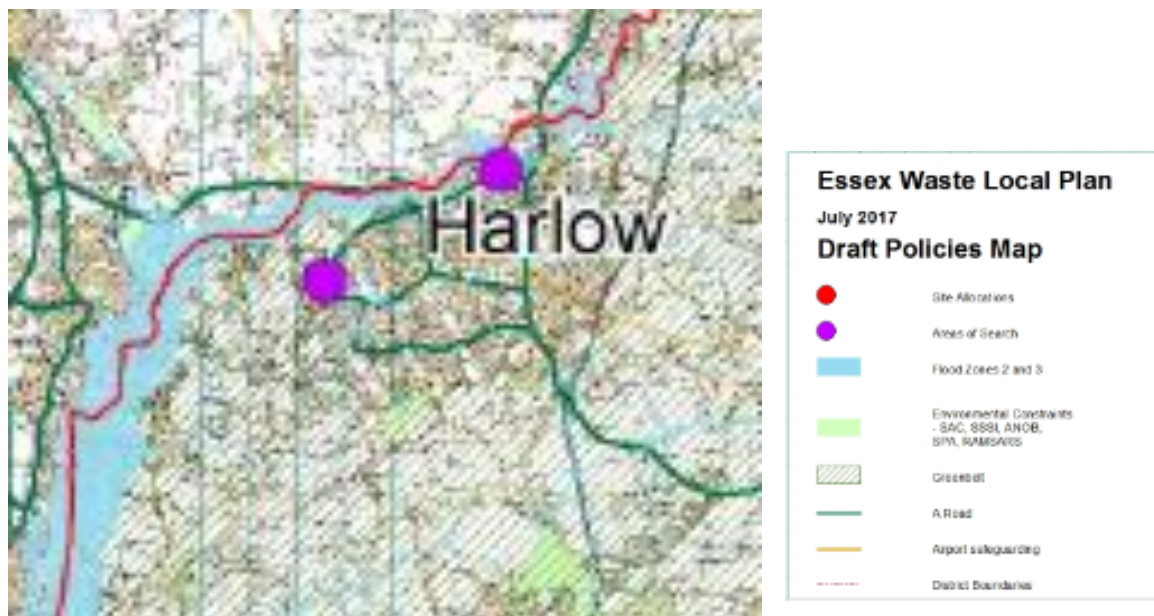
Source: Essex County Council & Southend-On-Sea Borough Council (2015)

10.7.8. Existing Deficiencies

10.7.9. Due to the various maps provided previously showing no allocation within Harlow to increase the provision of waste management facilities, it can be concluded that there are no immediate deficiencies in provision of these services in the Harlow area.

10.7.10. Future Requirements in and Around Harlow

Figure 10-6 Draft Policies Map



Source: Replacement Waste Local Plan (2015)

10.7.11. The Waste Policies Map extracted from the Replacement Waste Local Plan shows there to be no site allocations in around Harlow. Areas of search were located on the Harlow fringe, however no allocations resulted from this. Therefore, it can be concluded that there are no future requirements for waste management facilities in and around Harlow.

10.7.12. Costs and Funding

10.7.13. As a result of the absence of a requirement for increased infrastructure provision, there are no associated costs concerning waste management facilities

10.8. Flood Protection and Drainage

10.8.1. Information sources

10.8.2. The following information sources were referenced in the assessment of flood protection and drainage.

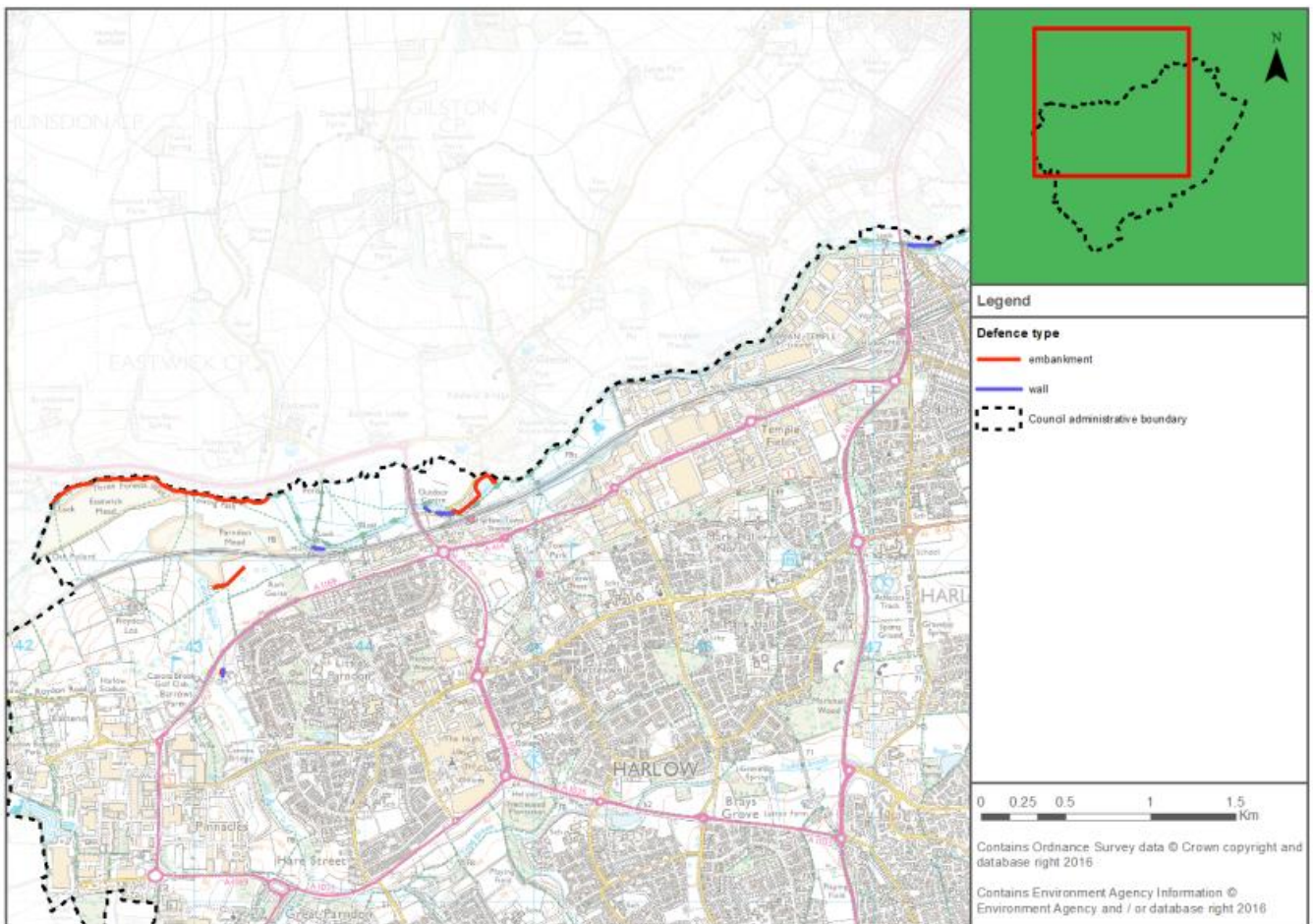
- ECC consultation
- Essex GIF
- Harlow Strategic Flood Risk Assessment 2016
- Harlow Surface Water Management Plan

10.8.3. Existing Provision

10.8.4. The vast majority of the information on existing provision and future requirements is located in the Harlow Strategic Flood Risk Assessment 2016. The aim of development concerning flooding and drainage in the UK is to ensure that the potential risk of flooding is taken into account at every stage of the planning process. This section outlines the provision and assessed need for infrastructure to protect what is at risk from flooding.

10.8.5. Harlow's flood defences are illustrated in Figure 10-7 below.

Figure 10-7 Flood Defences in Harlow



- 10.8.6. There are 108,000 properties at risk of flooding from all sources across Essex. Furthermore, under the Flood Risk Regulations (2009) and the Flood and Water Management Act (2010), the lead local flooding authority is required to develop, maintain, apply and monitor a strategy for flood risk management.
- 10.8.7. The defences outlined include:
- A privately maintained embankment along the left bank of the Stort Navigation at Eastwick Mead
 - A privately maintained wall along the left bank of the Stort Navigation at Parndon Mill
 - A privately maintained wall along the left bank of the Stort Navigation at Burntmill Lane
 - A privately maintained embankment along the right bank of the River Stort Navigation at Moorhen Marina
 - Privately maintained embankment and wall on the right bank of the River Stort Navigation at Riverside Court
 - A privately maintained wall and embankment either side of the Canons Brook at Canons Brook Golf Club
 - A privately maintained earth embankment on the right bank of the Canons Brook.
- 10.8.8. There are, however, no large-scale flood defences in Harlow. As such, the focus is based around a strategy to provide sufficient floodplain storage to mitigate up to a 1% Annual Exceedance Probability (AEP) flood event.
- 10.8.9. **Existing Deficiencies**
- 10.8.10. Harlow is described as being at 'moderate' risk from flooding across the local authority. The overall flood management risk policy is based on managing surface run off through storage, particularly fluvial flooding on Canvey Island. Therefore, there are no immediate concerns to warrant an identification of flood management deficiencies in and around Harlow.
- 10.8.11. It must also be noted that none of the proposed development sites in Harlow are in locations benefiting from defences.
- 10.8.12. **Future Requirements in Harlow**
- 10.8.13. The following sites are identified as future requirements to alleviate potential surface water flood risk.
- West Passmores swale and upstream attenuation and flood resilience
 - Harlow Brays Grove sustainable drainage
 - Harlow Kingsmoor sustainable drainage
 - Sumners Area river flood alleviation scheme
- 10.8.14. All new development proposals are also required to incorporate SuDS to manage surface run-off. However, their design and location are constrained by a number of physical and policy constraints, such as steep slopes, contaminated soil and ground instability. These should be taken into account when designing the SuDS.
- 10.8.15. **Costs and Funding**
- 10.8.16. The Greater Essex GIF projects a total cost of **£12,000,000** relating to the projects outlined in 12.1.13. Of this amount, approximately **£9,000,000** is to come through identified funding sources such as the Environment Agency.
- 10.8.17. For new developments which are not located alongside or improving existing defences, the costs for the development must be funded by the developer. However, funding from developers should be explored prior to the granting of planning permission and in partnership with the local planning authority and the Environment Agency.

10.9. Summary – Utilities, Waste and Flood Defence Costs and Funding

- 10.9.1. A summary of all utilities, waste and flood defence projects (in and around Harlow), including their phasing and delivery prioritisation scoring is shown below:

Table 10-5 Utilities, Waste and Flood Mitigation Projects to meet Harlow future Growth Needs ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
W_1	Water	Network reinforcement works to provide potable water	£6,750,000	Utility Provider	£0	£5,581,645	£1,168,355	£0	1			Essential	>10,000	District	9	Provider consultation, investment plans, GIF
W_2	Waste water	Network reinforcement works at Rye Mead STW for waste water and sewerage	£6,750,000	Utility Provider	£0	£5,581,645	£1,168,355	£0	1			Essential	>10,000	District	9	As above
EL_1	Electricity	New Harlow 33/11kV Primary sub-station	£900,000	DC/Utility Provider	£0	£744,219	£155,781	£0	1			Essential	5,000-10,000	Site	7	As above
EL_2	Electricity	South Harlow 33/11kV Primary sub-station & 11kV interconnection	£1,100,000	DC/Utility Provider	£0	£ 909,601	£190,399	£0	1			Essential	5,000-10,000	Site	7	As above
EL_3	Electricity	Rye House/Harlow West 132kV Tower Line	£5,400,000	DC/Utility Provider	£0	£4,465,316	£934,684	£0	1			Essential	5,000-10,000	Site	7	As above
EL_4	Electricity	Replacement of 33kv switchgear at Harlow West substation	£1,400,000	DC/Utility Provider	£0	£1,157,675	£ 242,325	£0	1			Essential	5,000-10,000	Site	7	As above
TC_1	Telecoms	Telecommunications network reinforcements	£2,500,000	DC/Utility Provider	£0	£2,067,276	£ 432,724	£0	1			Important	5,000-10,000	Site	5	As above
FL_1	Surface Water Flood protection	Variety incl West Passmores, Kingsmoor SUDS, Brays Grove & Sumner Area	£12,000,000	DC/ EA	£9,000,000	£341,482	£ 2,077,075	£581,443	1	1	1	Essential	>10,000	District	9	As above
Total			£36,800,000		£9,000,000	£20,848,860	£6,369,698	£581,443								

Source: Atkins (2017)

Table 10-6 Utilities, Waste and Flood Mitigation Projects to meet future Growth Needs of Strategic Sites Outside Harlow ('17-'33)

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
W_3	Water	Water infrastructure to enable growth	£5,337,500	DC	£0	£5,337,500	TBC	£0	1	1	1	Essential	5,000-10,000	Site	7	East Herts IDP
W_4	Water	Water infrastructure to enable growth	£0	DC/Utility Provider	£0	£0	TBC	£0	1	1	1	Essential	5,000-10,000	Site	7	Epping Forest IDP
W_5	Waste water	Waste water and sewerage infrastructure to enable growth E Herts	£5,337,500	DC	£0	£5,337,500	TBC	£0	1	1	1	Essential	5,000-10,000	Site	7	East Herts IDP
W_6	Waste water	Waste water and sewerage infrastructure to enable growth EFDC	£0	DC/Utility Provider	£0	£0	TBC	£0	1	1	1	Essential	5,000-10,000	Site	7	Epping Forest IDP
EL_5	Electricity	Electricity infrastructure to enable growth	£8,845,000	DC	£0	£8,845,000	TBC	£0	1	1	1	Essential	5,000-10,000	Site	7	East Herts IDP
EL_6	Electricity	Electricity infrastructure to enable growth	£0	DC/Utility Provider	£0	£0	TBC	£0	1	1	1	Essential	5,000-10,000	Site	7	Epping Forest IDP
G_1	Gas	Gas infrastructure to enable growth in East Herts	£4,880,000	DC	£0	£4,880,000	TBC	£0	1	1	1	Essential	5,000-10,000	Site	7	East Herts IDP
TC_2	Telecoms	Telecoms infrastructure to enable growth in East Herts	£2,287,500	DC	£0	£2,287,500	TBC	£0	1	1	1	Essential	5,000-10,000	Site	7	East Herts IDP
WM_1	Waste Management	Waste Management infrastructure to enable growth	£762,500	DC	£0	£762,500	TBC	£0	1	1	1	Essential	5,000-10,000	Site	7	East Herts IDP
FL_2	Flood /Surface Water protection	Flood protection infrastructure to enable growth	£0	DC/ EA	£0	£0	TBC	£0	1	1	1	Essential	5,000-10,000	Site	7	Epping Forest IDP
Total			£27,450,000		£0	£27,450,000	TBC	£0								

Source: Atkins (2017)

11. Infrastructure Delivery

11.1. Introduction

11.1.1. This section summarises the total costs of infrastructure to support the growth needs of Harlow and the strategic sites around Harlow which together form the Harlow and Gilston Garden T own. It discusses funding and delivery considerations and provides a conclusion on the overall deliverability of the housing growth projected for Harlow. This information can help inform Harlow Council's planning policy and overall growth strategy.

11.2. Funding Gap

11.2.1. The analysis in the IDP suggests the total indicative order of magnitude costs for all infrastructure categories currently identified and required to meet the growth needs of Harlow and the strategic sites around Harlow are around £361.9m and £754.8m respectively. The committed funding identified to meet these costs are £75.8m and £87.8m respectively leaving a **gross funding gap of around £286.1m** for Harlow and **£667m for the strategic sites around Harlow**. However, this does not take account of projected funding which is discussed below.

11.2.2. The current infrastructure costs of growth in the Harlow and Gilston Garden Town include several strategic transport projects that will also meet the needs of the wider sub-region. These include projects such as the M11 junction 7a and Harlow Northern Bypass. For sub-regional projects such as these, it is difficult to attribute the proportion of costs relevant to a particular area i.e. Harlow and Gilston Garden Town strategic sites. Therefore, for transport projects a 25% proportion of the total sub-regional cost has been taken to represent the need generated by growth in Harlow's fringe. **After this adjustment is made, the total cost of infrastructure around Harlow is £324.2m and resulting funding gap £292.7m**. Although this adjustment is relatively arbitrary the resulting cost and funding gap represents a more realistic order of magnitude of costs. This information is shown at Table 11-1 and Table 11-2 below:

Table 11-1 Total Infrastructure costs & funding to meet Harlow's growth needs ('17-'33)

Infrastructure Category	Est Cost (£m's)	Committed Funding	Funding Gap
Transport	192.9	28.7	164.2
Education	71.9	22.2	49.7
Health & Social Care	32.0	15.9	16.1
Emergency Services	0.0	0.0	0.0
Community, Leisure and Sports	26.1	0.0	26.1
Open Space and Green Infrastructure	2.1	0.0	2.1
Utilities, Waste and Flood Defences	36.8	9.0	27.8
Total	361.9	75.8	286.1

Source: Atkins (2017)

Table 11-2 Total infrastructure costs/funding to meet growth needs of Strategic Sites around Harlow ('17-'33)

Infrastructure Category	Est Cost (£m's)	Committed Funding	Funding Gap
Transport	574.1	75.0	499.1
Education	89.8	0.0	89.8
Health & Social Care	29.2	12.8	16.4
Emergency Services	0.0	0.0	0.0
Community, Leisure and Sports	14.8	0.0	14.8
Open Space and Green Infrastructure	19.4	0.0	19.4
Utilities, Waste and Flood Defences	27.5	0.0	27.5
Total	754.8	87.8	667.0

Infrastructure Category	Est Cost (£m's)	Committed Funding	Funding Gap
Total (inc. transport at 25% of cost)	324.2	31.6	292.7

Source: Atkins (2017)

11.2.3. Potential Funding Streams

11.2.4. A lack of funding is the greatest single risk to the delivery of infrastructure to meet Harlow and its wider area's growth needs. As described in the various infrastructure sub-sections above, each infrastructure type has different funding arrangements. The level of certainty around these future funding streams varies greatly. To gain a better understanding of how the infrastructure needs identified in this study will be funded and delivered, this section explores funding that can be reasonably expected to occur to help meet Harlow's infrastructure needs and 'bridge the funding gap'. Potential alternative sources of funding and delivery mechanisms are also explored.

11.2.4.1. Expected Funding

11.2.5. The funding identified in the report and described at Table 11-1 and 11-2 represents secured funding sources. This committed funding represents a relatively small proportion of the total cost and therefore leaves a large funding gap. For example, the projects in Harlow have a funding gap of around 78% of total costs. Viewed in isolation, this might call into question the deliverability of development planned for Harlow. However, there are other funding streams that can be reasonably expected to occur to meet the costs of many of infrastructure projects. These are now discussed:

Developer contributions:

11.2.6. Developer contributions take the form of planning obligations, s106 agreements and Community Infrastructure Levy (CIL). Although CIL is currently not in place in Harlow and its fringe, it is appropriate to model its potential impact as it could be introduced in the future. These developer contributions help to pay for infrastructure, and therefore mitigate the infrastructure needs that the development creates.

11.2.7. In terms of estimating a level of potential developer contribution that might be reasonably expected to be collected to help meet Harlow's infrastructure funding gap, the assumption made in the Greater Essex GIF of £7,500 per dwelling can be applied to the projected growth in Harlow⁶³. It should be noted that this figure is indicative at this stage and provided in this study to allow an estimate of total developer contributions. It is not a Council wide target and is currently not Harlow site specific. The figure may change subject to more Harlow specific viability testing.

11.2.8. This corresponds approximately to the level of developer contributions most developments in Harlow would be able to bear while remaining viable as concluded by the 2018 Harlow Viability Study⁶⁴. It represents the total average amount developers could bear. This would result in the following potential developer contribution revenue to help 'bridge the funding gap'. Note no expected developer contributions figure is provided for the strategic sites outside Harlow at this stage as there is not sufficient information on viability in these areas.

Table 11-3 Potential Developer Contributions in Harlow Urban Area ('17-'33)

Growth Area	Units ('17-'33)	Developer Contribution per unit assumption	Source	Potential Developer Contribution Funding
In Harlow	8,345	£7,500	Greater Essex GIF p173	£62,625,000

Source: Atkins (2017)

⁶³ The GIF (2016) derives this rate from a high-level analysis of typical developer contribution requirements and actual receipts recorded in South East local authorities (including Kent County, Medway Council, Surrey County, West Sussex County and Essex County).

⁶⁴ Harlow Local Plan Viability Assessment, Affordable Housing and Community Infrastructure Levy Review BNPP, (2018). The report concludes that a CIL rate of between £70pm² and £100pm² is viable when combined with a £1,000 per unit s106 (p24). Assuming an average dwelling size of 85m would result in a range of developer contributions of £6,950 per unit to £9,500.

11.2.9. Although Harlow does not have a CIL charging regime high level assumptions can be made on the potential revenue raised if CIL was introduced. In the absence of specific information, the following assumptions are made:

- Affordable housing – 30% (Source: Harlow Council)
- Average sq. m per dwelling – 100 sq. m (Source: Atkins assumption)
- CIL rate - £87.5 per sq. m. (Source: Harlow Viability Study and Atkins assumption)

11.2.10. Based on the above assumptions the following CIL revenue could be raised to help address the funding gap:

Table 11-4 Potential CIL Revenue in Harlow ('17-'33)

Growth Area	Units ('17- '33)	Affordable Housing	Average sq. m	Total sq. m	CIL rate per sq. m	Potential Developer Contribution Funding
In Harlow	8,345	30%	85	496,528	£87.50 ⁶⁵	£43,446,200

Source: Atkins (2017) Harlow Viability Study BNPP (2018)

11.2.11. It is likely that if CIL were introduced to Harlow the £7,500 developer contribution (likely to be s106) payment per dwelling assumption would be too high for development to bear and so this assumption should be lowered to avoid viability issues. Following a precautionary approach this study therefore only applies the £7,500 developer contribution per unit assumption to total funding and not s106 and CIL revenue combined to help address the residual funding gap as shown in Table 11-6 and Table 11-7 below.

11.2.12. Other sources of expected funding (after developer contributions and to address the funding gap) are as shown in the assumptions below.

Table 11-5 Expected Funding Assumptions

Infrastructure category	Infrastructure Sub-category	Funding Source	% of Unfunded Costs
Transport	Highways	DFT (Govt.)	75%
	Rail and buses	Private operators and Govt.	13%
Education	Primary and Secondary Schools	DFE (Govt.)	5%
	Early Years and Childcare	Private operators	100%
Health & Social Care	Healthcare (Hospitals, GPs, Dentists)	NHS (Govt.)	10%
	Adult Social Care	Private operators	25%
Utilities, Waste and Flood Defences	Utilities	Utilities firms	100%
	Waste Management	Private operators	100%
	Flood defences	EA (Govt.)	37%

Source: Atkins & Greater Essex GIF (2017)

11.2.13. The expected funding assumptions shown above are applied to relevant infrastructure categories and combined with the developer contributions (except for around Harlow as there is currently insufficient information on viability in these locations to make a reasonable assumption on expected developer contributions) to arrive at a total expected funding amount. This is shown below.

⁶⁵ The CIL rate of £87.5 per sq. m for Harlow is taken from the Harlow Viability Study, BNPP (2018). It is the average of the two recommended CIL rates. That study recommends a CIL rate of £70 per sq. m for new residential in Harlow Post Codes CM18,19,20 and £100 per sq. m for Harlow Post Code CM20. Post Code CM20 is to the East of Harlow so it is assumed that this reflects the viability of new build residential on Harlow Fringe (£100 per sq. m).

Table 11-6 Residual funding gap to meet Harlow's growth needs ('17-'33) (£m's)

Infrastructure Category	Est Cost	Committed Funding	Expected Funding	Developer Contributions ⁶⁶	Remaining Funding Gap
Transport	192.9	28.7	102.1	15.7	46.0
Education	71.9	22.2	5.0	33.1	11.6
Health & Social Care	32.0	15.9	3.1	2.8	10.2
Emergency Services	0.0	0.0	0.0	0.0	0.0
Community, Leisure and Sports	26.1	0.0	0.0	4.5	21.5
Open Space, Green Infrastructure	2.1	0.0	0.0	0.4	1.8
Utilities, Waste and Flood Defences	36.8	9.0	20.8	6.4	0.6
Total	361.9	75.8	131.4	62.9	91.7

Source: Atkins (2017) *may not sum due to rounding

Table 11-7 Residual funding gap to meet growth needs of Strategic Sites around Harlow ('17-'33)

Infrastructure Category	Est Cost	Committed Funding	Expected Funding	Developer Contributions	Remaining Funding Gap
Transport	143.5	18.8	71.8	TBC	52.9
Education	89.8	0.0	15.8	TBC	74.0
Health & Social Care	29.2	12.8	3.7	TBC	12.7
Emergency Services	0.0	0.0	0.0	TBC	0
Community, Leisure and Sports	12.7	0.0	0.0	TBC	12.7
Open Space, Green Infrastructure	1.8	0.0	0.0	TBC	1.8
Utilities, Waste and Flood Defences	27.5	0.0	27.5	TBC	0.0
Total	304.4	31.6	107.6	TBC	154.3

Source: Atkins (2017) *may not sum due to rounding

As shown in Table 11-6 and Table 11-7 above after committed, expected funding and developer contributions (Harlow only) the remaining estimated net funding gap for infrastructure to support growth (as currently identified) is as follows:

- Net funding gap for growth in Harlow is **£91.7m.**
- Net funding gap for growth outside Harlow is **£154.3** (excluding developer contributions)

Although this residual funding gap is still relatively high there are alternative sources of funding that could help to 'bridge this gap' and ensure sufficient infrastructure is in place to meet local needs. These alternative funding sources are now discussed.

⁶⁶ Developer contributions are apportioned to infrastructure category by the relative weighting of the infrastructure category costs to total costs. Some adjustments are made to Education developer contributions as it is assumed they are fully funded by developer contributions.

11.2.14. **Sources of alternative funding**

11.2.15. There are several funding sources that the public sector i.e. Harlow Council or a group of Councils could use for the purposes of infrastructure investment to 'bridge' the remaining funding gap. These include the following:

Prudential Borrowing

11.2.16. The public sector can borrow from the Public Works Loan Board (PWLB) at a low cost to fund its spending and represents a key source of finance which could be used to fund infrastructure. At present, nearly all borrowers are local authorities requiring loans for capital purposes. The Commissioners are legally required, before making a loan, to ensure that there is sufficient security for its repayment. Moneys are drawn from the National Loans Fund and rates of interest are determined by HM Treasury.

11.2.17. Local authorities use prudential borrowing for a wide range of purposes including efficiency savings; more efficient procurement; economic development and regeneration; partnership working; central government targets; better market operation; better capital programming; cheaper funding options; better asset management; and innovation.

11.2.18. The Local Government Act 2003 introduced new freedoms and flexibilities for local authorities allowing them to increase their prudential borrowing. Borrowing is regulated by the prudential regime and must be in accordance with the Prudential Borrowing Code. Local authorities can borrow to invest in capital works and assets so long as the cost of borrowing is affordable and in line with the principles set out in a professional Prudential Code. Local authorities must use various prudential indicators to judge whether their capital investment plans are affordable, prudent and sustainable. The main limiting factor on the council's ability to undertake capital expenditure is whether the revenue resource is available to support in full the implications of capital expenditure.

11.2.19. In summary, prudential borrowing represents a key source of affordable finance which could be used to meet the upfront costs of key infrastructure. The proceeds from development and alternative sources of funding and grants could then be used to repay this capital loan. However, whilst this could help meet the upfront costs of infrastructure, it will increase the overall costs due to the need to service debt on the loan.

Local Government Bond Issuance

11.2.20. A bond could be issued by a local authority and the proceeds applied to infrastructure projects across Harlow There is a possibility of accessing the bond markets for local authority finance, taking advantage of the strong credit ratings that are enjoyed by many local authorities in order to access finance at attractive rates.

11.2.21. It is possible that bond finance could be relatively cheap, potentially even cheaper than PWLB borrowing; however, this will be dependent on how the infrastructure is packaged and the perceived risk of coupon and principal repayment. The bond market is relatively untested in the local authority market for capital purposes and there are challenges around timescales, offering an appropriate size of bond offering, target investors, associated costs – as well as risk attached to the security of revenue streams that would service the bond.

Institutional Finance

11.2.22. The large amount of investment required in the wider Harlow area requires significant forward funding of infrastructure. While public sector borrowing is also an option, utilising the significant resources of institutional funds is an option. This could be pension funds, insurance companies, infrastructure investment funds and sovereign wealth funds that can take long term funding horizons. The important aspect in getting investment from institutions such as pension funds is ensuring that the infrastructure investment can be structured in order to match their liability profiles. This can often prove to be difficult given the requirement for fixed returns at specified intervals and the uncertainty of returns being generated from infrastructure.

11.2.23. The government is currently looking at a number of ways to get institutional investment involved at the earliest stages of developments, including the delivery of infrastructure and mechanisms

being considered include government backed guarantees to unlock the capital available to these institutions. The key issue is that there is no single solution that will be appropriate to all types of institutions. Despite the challenges many institutions are looking at infrastructure as part of their portfolio of investments and should the appropriate structures be developed then institutional funding could form a significant source of future infrastructure funding.

Council Owned Land Value Uplift

- 11.2.24. The investment in infrastructure will help to unlock the development potential across Harlow and as such have a positive effect on the current land values in the Harlow Urban Area. Harlow Council own significant amounts of land and subject to suitability and planning considerations some of this land could be released to raise capital to fund infrastructure.

Community Infrastructure Levy (CIL)

- 11.2.25. CIL is a mechanism for collecting development contributions, from new development in an area, in order to fund a wide range of infrastructure items, based on a tariff structure. Previously, contributions from new development could only be secured by Section 106 ('S106') agreements, designed to address impacts directly arising from the development.
- 11.2.26. CIL is intended to work alongside planning obligations, and to pool development contributions in an area in order to fund a wide range of infrastructure items – which may include roads, other transport facilities, flood defences, schools, medical facilities etc. CIL charges are based on a tariff structure adopted by each local authority – with evidence to date from adopted charging schedules suggesting fairly significant variation in the level of CIL that is being set. There is a powerful imperative for setting CIL locally as it is not possible for local authorities to use S106 on a pooled basis for non-site-specific infrastructure. A local authority must publish a list of items in respect of which it wishes to levy the charge. That list is subject to examination by an independent inspector.

New Homes Bonus

- 11.2.27. New Homes Bonus (NHB) is the government's flagship housing policy, aiming to start "... a local house building revolution where communities who go for growth by building new homes reap the benefits and at the same time deliver a much needed economic boost to their local area"⁶⁷
- 11.2.28. The New Homes Bonus is a grant paid by central government to local councils for increasing the number of homes and their use. The New Homes Bonus is paid each year for 6 years. It's based on the amount of extra Council Tax revenue raised for new-build homes, conversions and long-term empty homes brought back into use. There is also an extra payment for providing affordable homes. Therefore, the additional growth in New Homes Bonus as a result of the infrastructure unlocking development in Harlow could potentially be utilised to pay for the infrastructure.

Business Rates Retention

- 11.2.29. The aim is that by the end of the current Parliament, local government will retain 100% of taxes raised locally. The Government recognises that centralised system of business rates (where business rates are collected by local authorities, paid over to HM Treasury and then redistributed back to Councils based on a formula grant calculation) act as a disincentive for growth.
- 11.2.30. The move to 100% business rates retention builds on the current system, in which local government retains 50% of locally collected business rates. That system was introduced in April 2013. Before then, all business rate income collected by councils formed a single, national pot, which was then distributed by government to councils in the form of formula grant. Through the Local Government Finance Act 2012, and regulations that followed, the Government gave local authorities the power to keep half of business rate income in their area by splitting business rate revenue into the 'local share' and the 'central share'.
- 11.2.31. Business Rates Retention could in theory represent an important strand in delivery of infrastructure across Harlow assuming that proposed investments successfully unlock industrial/commercial development and generates associated growth in business rates income in Harlow. It offers an opportunity to access new and flexible financial resources. However, a

⁶⁷ <https://www.gov.uk/government/news/grant-shapps-kickstarts-local-housebuilding-revolution>

particular challenge associated with business rates retention will involve the difficulty of accurately forecasting economic and business rate growth and the inevitable lag between investment in infrastructure and associated BRR income.

Grant Funding

- 11.2.32. While assumptions on expected funding have been described above there is a strong possibility that the remaining funding gap may at least in part be addressed by as yet unknown or committed Central Government funding sources. There are various sources of grants from different government departments and bodies. While on the whole grant funding has reduced since the financial crash of 2008, the government has made positive noises recently around investment in infrastructure. Recent examples include the £2.3 billion Housing Infrastructure Fund (HIF) and a commitment to significant additional infrastructure funding outlined in the November 2017 Industrial Strategy.⁶⁸ Harlow and Gilston Garden Town Board have made a bid to the HIF for funding for the Stort Crossing and Sustainable Transport Corridor projects. At the time of writing the status of these bids is unknown. Funding was also awarded to help deliver the M11 Junction 7a scheme. It is likely that a robust business case for grant funding will need to be put forward to demonstrate the wider benefits that can be achieved as a result of the grant funding being received. Value capture mechanisms will be crucial in supporting the case for government assistance.

Council Tax

- 11.2.33. Council tax is most commonly associated with funding of local authority revenue expenditure items such as adult social care, waste and cleaning services across their boroughs. However, the option of hypothecating Council tax for the purposes of investing in infrastructure is a distinct possibility. Though not common, it is not unknown for Council tax to be used for infrastructure – In 2009/10 Croydon Council included a 1.9% increase in their Council Tax, which was hypothecated for capital projects.. There was a demonstrable need for significant capital investment across the Borough, including enhanced infrastructure, as a result the decision was taken to hypothecate the increase.
- 11.2.34. Clearly this is a political decision that needs to be in line with the Council's strategic approach to service delivery, Harlow and the wider urban area.

Stamp Duty Land Tax

- 11.2.35. Stamp Duty Land Tax (SDLT) is a tax on land transactions in all of the UK except Scotland that was introduced by the Finance Act 2003. Each time a property is purchased, a tax is paid, calculated on the value of the property being acquired. Currently SDLT is collected by central government and is not available as a local funding resource. However, with the devolution agenda and the push for new funding deals for local government, SDLT could prove to be a significant tax revenue available to help fund local services but more importantly local infrastructure.

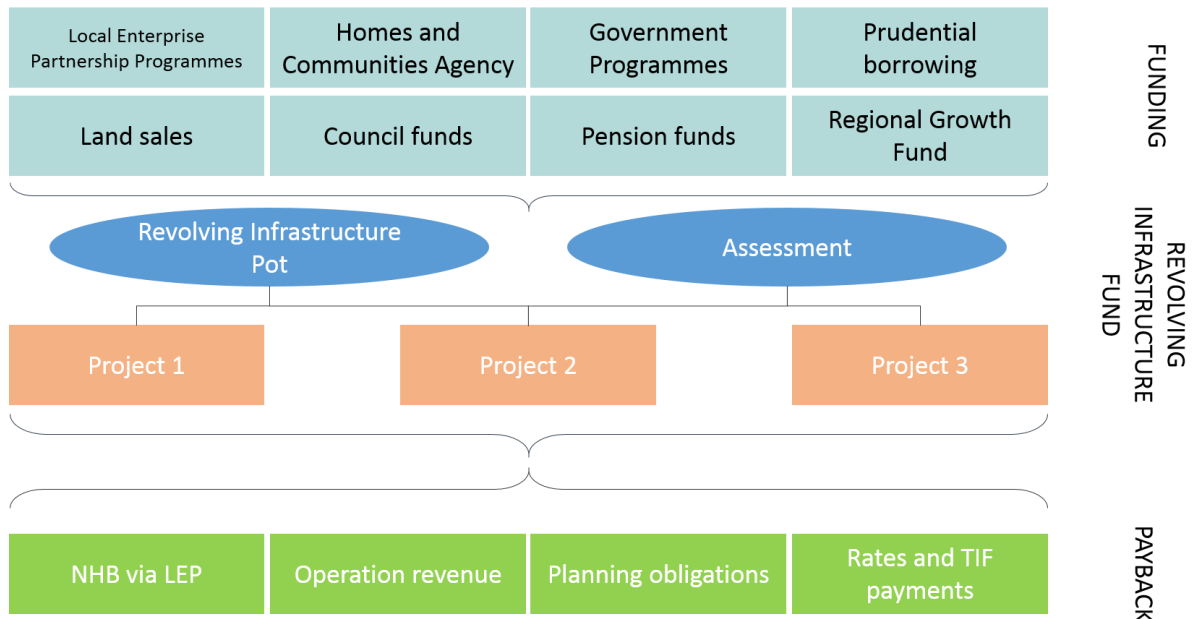
Revolving Infrastructure Funds (RIF)

- 11.2.36. RIFs are an exciting potential option. An example of how a RIF works is shown below. Bristol Temple Quarter Enterprise Zone has set up a £60m RIF used to forward fund infrastructure. This is potential mechanism for funding the large scale of infrastructure required for Harlow and the wider area.

⁶⁸ HM Government; Housing Infrastructure Fund (July 2017): <https://www.gov.uk/government/news/23-billion-investment-in-infrastructure-for-new-housing>.

HM Government; Industrial Strategy (2017)

Figure 11-1 Indicative Revolving Infrastructure Fund Structure



Source: Atkins (2017)

Local Asset Back Vehicles (LABV)

11.2.37. Local Asset-Backed Vehicles (LABVs) are an innovative funding and delivery model that were first introduced just before the 2008 credit crunch and as a result have failed to gain widespread interest ever since. However, in the current challenging funding environment and due to the need to address the ‘housing crisis’ they are a potential option. LABV’s allow local authorities to use their assets (usually land) to lever long term investment from the private sector (providing finance) for large complex programmes involving numerous development sites and related infrastructure. They are a form of joint venture between the public sector and private sector. A summary of key relevant points includes the following:

- LABV involve the private and public-sector pooling their land, finance, planning powers and delivery expertise to achieve shared objectives and unlock difficult series of sites
- They allow cross subsidisation of development projects, infrastructure to achieve greater overall viability
- Profits are shared evenly
- Key issues are measuring and costing risks and assets
- Previous examples include Sunderland Council

11.3. Infrastructure Delivery

- 11.3.1. This section assesses in more detail the key delivery considerations for specific infrastructure projects identified in the study. This includes identifying those projects that are essential to enable development, any key interdependencies and critical paths associated with those sites key delivery risks and contingencies.
- 11.3.2. In terms of prioritisation infrastructure has been considered against the following criteria:
- **Essential** – development cannot physically occur without the infrastructure
 - **Required** – required to mitigate the wider impact of development
 - **Important** – important to creating a sustainable community
- 11.3.3. Based on the above criteria most infrastructure categories are considered to be ‘required’. This is because they do not necessarily have to be delivered before development can commence but they are necessary to deliver to mitigate the impacts of the development. The study has defined the following prioritisation of infrastructure:
- **Essential** – Most highways and utilities projects form the first step on a critical path and must be funded and delivered before housing development can occur.
 - **Required** – Public transport, education, health, adult care and social services, community infrastructure, leisure and green would ideally be delivered before housing development but is not intrinsically linked in the development process.
 - **Important** – cycling and walking infrastructure, some highways projects are important to enable a good quality place but are not essential to unlock development.
- 11.3.4. Based on the scoring criteria, as described at 2.2.21 and shown for each project in the summary tables and Appendix A and B, the following projects fall into the ‘red category’. This means the delivery of these projects are critical to strategic development objectives of Harlow and the Harlow and Gilston Garden Town. Only surface water flood defences are considered to be a Harlow specific ‘red category’ where their delivery is critical to Harlow and not the wider Garden Town:

‘Red Category’ - Critical Projects to Deliver in Harlow and Harlow and Gilston Garden Town

- Sustainable transport corridor (North/South) (H_9)
- Sustainable transport corridor (East/West) (H_10)
- M11 new junction 7a (H_18)
- M11 Junction 7 improvements (H_19)
- Second River Stort Crossing and highway link (H_20)
- New hospital beds including an estimated 3,763 sq. m 23.5 new beds for Harlow’s growth and an estimated 3,134 sq. m 19.6 new beds for growth around Harlow (HS_3 and HS_15)
- Network reinforcement works to provide potable water in Harlow (W_1)
- Network reinforcement works at Rye Mead STW for waste water and sewerage (W_2)

‘Red Category’ - Critical Projects to Deliver in Harlow

- Surface Water Flood defences including West Passmores, Kingsmoor SUDS, Brays Grove & Sumner Area (FL_1)

11.3.5. Due to the relatively small and dispersed nature of most future development sites in Harlow it is challenging to link specific infrastructure projects to specific development sites. However, it is possible to draw out some key interdependencies between certain infrastructure projects and sites. For example, the following three large sites to the east of Harlow (two of which are already committed with planning consent) are essential to the Harlow Local Plan. Together they contribute 5,520 units or 66% of the total future housing growth:

Table 11-8 Sites located to the east of Harlow (committed and allocated)

IDP Site Id	Site Name	Phase 1: 2017/22	Phase 2: 2022/27	Phase 3: 2027//33	Total Units
IH-01	Newhall Phase 2 & 3	1,300	559	150	2,009
IH-02	Land North of Gilden Way	911	0	0	911
IH-22	Strategic Site East of Harlow	300	1,450	850	2,600
Total		2,511	2,009	1,000	5,520

Source: Atkins (2017)

11.3.6. The sites above have specific infrastructure requirements that can be identified and prioritised for delivery given their importance to the Harlow Development Plan. It should be noted that these infrastructure projects are identified here for information purposes to emphasise their importance. In reality some infrastructure projects are already committed and being funded by various mechanisms so their inclusion here does not indicate that there is a funding gap. This includes education provision at Gilden Way and Newhall, transport schemes associated with these committed developments and Junction 7a where funding is already committed:

- Gilden Way Roundabout (H_4): £10m
- M11 Junction 7a (H_18 – Outside Harlow): £75m
- Primary Schools in East Harlow (PS1,2,5): £30m
- **Total** £115m

11.3.7. The phasing requirement of the highways infrastructure listed above is likely to be in the period 2018-2022. The primary schools can be constructed at the same time as the development sites are built out i.e. between 2018 and 2027. Most other sites in Harlow and the housing planned on the strategic sites in Harlow and Gilston Garden Town are reliant on the following key strategic projects in addition to the M11 J7a scheme as this is important for the whole Garden Town and the education requirements which are also fundamental:

- N/S Sustainable transport corridor (H_9): £100m
- E/W Sustainable transport corridor (H_10): £25m
- **Total** £125m

11.3.8. Based on consultation with ECC transport team it is not clear at this stage which sustainable corridor (E/W or N/S) should be prioritised first. To create greater certainty, further feasibility work and consultation between stakeholders, local authorities and developers should be carried out to establish an appropriate phasing, funding and delivery schedule. This is likely to be performed as part of the Harlow and Gilston Garden Town.

11.3.8.1. Risks and Contingency

11.3.9. Monitoring and managing risks is essential for successful delivery of infrastructure. This IDP has collated the key risks and mitigations/contingencies including the probability and impact of each individual risk (on a scale of 1-10). The risks that are particularly relevant to the chances of success of future growth in and around Harlow are set out below:

Table 11-9 Infrastructure Delivery Risks and Contingencies

Risk	Description & Effect	Probability	Degree of Impact	Mitigation Plan
Lack of identified or available finance and funding.	There is potential for insufficient investment and resources to deliver the critical priorities with a variety of funding sources for key moves.	5	5	Funding and finance has been identified so far for key moves. Further funding and finance is dependent on next steps for several key programmes of work.
Inadequate programme project governance and leadership.	Poor communication and leadership between partners, key stakeholders and programme activities could lead to a lack of integration and coordination.	3	3	Stakeholders to be clear on their identified roles to deliver work. Communication channels identified.
Changes in market conditions.	The market conditions could affect the viability and therefore delivery and suitability of work planned. This could lead to insufficient clarity on priorities.	3	3	Review of IDP and roles to be reviewed annually.
Loss of community support.	There is a risk that insufficient community engagement in the development process leads to a lack of community support.	5	3	Specific engagement to be determined with local communities and politicians.
Programme cost rises	Costs for key projects increase due to cost rises or delays.	3	4	Projects to develop robust business cases and mitigation for potential cost increases.

Source: Atkins (2017)

11.4. Conclusion – Deliverability of Harlow Growth

11.4.1. On balance, the research in this study can demonstrate that the infrastructure required to enable growth in and around Harlow is deliverable. Therefore, in terms of infrastructure delivery Harlow's growth aspirations are realistic. There is a residual funding gap of around £90m but this order of magnitude of funding gap should not be considered significant when compared to typical equivalent local authority areas. However it must be noted that this is relevant to the infrastructure provision as currently identified by the IDP and in certain cases costs need to be further refined for projects. Appropriate funding and delivery mechanisms are in place and risks are registered and mitigated appropriately. No 'show stoppers' have been identified.

12. Conclusion

12.1. Summary and Conclusion

- 12.1.1. This study has identified the infrastructure required to support housing and employment growth in and around Harlow during the Local Plan period (2017 to 2033). The quantum of housing growth to be delivered in Harlow by 2033 was identified as 8,418 units. The majority of this, at around 5,520 (66%), is projected to be delivered to the east of Harlow through existing commitments and a strategic housing site. The remaining housing growth is made up of numerous relatively small and evenly dispersed sites across Harlow. There is projected to be around 20 ha of additional mainly B1 office employment land delivered at 3 existing employment sites in the planning period.
- 12.1.2. The site-specific essential infrastructure needs of the sites located to the east of Harlow are mainly transport and education infrastructure such as the M11 J7a (although this is outside Harlow and funding already available to bring it forward), a new secondary school (in Epping Forest) and new primary schools. It is expected that there will be a requirement to reinforce the waste water infrastructure related to the Harlow and Gilston Garden Town although the details on this are not yet known.
- 12.1.3. Key infrastructure to support Harlow and the strategic sites in East Hertfordshire and Epping are the N/S and E/W Sustainable Transport Corridors. The relative phasing of the sustainable transport corridors and their priority is yet to be defined and is likely to be part of the wider Harlow and Gilston Garden Town strategic planning process. All sites in the Harlow and Gilston Garden Town will contribute towards the sustainable transport corridors and education needs. The strategic sites including the Harlow strategic site to the east will need to provide on-site infrastructure including education, community centre provision, green spaces and leisure provision.
- 12.1.4. The total cost of infrastructure to support growth in Harlow was estimated to be **£361.8m**. The largest component of this cost is transport infrastructure at £192.9m, followed by education at £71.9m. The total committed, expected and developer contribution funding was estimated to be **£270m** leaving an estimated funding gap of around **£91.7m**. This funding gap could be addressed through a variety of funding streams and mechanisms. Although the study concludes that overall the housing and employment growth is deliverable it will be necessary for the local authority and national funding agencies to be diligent, collaborative and supportive to help ensure the infrastructure funding gap can be addressed.
- 12.1.5. The study also assessed the infrastructure needs of the strategic sites in East Hertfordshire and Epping – a total of approximately 7,000 new homes. The total estimated cost and residual funding gap of the infrastructure identified was **£304.4m** and **£154.3m** respectively. Note this does not include an estimate of developer contributions as there is currently insufficient information to assess the viability of development in these areas.
- 12.1.6. The key pieces of infrastructure to enable growth to occur in the Harlow and Gilston Garden Town are major transport infrastructure such as the M11 Junction 7 improvements, River Stort Crossings and new Secondary Schools in the Strategic Site East of Harlow (in Epping), Gilston and Latton Priory. Also, it is expected that the Princess Alexandra Hospital will move to a new location outside Harlow and this will generate some additional infrastructure needs. In summary, close collaboration and joined up strategic planning between the various local authorities will be essential if the appropriate infrastructure to support growth in the Harlow and Gilston Garden Town is to be delivered.

12.2. Recommendations & Future Actions

12.2.1. Based on the analysis in this study the following recommendations and actions are made:

- A package of essential infrastructure is required to be prioritised to enable significant growth to the east of Harlow (5,500 new homes) of which 2,900 homes are committed through existing planning consents. This includes around £115m of costs for M11 Junction 7a, Gilden Way Roundabout and two new Primary Schools to support the significant growth at Newhall and the strategic site east of Harlow. Given the lead in times and critical path this infrastructure package should be developed as soon as possible although the delivery of Junction 7a and education provision associated with existing planning consents is already being delivered and/or committed.
- The E/W and N/S Sustainable transport corridors should be worked up in more detail and detailed costs, funding and business cases developed as they are essential to support growth in the Harlow and Gilston Garden Town. It is also expected that there will be a requirement to reinforce the waste water infrastructure related to the Garden Town and the delivery of growth across the area.
- To address the remaining funding gap the Council could explore in further detail innovative funding and delivery mechanisms such as CIL, RIF, Prudential borrowing, joint ventures such as LABV
- The following 'red category' projects should be prioritised for delivery as their delivery is critical to the successful implementation of Harlow and Harlow and Gilston Garden Town's wider growth aspirations. Only surface water flood defences are considered to be a Harlow specific 'red category' where their delivery is critical to Harlow and not the wider Garden Town:

'Red Category' - Critical Projects to Deliver in Harlow and Harlow and Gilston Garden Town

- Sustainable transport corridor (North/South) (H_9)
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- M11 Junction 7 improvements (H_19)
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- New hospital beds including an estimated 3,763 sq. m 23.5 new beds for Harlow's growth and an estimated 3,134 sq. m 19.6 new beds for growth around Harlow (HS_3 and HS_15)
- Network reinforcement works to provide potable water in Harlow (W_1)
- Network reinforcement works at Rye Mead STW for waste water and sewerage (W_2)

'Red Category' - Critical Projects to Deliver in Harlow

- Surface Water Flood defences including West Passmores, Kingsmoor SUDS, Brays Grove & Sumner Area (FL_1)

Appendix A. Harlow Infrastructure Schedule

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
H_1	Highways	Velizy / Second Ave interim works	£4,000,000	DC	£100,000	£2,639,013	£381,316	£879,671				Essential	1,000-5,000	Site	6	ECC Highways
H_2	Highways	Edinburgh Way A414 / Howard Way	£4,000,000	GPF	£800,000	£2,114,013	381,316	£ 704,671				Essential	1,000-5,000	Site	6	ECC Highways
H_3	Highways	New Jnct River Way / Cambridge Rd	£3,000,000	SELEP	£3,000,000	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
H_4	Highways	Gilden Way (B183) / London Rd roundabout	£10,000,000	s106/ ECC / SELEP	£10,000,000	£0	£0	£0				Essential	1,000-5,000	District	7	ECC Highways
H_5	Highways	Gilden Way/Harlowbury development primary site access.	£800,000	DC	£800,000	£0	£0	£0				Essential	< 1,000	Site	5	ECC Highways
H_6	Highways	Gilden Way/Harlowbury devt secondary site access	£200,000	DC	£200,000	£0	£0	£0				Essential	< 1,000	Site	5	ECC Highways
H_7	Highways	Gilden Way/ (B183) / Mulberry Green for Harlowbury	£100,000	DC	£100,000	£0	£0	£0				Important	< 1,000	Site	3	ECC Highways
H_8	Highways	Newhall Primary Rd / Bus Avenue	£3,700,000	DC	£3,700,000	£0	£0	£0				Essential	1,000-5,000	Site	6	ECC Highways
H_9	Highways	Sustainable transport corridor (North/South)	£100,000,000	DC, Grant	£0	£67,850,317	£9,532,911	£ 22,616,772				Essential	>10,000	District	9	ECC Highways
H_10	Highways	Sustainable transport corridor (East/West)	£25,000,000	DC, Grant	£0	£16,962,579	£2,383,228	£5,654,193				Essential	>10,000	District	9	ECC Highways
H_11	Highways	A414 / Cambridge Rd (A1184) / Station Rd	£10,000,000	GPF	£10,000,000	£0	£0	£0				Essential	1,000-5,000	Site	6	ECC Highways
H_12	Highways	Fifth Ave / Velizy /Fourth / First Ave	£5,000,000	TBC	£0	£3,392,516	£476,646	£1,130,839				Essential	1,000-5,000	Site	6	ECC Highways
H_13	Highways	Southern Way traffic calming	£1,000,000	DC	£0	£678,503	£95,329	£ 226,168				Essential	1,000-5,000	Site	6	ECC Highways
H_14	Highways	Southern Way lorry restrictions	£100,000	ECC	£0	£ 67,850	£9,533	£22,617				Important	< 1,000	Site	3	ECC Highways
H_15	Highways	Closure Old Rd through traffic at rail bridge adjust A1184/Old Rd signals	TBC	DC	£0	£0	£0	£0				Essential	< 1,000	District	6	ECC Highways
H_16	Highways	A1025 Second Avenue/Manston/ Tripton improvements	£4,000,000	DC	£0	£2,714,013	£381,316	£904,671				TBC	1,000-5,000	Site	4	ECC Highways
H_17	Highways	A1025 Second Avenue/Howard Way improvements	TBC	DC	£0	£0	£0	£0				TBC	1,000-5,000	Site	4	ECC Highways
H_22	Highways	Abercrombie Way/Third Avenue	£3,000,000	DC	£0	£2,035,510	£285,987	£678,503				Essential	1,000-5,000	District	7	ECC Highways
B_1	Buses	Enhanced bus services to Pinnacles Employment Area	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
B_2	Buses	Enhanced bus services along Edinburgh Way into River Way via new EZ access	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
B_3	Buses	Enhanced bus services on sustainable transport corridor (east/west)	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
B_4	Buses	Enhanced bus services on sustainable transport corridor (N/S)	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
B_5	Buses	Extension bus route 7 to Gilden Way Development	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
B_6	Buses	Extension bus route 7 to Newhall Phase 2 Development	TBC	Operators / ECC	£0	£0	£0	£0				Important	1,000-5,000	Site	4	ECC Highways
WC_1	Walking / Cycling	Cycle route connect London Rd N EZ to London Rd and Newhall Phase 2	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_2	Walking / Cycling	Proposed cycle provision to serve Newhall Phase 2	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_3	Walking / Cycling	Proposed dedicated cycle route along Gilden Way (eastbound)	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_4	Walking / Cycling	Proposed cycle infras to serve Gilden Way urban extension and new primary school.	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
WC_5	Walking / Cycling	Missing link London Rd Newhall Phase 1 and Church Langley cycle network.	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_6	Walking / Cycling	Strategic n-s cycle route through Brays Grove and Mark Hall	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_7	Walking / Cycling	Southern Way gap between Bishopsfield and Parnall Road.	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
WC_8	Walking / Cycling	Enhancements to Burnt Mill roundabout to provide enhanced cycle connectivity	£2,375,000	DC, Grant	£0	£500,000	£226,407	£1,648,593				Important	1,000-5,000	Site	4	ECC Highways
EY_1	Early Years	Bush Fair EYCC extension	£310,500	ECC / Operators / Developers	£0	£175,138	£135,362	£0				Required	< 1,000	District	5	ECC Education
EY_3	Early Years	Old Harlow EYCC extension	£6,635,886	ECC / Operators / Developers	£0	£3,742,986	£2,892,900	£0				Required	1,000-5,000	District	6	ECC Education
EY_4	Early Years	Sumners and Kingsmoor EYCC extension	£108,000	ECC / Operators / Developers	£0	£ 60,918	£47,082	£0				Required	< 1,000	District	5	ECC Education
EY_5	Early Years	Harlow Common EYCC extension	£13,500	ECC / Operators / Developers	£0	£ 7,615	£ 5,885	£0				Required	< 1,000	District	5	ECC Education
EY_8	Early Years	Church Langley EYCC extension	£27,000	ECC / Operators / Developers	£0	£ 15,229	£ 11,771	£0				Required	< 1,000	District	5	ECC Education
EY_9	Early Years	Little Parndon and Hare Street	£594,000	ECC / Operators / Developers	£0	£335,047	£258,953	£0				Required	< 1,000	District	5	ECC Education
EY_10	Early Years	Todd Brook	£513,000	ECC / Operators / Developers	£0	£289,359	£ 223,641	£0				Required	< 1,000	District	5	ECC Education
PS_1	Primary	1no. new build 2f.e. Primary School (inc EY&C) at Newhall 2/3	£9,200,000	DC	£0	£47,649	£8,247,011	£ 905,340				Required	1,000-5,000	District	6	ECC Education
PS_2	Primary	1no. new build 2f.e. Primary School at Newhall 2/3 to support a combination of growth at Newhall 2/3, Strategic Site to East Harlow and wider Harlow	£8,400,000	Funded by DC pro rata to additional demand generated by new devt then residual funded by ECC	£0	£125,725	£5,885,508.54	£2,388,767				Required	1,000-5,000	District	6	ECC Education
PS_4	Primary	2.6f.e. expansion existing primary schools yet to be defined	£7,500,000	DC	£0	£101,328	£5,473,449.52	£1,925,223				Required	1,000-5,000	District	6	ECC Education
PS_5	Primary	1no. new build 3f.e. Primary School for East of Harlow (3ha)	£12,500,000	DC	£0	£130,077	£9,898,459.53	£2,471,463				Required	1,000-5,000	District	6	ECC Education
SS_1	Secondary	8 f.e. Sir Frederick Gibberd Academy	£22,200,000	ESFA	£22,200,000	£0	£0	£0				Required	5,000-10,000	District	7	ECC Education
AE_1	Sixth Form	Post 16 education provision to support future growth in Harlow	£3,900,000	ESFA	£0	£0	£0	£3,900,000				Required	5,000-10,000	District	7	ECC Education
HS_1	GPs	6.3 new GPs and 1,040 sq. m provided at extended GPs surgeries in Harlow	£2,080,000	GMS/ PMS	£0	£171,997	£360,026	£1,547,976				Required	5,000-10,000	District	7	Atkins estimate based on various sources inc ECC consult
HS_2	Pharmacies	2 x new pharmacies in Harlow	£2,000,000	Private sector	£2,000,000	£0	£0	£0				Required	1,000-5,000	District	6	As above
HS_3	Hospital	3,763 sq. m 23.5 new beds at the relocated Princess Alexandra Hospital	£12,563,001	NHS	£12,563,001	£0	£0	£0				Required	>10,000	Strategic	9	As above
HS_4	Mental Health	4.8 new beds and 408 sq. m of mental health provision	£1,362,132	NHS	£1,362,132	£0	£0	£0				Required	1,000-5,000	District	6	As above
HS_5	Adult Social Care	1 x Nursing Home (Harlow's proportion of a home covering the wider Harlow area)	£3,000,000	ECC / NHS / Developers / Operators	£0	£620,183	£ 519,269	£1,860,548				Required	1,000-5,000	District	6	As above

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
HS_6	Adult Social Care	1 x Residential Home	£5,500,000	ECC / NHS / Developers / Operators	£0	£1,137,002	£ 951,993	£3,411,005				Required	1,000-5,000	District	6	As above
HS_7	Adult Social Care	1 x Extra-care Home	£5,500,000	ECC / NHS / Developers / Operators	£0	£1,137,002	£951,993	£3,411,005				Required	1,000-5,000	District	6	As above
CF_2	Youth Facilities	1 x Youth Facility	£700,000	DC / LPA	£0	£0	£123,448	£576,552				Important	1,000-5,000	District	5	ECC Developer Guide
CF_3	Village Halls	750 sq. m of new community space	£1,600,000	DC / LPA	£0	£0	£282,166	£1,317,834				Important	1,000-5,000	District	5	ECC Developer Guide
CF_4	Sports facilities	Harlow Leisure Centre (Site TBC) New affordable community leisure centre comprising	£9,270,000	DC / LPA	£0	£0	£1,604,541	£7,665,459				Important	1,000-5,000	District	5	2017 Harlow Sports Facilities Assessment Study
CF_5	Sports facilities	New secondary school (site TBC) 4 court sports hall	£2,220,000	DC / LPA	£0	£0	£ 384,259	£1,835,741				Important	1,000-5,000	District	5	As above
CF_6	Sports facilities	Dedicated gymnastics centre (Site TBC)	£2,220,000	DC / LPA	£0	£0	£384,259	£ 1,835,741				Important	1,000-5,000	District	5	As above
CF_7	Sports facilities	Athletics – measured routes (Sites TBC)	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_8	Sports facilities	Mark Hall Sports Centre 3G pitch in centre of track	TBC	DC / LPA	£0	£0	£121,163	£ 578,837				Important	1,000-5,000	District	5	As above
CF_9	Sports facilities	Indoor bowls centre (Site TBC) specialist indoor 6-rink bowls centre	TBC	DC / LPA	£0	£0	£360,026	£1,719,974				Important	1,000-5,000	District	5	As above
CF_10	Sports facilities	Town Park pitch and putt and footgolf	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_11	Sports facilities	Traffic free walking and cycling routes	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_12	Sports facilities	Mark Hall Sports Centre Athletics track improvements	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_13	Sports facilities	Burnt Mill Academy improvements to pool and ancillary facilities	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_14	Sports facilities	Stewards Academy improvements to pool and ancillary facilities	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_15	Sports facilities	Harlow Lawn Tennis Club improvements to pool and ancillary facilities	TBC	DC / LPA	£0	£0	£0	£0				Important	1,000-5,000	District	5	As above
CF_16	Child play space	3.6 ha LEAP	£4,140,000	DC / LPA	£0	£0	£ 716,591	£3,423,409				Important	1,000-5,000	District	5	ECC Developer Guide & Sports England
CF_17	Child play space	4.8 ha NEAP	£3,120,000	DC / LPA	£0	£0	£540,040	£2,579,960				Important	1,000-5,000	District	5	ECC Developer Guide & Sports England
GI_1	Natural / semi-nat green	30 ha natural space but no cost as assumed provided in kind	£0	DC	£0	£0	£0	£0				Important	5,000-10,000	District	6	Harlow Open Space & Green Infra Study 2013
GI_2	Parks and gardens	27 ha parks and gardens	£1,738,800	DC	£0	£0	£300,968	£1,437,832				Important	5,000-10,000	District	6	As above
GI_3	Amenity Greenspace	24 ha of amenity greenspace but no cost estimated as assumed provided in kind	£0	DC	£0	£0	£0	£0				Important	5,000-10,000	District	6	As above
GI_4	Allotment	3 ha allotments	£411,000	DC	£0	£0	£71,140	£339,860				Important	5,000-10,000	District	6	As above

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
GI_5	Burial Space	1.32 ha burial space	£0	DC	£0	£0	£0	£0				Important	5,000-10,000	District	6	As above
W_1	Water	Network reinforcement works to provide potable water	£6,750,000	Utility Provider	£0	£5,581,645	£1,168,355	£0				Essential	>10,000	District	9	Provider consultation, investment plans, GIF
W_2	Waste water	Network reinforcement works at Rye Mead STW for waste water and sewerage	£6,750,000	Utility Provider	£0	£5,581,645	£1,168,355	£0				Essential	>10,000	District	9	As above
EL_1	Electricity	New Harlow 33/11kV Primary sub-station	£900,000	DC/Utility Provider	£0	£744,219	£155,781	£0				Essential	5,000-10,000	Site	7	As above
EL_2	Electricity	South Harlow 33/11kV Primary sub-station & 11kV interconnection	£1,100,000	DC/Utility Provider	£0	£ 909,601	£190,399	£0				Essential	5,000-10,000	Site	7	As above
EL_3	Electricity	Rye House/Harlow West 132kV Tower Line	£5,400,000	DC/Utility Provider	£0	£4,465,316	£934,684	£0				Essential	5,000-10,000	Site	7	As above
EL_4	Electricity	Replacement of 33kv switchgear at Harlow West substation	£1,400,000	DC/Utility Provider	£0	£1,157,675	£ 242,325	£0				Essential	5,000-10,000	Site	7	As above
TC_1	Telecoms	Telecommunications network reinforcements	£2,500,000	DC/Utility Provider	£0	£2,067,276	£ 432,724	£0				Important	5,000-10,000	Site	5	As above
FL_1	Flood protection	Variety incl West Passmores, Kingsmoor SUDS, Brays Grove & Sumner Area	£12,000,000	DC/ EA	£9,000,000	£341,482	£ 2,077,075	£581,443				Essential	>10,000	District	9	As above

Source: Atkins (2017)

Appendix B. Outside Harlow Infrastructure Schedule

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
H_18	Highways	M11 new junction 7a	£75,000,000	DC, RIS2	£75,000,000	£0	TBC	£0				Essential	>10,000	Strategic	10	ECC Highways Consultation
H_19	Highways	M11 Junction 7 improvements	£29,000,000	DC, RIS2/3	£0	£21,750,000	TBC	£7,250,000				Essential	>10,000	Strategic	10	ECC Highways Consultation
H_20	Highways	Second River Stort Crossing and highway link	£67,500,000	DC, Grant	£0	£50,625,000	TBC	£16,875,000				Essential	>10,000	District	9	ECC Highways Consultation
H_21	Highways	Princess Alex Hosp relocation highways works	TBC	DC, Grant	TBC	£0	TBC	£0				Essential	1,000-5,000	District	7	ECC Highways Consultation
H_23	Highways	Southern Way/Katherines Way Works to address growth in SW Harlow	£3,000,000	DC	£0	£2,250,000	TBC	£750,000				Essential	1,000-5,000	District	7	ECC Highways Consultation
H_24	Highways	Harlow Northern Bypass (route to be defined)	£250,000,000	DC, Grant	£0	£187,500,000	TBC	£62,500,000	Likely to be after 2033			TBC	5,000-10,000	District	6	ECC Highways Consultation
H_25	Highways	Replace the straight crossing on Gilden Way (W) arm of the junction at Loading Point 4 with a staggered pedestrian crossing	£1,000,000	DC, Grant	£0	£750,000	TBC	£250,000				Essential	< 1,000	Site	5	Jacobs Technical Note 5: (Sept 2016)
H_26	Highways	Provision of a left turn slip road from M11 Junction 7a link road approach to the East Harlow northern access road (Loading Point 3)	£1,000,000	DC, Grant	£0	£750,000	TBC	£250,000				Essential	< 1,000	Site	5	Jacobs Technical Note 5: (Sept 2016)
H_27	Highways	Widening of central crossing over River Stort Eastwick to Burnt Mill Rdbt	£4,880,000	DC	£0	£3,660,000	TBC	1,220,000				Essential	1,000-5,000	Site	6	East Herts IDP
H_28	Highways	Amwell roundabout	£1,281,000	DC	£0	£960,750	TBC	£320,250				Essential	1,000-5,000	Site	6	East Herts IDP
H_29	Highways	Improved access to Harlow Town Station	£610,000	DC	£0	£457,500	TBC	£152,500				Essential	< 1,000	Site	5	East Herts IDP
WC_9	Walking / Cycling	Pedestrian Cycle improvements in Gilston Garden Town development	£366,000	DC	£0	£0	TBC	£366,000				Essential	< 1,000	Site	5	East Herts IDP
B_7	Buses	New busway service	£8,500,000	DC, Grant	£0	£1,105,000	TBC	£ 7,395,000				Required	1,000-5,000	Site	5	ECC Highways Consultation
R_1	Rail	Four tracking of the West Anglia Main Line Broxbourne to Coppermill Jct	£72,000,000	Operators/Grant	£0	£9,360,000	TBC	£62,640,000				Important	>10,000	Strategic	8	ECC Highways Consultation
R_2	Rail	Crossrail 2 and potential extension of the route from Broxbourne to Harlow	£0	Operators/Grant	£0	£0	TBC	£0				Required	>10,000	District	8	ECC Highways Consultation
R_3	Rail	Investment for station upgrades with a focus on Broxbourne, Cambridge, Cheshunt, Harlow Town and Southend Victoria stations.	£60,000,000	Operators/Grant	£0	£7,800,000	TBC	£52,200,000				Required	>10,000	District	8	ECC Highways Consultation
EY_11	Early Years	Gilston Park	£5,209,836	ECC / Operators / Developers	£0	£5,209,836	TBC	£0				Required	1,000-5,000	District	6	East Herts IDP
EY_12	Early Years	East of Harlow minus East of Newhall	£1,273,938	ECC / Operators / Developers	£0	£1,273,938	TBC	£0				Required	< 1,000	District	5	ECC Education
EY_13	Early Years	Latton Priory	£1,787,316	ECC / Operators / Developers	£0	£1,787,316	TBC	£0				Required	< 1,000	District	5	ECC Education
EY_14	Early Years	West of Katherines	£1,882,386	ECC / Operators / Developers	£0	£1,882,386	TBC	£0				Required	< 1,000	District	5	East Herts IDP
EY_15	Early Years	West of Sumners	£1,711,260	ECC / Operators / Developers	£0	£1,711,260	TBC	£0				Required	< 1,000	District	5	ECC Education
PS_6	Primary	2no. new build totalling 4.5f.e. Primary School at Gilston Park Estate	£18,800,000	DC	£0	£940,000	TBC	£17,860,000				Required	1,000-5,000	District	6	East Herts IDP
PS_8	Primary	1no. new build 2 f.e. Primary School	£8,400,000	DC	£0	£420,000	TBC	£7,980,000				Required	1,000-5,000	District	6	ECC Education

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
		for Latton Priory														
PS_10	Primary	1no. new build 2 f.e. Primary School on West Katherine site	£6,300,000	DC	£0	£315,000	TBC	£5,985,000				Required	1,000-5,000	District	6	ECC Education
SS_2	Secondary	New 4 f.e. Sec Sch at TBC location in East Herts to support Gilston devt	£11,100,000	DC	£0	£555,000	TBC	£10,545,000				Required	1,000-5,000	District	6	East Herts IDP
SS_3	Secondary	New 8 f.e. Secondary School in EFDC to support East of Harlow development	£22,200,000	DC	£0	£1,110,000	TBC	£21,090,000				Required	1,000-5,000	District	6	ECC Education
SS_4	Secondary	New 4 f.e. Secondary School in EFDC to support Latton Priory development	£11,100,000	DC	£0	£ 555,000	TBC	£10,545,000				Required	1,000-5,000	District	6	ECC Education
HS_8	GPs	Extend GP provision for Gilston Park Estate	£800,000	GMS/ PMS	£0	£80,000		£720,000				Required	1,000-5,000	District	6	Atkins estimate based on various sources inc ECC consult
HS_9	GPs	Extend GP provision for East Harlow (minus Newhall)	£200,000	GMS/ PMS	£0	£20,000	TBC	£180,000				Required	1,000-5,000	District	6	As above
HS_10	GPs	Extend GP provision for Latton Priory	£300,000	GMS/ PMS	£0	£30,000	TBC	£270,000				Required	1,000-5,000	District	6	As above
HS_11	GPs	Extend GP provision for West of Katherines	£300,000	GMS/ PMS	£0	£30,000	TBC	£270,000				Required	1,000-5,000	District	6	As above
HS_12	GPs	Extend GP provision for West of Sumners	£200,000	GMS/ PMS	£0	£20,000	TBC	£180,000				Required	1,000-5,000	District	6	As above
HS_13	Dentists	150 sq. m of dentist space	£300,000	Private Sector	£300,000	£0	TBC	£0				Required	1,000-5,000	District	6	As above
HS_14	Pharmacies	2 x new pharmacies to meet needs of Harlow fringe growth	£2,000,000	NHS	£2,000,000	£0	TBC	£0				Required	5,000-10,000	District	7	As above
HS_15	Hospital	3,134 sq. m 19.6 new beds at the relocated Princess Alexandra Hospital	£10,500,000	NHS	£10,500,000	£0	TBC	£0				Required	>10,000	Strategic	9	As above
HS_16	Mental Health	4.0 new beds and 340 sq. m of mental health provision	£1,100,000	ECC / NHS / Developers / Operators	£0	£110,000	TBC	£990,000				Required	5,000-10,000	District	7	As above
HS_17	Adult Social Care	1 x Nursing Home (Outside Harlow's proportion of a home covering the wider Harlow area)	£2,500,000	ECC / NHS / Developers / Operators	£0	£625,000	TBC	£1,875,000				Required	5,000-10,000	District	7	As above
HS_18	Adult Social Care	1 x Residential Home	£5,500,000	ECC / NHS / Developers / Operators	£0	£1,375,000	TBC	£4,125,000				Required	5,000-10,000	District	7	As above
HS_19	Adult Social Care	1 x Extra-care Home	£5,500,000	ECC / NHS / Developers / Operators	£0	£1,375,000	TBC	£4,125,000				Required	5,000-10,000	District	7	As above
CF_18	Library	300 sq. m of additional library space	£515,232	DC / LPA	£0	£0	TBC	£426,335				Important	5,000-10,000	District	6	ECC Developer Guide
CF_19	Youth Facilities	1 additional youth facility	£700,000	DC / LPA	£0	£0	TBC	£579,223				Important	5,000-10,000	District	6	ECC Developer Guide
CF_20	Village Halls	Community space to meet development needs including 1,290 sq m to support Epping Forest (East, South and West of Harlow) and Gilston	£3,400,000	DC / LPA	£0	£0		£3,400,000				Important	5,000-10,000	District	6	ECC Developer Guide
CF_21	Sports facilities	The Gilston Area Leisure Centre affordable community leisure centre	£9,270,000	DC / LPA	£0	£0	TBC	£9,270,000				Important	5,000-10,000	District	6	2017 Harlow Sports Facilities Study
CF_22	Sports facilities	Gilston Area tennis site tbc 3 floodlit hard courts	£610,000	DC / LPA	£0	£0	TBC	£610,000				Important	5,000-10,000	District	6	As above
CF_23	Sports	Epping Forest (Site tbc) Archery	TBC	DC / LPA	£0	£0		TBC				Important	5,000-10,000	District	6	

Id	Sub category	Infrastructure Project/Intervention	Est Cost	Funding Source	Committed Funding	Expected Funding	Est. Developer Contribution	Funding Gap Expected & DC	2018-23	2023-28	2028-33	Priority	Approx. units unlocked/ provided for	Scale	Score	Source
	facilities	centre					TBC									As above
CF_24	Child play space	EFDC child play space	£280,424	DC / LPA	£0	£0	TBC	£280,424				Important	5,000-10,000	District	6	Epping Forest IDP
GI_6	Green Infrastructure	East Herts Green Space	£14,300,000	DC	£0	£0	TBC	£14,300,000				Important	5,000-10,000	District	6	East Herts IDP
GI_7	Public Parks	EFDC parks 1.4ha East, 1.97ha South and 3.88ha West	£1,900,000	DC	£0	£0	TBC	£1,900,000				Important	5,000-10,000	District	6	EFDC IDP
GI_8	Amenity Greenspace	EFDC amenity greenspace 1.05ha East, 1.48ha South and 2.91ha West	£800,000	DC	£0	£0	TBC	£800,000				Important	5,000-10,000	District	6	As above
GI_9	Young people playspace	EFDC playspace 0.44ha East, 0.62ha South and 1.21ha West	£500,000	DC	£0	£0	TBC	£500,000				Important	5,000-10,000	District	6	As above
GI_10	Allotments	EFDC allotments 0.35ha East, 0.49ha South and 0.97ha West	£40,000	DC	£0	£0	TBC	£40,000				Important	5,000-10,000	District	6	As above
W_3	Water	Water infrastructure to enable growth	£5,337,500	DC	£0	£5,337,500	TBC	£0				Essential	5,000-10,000	Site	7	East Herts IDP
W_4	Water	Water infrastructure to enable growth	£0	DC/Utility Provider	£0	£0	TBC	£0				Essential	5,000-10,000	Site	7	Epping Forest IDP
W_5	Waste water	Waste water and sewerage infrastructure to enable growth E Herts	£0	DC	£0	£5,337,500	TBC	£0				Essential	5,000-10,000	Site	7	East Herts IDP
W_6	Waste water	Waste water and sewerage infrastructure to enable growth EFDC	£0	DC/Utility Provider	£0	£0	TBC	£0				Essential	5,000-10,000	Site	7	Epping Forest IDP
EL_5	Electricity	Electricity infrastructure to enable growth	£0	DC	£0	£8,845,000	TBC	£0				Essential	5,000-10,000	Site	7	East Herts IDP
EL_6	Electricity	Electricity infrastructure to enable growth	£0	DC/Utility Provider	£0	£0	TBC	£0				Essential	5,000-10,000	Site	7	Epping Forest IDP
G_1	Gas	Gas infrastructure to enable growth in East Herts	£0	DC	£0	£4,880,000	TBC	£0				Essential	5,000-10,000	Site	7	East Herts IDP
TC_2	Telecoms	Telecoms infrastructure to enable growth in East Herts	£0	DC	£0	£2,287,500	TBC	£0				Essential	5,000-10,000	Site	7	East Herts IDP
WM_1	Waste Management	Waste Management infrastructure to enable growth	£0	DC	£0	£762,500	TBC	£0				Essential	5,000-10,000	Site	7	East Herts IDP
FL_2	Flood protection	Flood protection infrastructure to enable growth	£0	DC/ EA	£0	£0	TBC	£0				Essential	5,000-10,000	Site	7	Epping Forest IDP

Appendix C. Stakeholders Consulted

The following organisations were contacted and their views were sought to feed into the study:

- Active Essex
- Affinity Water
- Arriva
- Cadent (Gas)
- Clinical Care Group
- Crime Prevention Tactical Advisor
- East Hertfordshire Council
- ECC Broadband
- ECC Early Years
- ECC Education
- ECC Flooding/Water
- ECC Spatial Planning
- ECC SuDs/ ECC Transport-Planning-Dev't
- ECC Transport
- ECC Transport Modelling
- Essex Fire Service
- Epping Forest Council
- HCC Transport
- Hertfordshire County Council
- Highways England
- Network Rail
- Princess Alexandra Hospital
- Savills on behalf of Thames Water
- South East Partnership Trust and independent providers
- Sport England
- Thames Water
- UK Power Networks

Appendix D. Infrastructure Provider Questionnaire

1. Introduction

Infrastructure consultancy Atkins have been commissioned by Harlow Council to produce an infrastructure and Viability Delivery Study (DS) for Harlow. The DS will be an evidence base study to inform the funding, phasing and delivery of infrastructure which is critical to the successful implementation of the emerging Harlow Local Plan 2011-2033. The DS involves identifying the infrastructure that is necessary to enable growth of approximately 16,000 new dwellings by 2033 in and around Harlow and significant employment growth. The contribution of infrastructure providers is critical to the process.

2. Purpose and Structure of the Document

This document sets out information on future growth in and around Harlow and current infrastructure provision. It then asks a series of questions on future infrastructure need for providers to respond to.

3. Structure of the Information Pack

Please find below at **Table 5-1 and 5-2** information on planned housing growth in and around Harlow during the planning period. We would like to you to assess this information and then quantify the infrastructure required to enable this growth. We summarise these requests in a series of questions below. Responding to these specific questions will help to inform our understanding of infrastructure needs necessary to enable future growth in Harlow.

Please complete the following questionnaire and send back to George Whalley (George.Whalley@atkinsglobal.com) by **11th August 2017.**

If you have any queries you can contact George Whalley on 01454 662360 or 0781 2237440

4. Questionnaire:

4.1. **Existing Infrastructure Provision and Capacity:** Please could you inform us of the existing provision of your services particularly in relation to the following:

- Facilities
- Current capacity (include comment on any assumptions)
- Current usage

4.2. **Future Needs in Harlow:** Based on the growth proposed for Harlow as described in Table 5.1 please can you set out the infrastructure requirements required to enable this growth. If possible, please provide details on sites identified to accommodate this new provision. Also, please clarify how this future infrastructure provision relates to the following factors:

- Differentiate between needs arising from new housing growth and existing population growth (if applicable)
- Identify future needs that are expected to be met in existing facilities
- Outline any assumptions underpinning the future needs assessment.

4.3. **Cumulative Needs of wider Harlow Urban Area:** Based on the growth proposed in the wider Harlow urban area (inside and outside) as described in Table 5.1 and 5.2 (and total table 5.3), please can you set out the infrastructure requirements required outside Harlow's boundaries but related to the total cumulative growth of the Harlow urban area (future development inside and outside Harlow).

4.4. **Costs:** What are the estimated costs of the infrastructure provision identified at 4.2 and 4.3 above. Please set out any assumptions and provide as much detail as possible:

4.5. Funding: How do you envisage the projects identified at 4.2/4.3 above being funded i.e. developer contribution, existing funding streams and/or grant? Please provide as much information as possible.

4.6. Timeframe: What are the expected timeframes for delivery of the infrastructure projects identified at 4.2/4.3 Are there any major constraints to delivery of this infrastructure within the timescales identified?

4.7. Mapping: It would be much appreciated if you could provide GIS data layers of showing existing assets you own / operate in the area and future sites if available.

Appendix E. Stakeholder Workshop

Project:	Harlow Delivery Study - Infrastructure Delivery Plan (IDP)		
Subject:	Infrastructure Provider Workshop	Meeting Place:	Harlow Civic Centre
Date and time:	14 September 2017: 10.00- 13:00	Note by:	George Whalley

1. Introduction

An infrastructure provider workshop was held at Harlow Civic Centre on 14th September 2017. The aim was to get feedback and views from infrastructure providers on the infrastructure needs to support future housing and employment growth in and around Harlow. This information will provide valuable 'bottom up' intelligence to feed into the Harlow Delivery Study currently being produced by Atkins.

2. Attendees

The following people attended the workshop:

- Joseph Chroston-Bell - Network Rail
- Magdalena Kedzia - Thames Water
- Chris Colloff - Savills (Thames Water)
- Georgina King - Princess Alexandra Hospital
- Ross Brazier - Crime Prevention Tactical Advisor
- Michael Armstrong - Crime Prevention Tactical Advisor
- David Sprunt – ECC Transport
- Matt Bradley - ECC Transport-Planning-Dev
- Claire Morris - Health and Wellbeing at Anglia Ruskin
- Matt Lane - ECC Transport-Planning-Dev
- Tai Tsui - Epping Forest DC
- Rich Cooke - ECC Infrastructure
- Roger Flowerday - HCC Transport
- Paul Jarvis - Garden Town
- Jolene Truman - NHS West Essex CCG
- Julie Houston - Harlow Council Regeneration
- Vicky Forgione – Harlow Council Planning
- Paul MacBride - Harlow Council Planning
- Wendy Hague _Harlow Council Planning
- George Whalley – Atkins
- Mhairi Grossett - Atkins

3. Workshop Objectives

The key objectives of the workshop were as follows:

- Describe and get feedback on IDP process, objectives and assumptions
- Request information from stakeholders on infrastructure requirements
- Discuss critical dependencies, site specific and cross boundary issues and any delivery issues
- Identify 'show stoppers', key site/area specific risks and delivery issues
- Agree actions/timeframe for providing further information
- Create a foundation for further positive ongoing infrastructure provider engagement with the Harlow growth process.

4. Workshop discussion – Key Points Raised

Following study introduction and update presentations from Harlow Council and Atkins the group was split into three workshops with an even spread of infrastructure providers in each group. The following key points were raised:

a. Vision:

- In defining infrastructure needs it is necessary for providers to understand the overall 'vision' for the Harlow and Gilston Garden Town, not just simply overall housing or employment numbers. For example, is the vision to be significantly more sustainable? If so, then the transport needs are not likely to be focussed on providing lots of new road capacity, rather reducing demand and therefore need for hard infrastructure.
- Ensure priorities with the IDP align with wider Harlow Urban Area (HUA) and Garden Town agenda/ vision. However, the ability to do so is compromised by the differences in agreed deadlines/milestones for each work stream.
- Place-making – what kind of lifestyle is expected by newcomers/ existing residents? How should we retain investment within Harlow?
- Working towards 45% modal split of sustainable transport options- this has been set for Harlow East. Sustainability requirements for housing to come forward.
- Digital/ Smart City – need for aspirational, long-term thinking to feed into definition of infrastructure needs.
- Underlying assumptions regarding water neutrality and possibly air quality need to be agreed across a wider area to assist master planning especially on joint sites (<https://www.gov.uk/government/news/plan-for-roadside-no2-concentrations-published>)
- Key risk: member perception of value of green space which may be poorly used or need large investment to rebuild

b. Cross-boundary collaboration:

- Need to ensure joined up modelling of education requirements across the Garden Town
- Ensure that cross-boundary infrastructure issues are shared and there isn't conflicting information in all IDPs
- Some respondents suggested a 'joint Garden Town IDP' would be a good idea. However, there are challenges of partnership working in the absence of a joint Local Plan at the beginning of the process.

c. Transport:

- Need for careful timing in delivery – issues around forward funding and ensuring behaviour change through early implementation of sustainable transport routes.
- Issues around sustainable transport options – Parking is readily available at employment sites, primarily located on the outskirts of the town. Little motivation to move towards cycling/walking/bus.
- Very good cycle paths in place but very low usage due to high percentage of car usage.
- Phasing/ Timing of the north-south and east-west sustainable transport corridors. East-west is easier and lower cost, but needs to coincide with large housing development timings. North-south indicative cost approx. £100million.

- Sustainable options should be in place before any highways upgrades are made to encourage shift to alternative modes.
- Rail not likely to see any significant changes in terms of increased capacity
- Likely to be demand for development around Harlow Town station. The land/plant near Harlow Mill Station is safeguarded in Essex County Council's Waste and Minerals Plan.
- Upgrading of trains is likely to happen across Greater Anglia rail which should increase capacity by 2019/2020.
- Potential unknown impact of Crossrail 2 to Broxbourne – may increase out commuters. Similarly, it is much cheaper to travel to London via Epping on the central line.
- The percentage modal shift varies across the local authorities: consistency would facilitate strategic planning and modelling.
- Essex County Council will be responding to the current consultation on the London Mayor's Transport Strategy and there is an opportunity for other local authorities to endorse a response
- Some clarification required on the number of crossing points across the River Stort (i.e. 2 or/3)

d. Utilities

- Thames Water awaiting results of modelling of need for upgrades to strategic east west sewer in Harlow.
- There is some potential for complications/major reinforcement works to strategic sewer as the River Stort causes a constraint to expanding capacity at the sewer.
- Capacity of waste water network served by Rye Meads WWTW to be determined; data analysis and modelling by Thames Water has been delayed since last autumn by lack of rainfall.
- Affinity Water absent but we mentioned the recent consultation re. the dWRMP and the Statement of need. Key challenges: leakage rates and high household consumption both very high relative to national rates; high dependence upon inter-regional transfers.

e. Princess Alexandra Hospital:

- Key worker housing – need for affordability
- Options to relocate to Gilston or to site near J7a – awaiting decision on preferred location (either Newhall or Gilston) – decision expected around Xmas 2017. Outline Business Case expected summer 2018.
- Energy centre on-site – potential supply to wider area.
- The NHS stated that they anticipate to construction on the new hospital site by 2025?

f. Economy:

- Need more emphasis on jobs, employment land – impact this will have on utilities
- Public Health England and Enterprise Zone = ~10,000 jobs over plan period. Significant change.
- Public Health England relocating from Wiltshire to GSK North site. National Science Hub and headquarters plus north London sites all to North site. Anticipated to start in 2021 and be fully functional by 2024.
- GSK North (3,340 additional employees over plan period) and South Sites. Distribution sites and subsequent issues with connectivity and pressure on transport routes to the M11 pressure on Second Ave and Southern Way)
- Regeneration of town centre (primarily retrofitting) has implications on wastewater – cannot introduce SUDS/ water recycling facilities which places more pressure on existing infrastructure. Potential issues surrounding waste water capacity.
- Key risks: relaxation of permitted development rights (office to residential)

g. Harlow and Gilston Garden Town:

- Growth can occur without northern bypass. Reduces sustainability if the bypass goes ahead. Though general acceptance there is likely to be a bypass in the future, however this should be driven by demand as opposed to be used to stimulate growth. £200-300million to build the extension bypass beyond what is already included in the Gilston plan (up to the second Stort crossing and junction 7a). This needs to be futureproofed to ensure it can be delivered if necessary in the future.
- Access needed to train station and sustainable corridors. Assumption that some will commute to London.
- Look at opportunities for Garden Town infrastructure – this is prime time

h. Emergency Services and Health:

- Investigate health hubs or service hubs for fire/police/ambulance
- Police buildings reducing across the county of Essex and may not work from such buildings in the future
- Police will come back to let authority know requirements and priorities based on the 16,000-dwelling number
- Ten autonomous surgeries in Harlow; relationship with CCG/PAH is better than before but sharing of information and data still needs to be enhanced. Boundaries for Surgeries could be re-aligned: surgery nearest to hospital operating above agreed capacity level.

i. Delivery, Prioritisation & funding:

- Priority of health facilities including primary care and the relocation of the hospital
- Priority of education facilities as well
- Opportunities for frontloading infrastructure by the local authority as a means of funding
- Possible options for a Development Corporation
- Use of 5-year time bands to align with other IPs would be helpful.
- Size of strategic sites below critical mass to underpin infrastructure delivery, especially to south and west

George Whalley
Atkins Ltd
george.whalley@atkinsglobal.com
01454 662360

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