

Local Plan Technical Report

2018/2019 Infrastructure Delivery Plan

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1. Introduction

- 1.1 The purpose of the Infrastructure Delivery Plan (IDP) is to provide a detailed understanding of the future infrastructure needs of the District to support planned growth up to 2036. The 2018/2019 Infrastructure Delivery Plan provides an update to the previous version of the IDP, which was published in 2016 and subsequently updated in 2017. The revised National Planning Policy Framework¹ (NPPF) requires the Council to plan for future infrastructure needs as part of the Local Plan preparation process. The IDP provides information on the position of current infrastructure, drawing together collaborative research to set out the existing issues and consider the additional provision required to support the growth set out in the Local Plan (LP).
- 1.2 The IDP draws together collaborative research and modelling, in cooperation with a wide range of service providers including Hertfordshire County Council (HCC) and District Council services, along with public / private infrastructure providers outside of local government. The IDP focuses on the key infrastructure needs derived from plans and strategies of each of these bodies, as well as estimates based on proposed growth levels. On-going dialogue with infrastructure providers is essential to plan for infrastructure needs. This relationship is reciprocal and the IDP, alongside the Local Plan, informs the business plans and strategies of service providers and partners in turn.
- 1.3 The IDP supports the LP and the Infrastructure Delivery Schedule (IDS) Update, which can be seen in Annex 1 of this report. The IDP provides an evidence base for the LP and IDS, detailing the infrastructure required to support the policies and commitments in the Local Plan. This forms the foundation from which further detailed infrastructure planning can be undertaken through site specific master planning exercises.
- 1.4 The IDP is not a policy document and information contained within it does not override or supersede the objectives and policies contained within the Local Plan. The IDP provides a robust basis on which the Council will seek to influence public, private and agency funding and priorities and investment programmes. The IDP also serves as the basis for establishing the St Albans Community Infrastructure Levy (CIL), which will be used to help fund the infrastructure needed to support the Local Plan.
- 1.5 The IDP acknowledges the role of Town and Parish Councils in the delivery of infrastructure. Town and Parish Councils play an increasingly important role in infrastructure provision at the neighbourhood level. Over recent years there has been a devolvement of local assets and responsibilities to the local level, consistent with national priorities. It is likely that future iterations of the IDP will cover the role of Town and Parish Councils in greater detail as their involvement increases, particularly in line with the development of the CIL charging schedule.

- 1.6 The IDP is a living document and progress against delivery will be reported annually in the Authority's Monitoring Report. The IDP is intended to be updated on a regular basis to reflect reviews of the Local Plan. Infrastructure requirements are likely to evolve over the Plan period, as a result of public sector policies and priorities, technological developments and the impacts of planned growth as it occurs. Subsequent versions will also take account of any further updates to the various plans and strategies of service providers. One particular area that will be developed and further explained as the IDP evolves is scheme definition / design and costings; particularly of key items of public, non-commercial, provider infrastructure. This is a topic currently being explored through early collaborative master planning work with landowner / developer interests on the Broad Locations. The IDP evidences this through illustrative background material incorporated in the appendices.

2. Policy Background

2.1 Local infrastructure provision is a key element of making development sustainable, as outlined in the revised National Planning Policy Framework¹ (NPPF). The Local Plan will play a key role in identifying and coordinating the level of infrastructure and services in the District, to ensure that it meets current and future demands.

2.2 The 'Plan-making' chapter of the Revised NPPF states that Local Planning Authorities (LPAs) must work with other authorities, infrastructure providers and operators. In particular, Paragraph 16c of the Revised NPPF sets out that the preparation of Local Plans should:

c) be shaped by early, proportionate and effective engagement between plan-makers and communities, local organisations, businesses, infrastructure providers and operators and statutory consultees

2.3 Paragraph 20 of the Revised NPPF states that in preparing the evidence base and strategic policies for a Local Plan, LPAs are required to make sufficient provision (in line with the presumption in favour of sustainable development) for:

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

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

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

2.4 In order to achieve this, LPAs are required to assess the quality and capacity of infrastructure in their areas and its ability to meet forecast demands. However, this should not be a 'wish list' of infrastructure provision that does not have a reasonable chance of being delivered. The infrastructure planning process needs to identify not only the infrastructure that is required but also take account of the likely cost of delivery, potential funding gaps, the phasing of delivery, funding sources, and who is responsible for delivery.

Planning Obligations / Community Infrastructure Levy

- 2.5 Under the 2008 Planning Act, the Government introduced the Community Infrastructure Levy (CIL). The aim of CIL is to encourage development to contribute to the provision of strategic and local infrastructure. Section 106 (S106) contributions provide only a partial and variable response to funding infrastructure. It is intended that CIL will operate alongside S106 obligations.
- 2.6 Currently, St Albans City & District Council (SADC) seeks various contributions in respect of large scale development. The contributions normally sought on new developments are payable to SADC and Hertfordshire County Council (HCC). Contributions sought by HCC are set out in the Hertfordshire Planning Obligations Toolkit^A (see Source A for further information).
- 2.7 Local Plan Policy L17 – Infrastructure sets out how both CIL and planning obligations (S106) will be used to mitigate the impacts of development and provide necessary infrastructure. Policy L17 states that direct provision of, and financial contributions to infrastructure will be secured and phased through a combination of planning obligations (S106) and use of the Community Infrastructure Levy (CIL).
- 2.8 In due course, the District Council will be preparing a CIL charging schedule. Several studies have been commissioned by the Council to form an evidence base to support the future preparation of a CIL charging schedule. In 2012, SADC commissioned a Stage 1 CIL Economic Viability Study² to examine and support the preparation of a CIL charging schedule. Subsequently, the District Council published a CIL preliminary draft charging schedule for informal consultation³ in 2014. As part of the evidence base for the new Local Plan, SADC commissioned a draft CIL and Emerging Local Plan Viability Study⁴ in 2017. The report tests the ability of different types of development in different geographical areas of the District to accommodate a CIL charge. The results of the study's analysis indicate a degree of variation in viability of development in terms of different uses. It is anticipated that viability testing of specific strategic sites (including the Broad Locations) will follow as a subsequent piece of work.
- 2.9 It is intended that the Council will introduce CIL following the new Local Plan. The IDP will be a key part of the evidence towards developing a CIL charging schedule. It will help determine the level and costs of infrastructure required to support development in the District.

3. Methodology

3.1 There is no formal guidance about how infrastructure planning should be undertaken as part of the Local Plan process. However, Planning Practice Guidance (PPG) issued by National Government on 'Plan-making' states that early discussion with infrastructure providers and service delivery organisations is particularly important to help understand their investment plans and critical dependencies⁵. As set out in Paragraph 55 of the PPG on 'Plan-making', Local Plans should identify what infrastructure is required and how it can be funded and brought forward. LPAs are required to

- *assess the quality and capacity of infrastructure, and its ability to meet forecast demands. Where deficiencies are identified, policies should set out how those deficiencies will be addressed; and*
- *take account of the need for strategic infrastructure, including nationally significant infrastructure, within their areas.*

3.2 In 2009, the Planning Advisory Service (PAS) published "A steps approach to infrastructure planning and delivery" to support local authorities and their partners⁶. This document sets out an approach to infrastructure planning that emphasises service provider involvement and looks to ensure an adequate level of infrastructure delivery. The document suggests a method and a series of suggested activities as appropriate to local circumstances and is not a set procedure.

3.3 The PPG and PAS guidance was used as the basis of the methodology for the IDP. The following process was adopted:

- Local Plan context: A review of the priorities, policies and growth strategy of the LP were undertaken. This set the basis on which the IDP was formulated.
- Review of infrastructure plans and strategies: This involved an analysis of the plans and strategy documents from infrastructure service providers in the District. A thorough review was undertaken of information provided directly by providers, and of documentation and business plans available on partner's websites.
- Provider engagement: Infrastructure providers were engaged to establish existing infrastructure capacity, as well as future requirements to accommodate the level of growth being proposed. Engagement was primarily in the form of meetings, emails and telephone conversations. Details of the planned growth strategy were provided. Providers were also asked how future provision is likely to be planned, delivered and what standards are used to

assess future needs. Relevant reference documents were identified.

- Consultation responses: The Infrastructure Delivery Schedule (IDS) was compiled as a concise overview of the infrastructure requirements for the Broad Locations. Infrastructure providers were invited to comment on the draft LP and IDS as part of the Regulation 19 consultation. The IDS Update is included in Annex 1 of the IDP.
- Drafting and review: The information provided in the IDP was detailed using consultation responses and additional evidence received from infrastructure providers. Draft chapters of the IDP were sent to relevant infrastructure providers for comment and appropriate amendments were made on the basis of feedback received.

3.4 It is important to note that although the IDP seeks to identify the key infrastructure items which are required to meet existing needs and deficiencies as well as accommodate the growth set out in the Local Plan, it does not capture every project being planned by each service provider. The IDP recognises that many plans and strategies exist for individual aspects of infrastructure and that they provide more detail on the delivery of specific services.

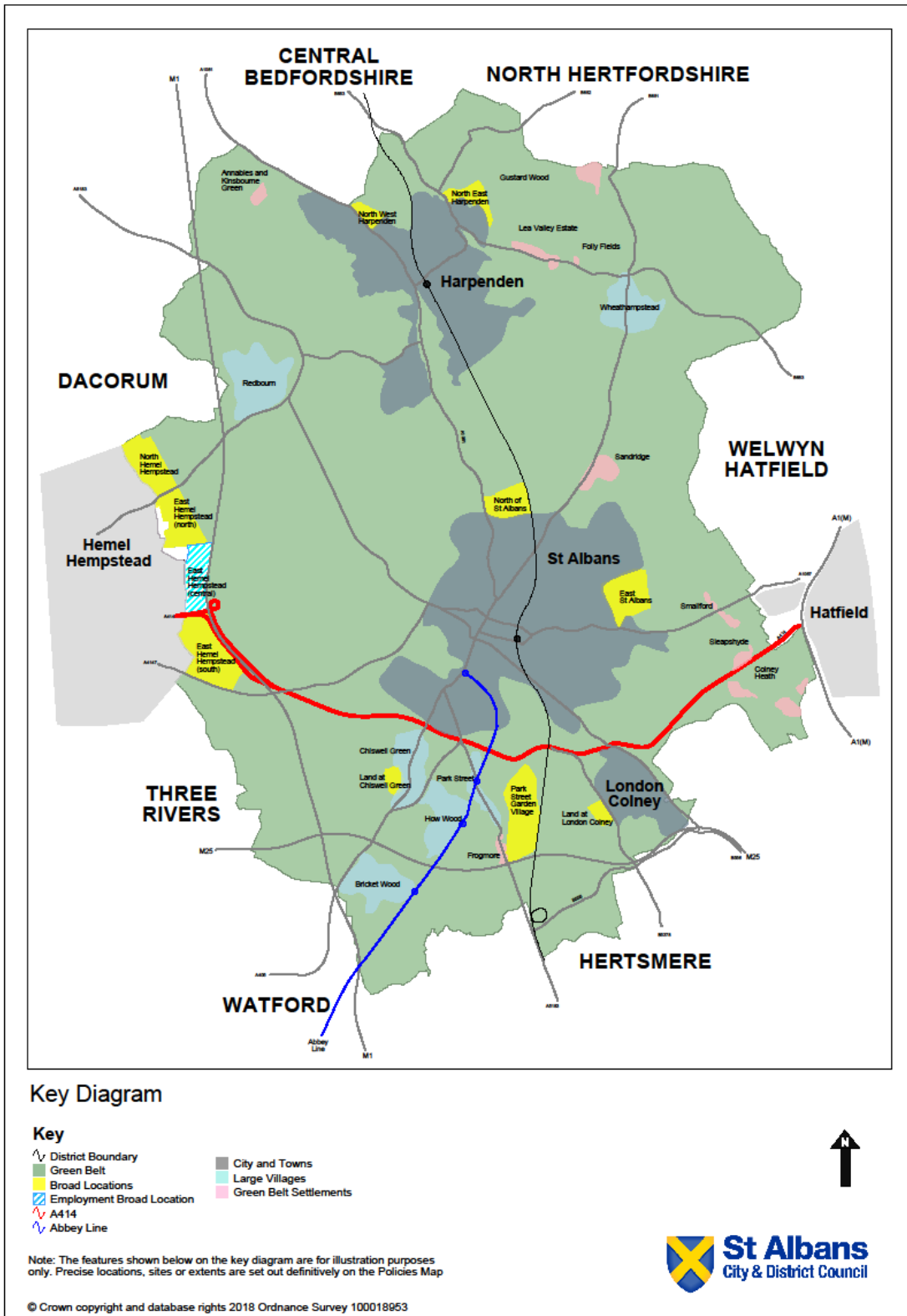
4. Limitations

- 4.1 A number of infrastructure service providers plan using shorter time frames than that used in the LP, such as on a 3 to 5 year cycle. Others, such as some of the utility providers, tend to adopt a reactive approach to growth, preferring to respond to specific, detailed proposals at the planning application stage. This has obvious limitations in terms of planning ahead within the Local Plan timeframe of 2036.
- 4.2 Emphasis has therefore been on ensuring a detailed understanding of infrastructure requirements for early phases of plan delivery and the further work needed to inform requirements for later phases. In addition, the IDP has a role in encouraging and facilitating longer term planning, sometimes through joint studies and master planning work with landowners / developers and infrastructure providers. This is in line with the PPG as stated previously. Future updates of the IDP will be needed to inform the requirements for later phases. The IDP is intended to be updated on an as necessary / regular basis to respond to changes in circumstances and understanding.

5. St Albans in Context

- 5.1 Population growth, socio-economic profile and the economy are important factors which shape the approach to infrastructure planning. It is recognised that these factors can change over time. Further contextual information can be found in the annual Authority's Monitoring Report^B (AMR) (see Source B for further information).

Figure 1: St Albans City & District – Key Diagram



6. Strategy for Growth

- 6.1 In accordance with the NPPF, the Council has made an objective assessment of development needs locally to inform appropriate LP growth targets.
- 6.2 Local Plan Policy S1 sets a Spatial Strategy that determines the general distribution of development. Under this Strategy, the larger urban settlements of St Albans, Harpenden, London Colney and Hemel Hempstead (currently within Dacorum Borough, but expansion into District planned) will be the main foci for new development. This is because they provide access to a greater range of services, facilities, employment opportunities, as well as greater transport options including public transport, walking and cycling.
- 6.3 Eleven Broad Locations for green-field Green Belt development have been identified in the Local Plan Development Strategy (Policy S2), for large scale development with associated infrastructure. The Broad Locations are set out in Table 1 below. Policy S6 provides details of the developments proposed. The revised Green Belt boundaries and further detailed site development requirements are set out in the LP and its Policies map.

Table 1: Broad Locations for Development (Policy S6)

Broad Location	Minimum Capacity	General uses
S6 i) – East Hemel Hempstead (North)	1,650 dwellings	Mixed use, with leisure space, education, green infrastructure and community infrastructure land
S6 ii) – East Hemel Hempstead (Central)	55 Ha employment provision	Principally employment with related infrastructure, including transport and energy generation
S6 iii) – East Hemel Hempstead (South)	2,400 dwellings	Mixed use, with leisure space, education, green infrastructure, transport and community infrastructure land
S6 iv) – North Hemel Hempstead	1,500 dwellings	Mixed use, with leisure space, education, green infrastructure and community infrastructure land

S6 v) – East St Albans	1,250 dwellings	Mixed use with related infrastructure, including education, energy provision and community infrastructure land
S6 vi) – North St Albans	1,100 dwellings	Principally housing with related infrastructure, including community infrastructure
S6 vii) – North East Harpenden	760 dwellings	Principally housing with related infrastructure
S6 viii) – North West Harpenden	580 dwellings	Principally housing with related infrastructure, including education infrastructure land
S6 ix) – West of London Colney	440 dwellings	Principally housing with related infrastructure, including education infrastructure land
S6 x) – West of Chiswell Green	365 dwellings	Principally housing with related infrastructure
S6 xi) – Park Street Garden Village	2,300 dwellings	Mixed use, with leisure space, education, transport, green infrastructure and community infrastructure land

7. Strategic Planning and Partnerships

The Hertfordshire Infrastructure and Planning Partnership (HIPP)

- 7.1. The Hertfordshire Infrastructure and Planning Partnership^C (HIPP) provides a forum to discuss and develop a shared view and agree joint work programmes on infrastructure and strategic planning issues of common concern. A key objective is to work co-operatively within Hertfordshire and across the County borders according to the principles of localism and the duty to co-operate (see Source C for further information).
- 7.2. The Partnership works with the Hertfordshire Local Enterprise Partnership (LEP), the Local Transport Body for Hertfordshire^E, the Hertfordshire Local Nature Partnership^F and other appropriate organisations in areas of shared interest. The Partnership is not a formal decision making-body and does not therefore restrict the decision making processes of individual authorities. If individual authorities come to a different view from any collective Hertfordshire position they will ensure that all the other authorities are duly notified. The HIPP is supported by the Hertfordshire Planning Group (HPG) at the officer level.
- 7.3. In 2018, HIPP commissioned a County level infrastructure planning document, the 'Hertfordshire Infrastructure and Funding Prospectus (HIFP) 2018-2031'. The HIFP reflects the position in time from September 2018, presenting an overarching baseline of growth patterns, infrastructure projects and cost requirements and funding gaps in the County⁷. It is still useful in that it refers to overall infrastructure needs and deficiencies and includes some indicative costing information. Along with the HIFP, infrastructure investment planning is also undertaken as part the LEP Strategic Economic Plan^D (SEP), Local Transport Body (LTB) and associated Government growth funding initiatives (see Sources D, E and F for further information).

St Albans and District Strategic Partnership

- 7.4. The St Albans and District Strategic Partnership^G (SP) is a group of key local public, private, voluntary and community sector organisations working together to improve the quality of life in the District. The Local Strategic Partnership has a leadership role in identifying an overall direction and vision of infrastructure for the District and supporting the Council and its partners on delivery. The SP prepared the St Albans and District Sustainable Community Strategy (SCS)⁸ in the context of the Hertfordshire wide SCS⁹.

- 7.5. The SP comprises a group of core members that make up the Executive group, which is responsible for setting the strategic direction and articulating the shared vision of the Partnership. Further engagement is undertaken with wider public, private and voluntary sectors through the Stakeholder and Community Conferences and through representation on the themed partnerships groups.
- 7.6. Current members of the Executive include representatives from: St Albans City and District Council, Hertfordshire County Council, Herts Valleys Clinical Commissioning Group, Hertfordshire Constabulary (St Albans), St Albans District Centre for Voluntary Service and St Albans District Chamber of Commerce, and thus include some local infrastructure providers.
- 7.7. To assist in the delivery of the SP priorities, four themed partnership groups have been established:
- Community Safety Partnership
 - Economic Sustainability Partnership
 - Inclusion and Equalities Partnership
 - Health and Well-Being Partnership
- 7.8. The four themed partnerships, which are supported by a series of flexible working groups, help deliver the SP priorities and wider objectives, as well as a variety of projects and initiatives.
- 7.9. The general agenda of this Partnership has been taken into account in preparing the IDP (see Source G for further information).

South West Hertfordshire Planning Group

- 7.10. Under the Duty to Cooperate, the District Council is working with other Councils on joint strategic planning for South West Hertfordshire (SW Herts). The SW Herts area covers the administrative areas of: Dacorum, Hertsmere, St Albans, Three Rivers and Watford. The purpose of the group is for the five local planning authorities (LPAs) to engage constructively on an on-going basis in relation to strategic planning, infrastructure and investment priorities in SW Herts¹⁰. In January 2018, the five Councils and HCC agreed a Memorandum of Understanding¹¹, which sets out how cooperation between the LPAs will be managed in respect of strategic planning issues.
- 7.11. A Draft Statement of Common Ground (SoCG)¹² was put forward in February 2019, which sets out how a Joint Strategic Plan (JSP) for the

South West Herts area will be delivered. In particular, the SoCG outlines the Strategic Plan's proposed evidence base, identification of various development needs, its delivery strategy and management process. The JSP will be a statutory development plan portfolio for the South West Herts area, focusing on strategic policy matters including a spatial strategy, strategic infrastructure need, as well as a strategic approach to blue and green infrastructure. Following the endorsement of the SoCG by the five Councils and HCC by mid-2019, the future preparation of the JSP is estimated to follow several key milestones. These include a Draft 'Issues and Options' JSP Regulation 18 Consultation in February 2020, a Final draft JSP for Regulation 19 Consultation in September 2021, with the JSP submitted for Examination in January 2022. It is intended that the JSP could be adopted by the five Councils in the SW Herts area by the winter of 2022.

8. Assessment of Infrastructure Capacity

Table 2: Infrastructure to be assessed in the IDP

Infrastructure Category	Sector	Infrastructure Type
Social & Community Infrastructure	Health Infrastructure	<ul style="list-style-type: none"> • GPs • Hospitals & Acute Provision
	Health and Community Services	<ul style="list-style-type: none"> • Adult Care Services • Mental Health Care
	Education Infrastructure	<ul style="list-style-type: none"> • Primary Education • Secondary Education • Further Education • Early Education & Child Care Provision
	Emergency Services	<ul style="list-style-type: none"> • Police Services • Fire & Rescue Services
	Leisure and Cultural Facilities	<ul style="list-style-type: none"> • Sports & Leisure Facilities • Cultural Services & Public Realm • Libraries • Cemeteries
Green Infrastructure	Strategic Green Infrastructure	<ul style="list-style-type: none"> • Forests • Country Parks • Ecological Networks • Rights of Way • River Corridors • Flood risk
	Local Green Infrastructure	<ul style="list-style-type: none"> • Allotments • Amenity Green Space • Natural & Semi-Natural Green Space • Parks & Gardens • Playing Pitches • Children's Play Areas • Teenage Provision
Physical Infrastructure	Strategic & Local Transport	<ul style="list-style-type: none"> • Road Network • Public Transport • Walking & Cycling Infrastructure • Parking
Utilities	Water Infrastructure	<ul style="list-style-type: none"> • Water Supply • Water Drainage & Sewerage
	Energy Distribution	<ul style="list-style-type: none"> • Electricity Distribution • Electric Vehicle Charging • Gas Transmission & Distribution • Onsite Energy Provision
	Digital Infrastructure	<ul style="list-style-type: none"> • Internet Access
	Waste Infrastructure	<ul style="list-style-type: none"> • Waste & Recycling

9. Social & Community Infrastructure

Health Infrastructure

- 9.1. The Herts Valleys Clinical Commissioning Group are currently working with Hertfordshire County Council and local NHS organisations to consider the effective delivery of current and future health and social care provision. The review, entitled 'Your Care, Your Future', looks to expand local health and social care services and rationalises acute hospital provisions in the County¹³. The vision document for the review was published in 2015 and the following key themes have been set out as priorities for the review process:
- support for the need to change local services
 - the need for a greater focus on preventing ill health
 - better coordination to join up different elements of local services to improve the experience that patients and service users experience
 - reducing unnecessary journeys to hospital by providing more care closer to people's homes
- 9.2. Work is on-going and further detailed analysis and options testing is expected to continue into 2019. Outcomes of this review will be considered upon the release of the final report.

General Practitioners (GPs)

- 9.3. The Health and Social Care Act 2012 saw the cessation of Primary Care Trusts (PCTs) on 31st March 2013. The commissioning and service provision responsibilities have been separated out. NHS England is responsible for commissioning all primary care services. This includes general medical services (GMS) delivered by GPs, dental, pharmacy and ophthalmology services.
- 9.4. Clinical Commissioning Groups (CCGs) are responsible for commissioning community and secondary patient services. There is an intention to increasingly move the delivery of these services out of hospitals and into the community, often alongside GP services or community based health clinics. NHS England and CCGs are developing co-commissioning of services, providing an integrated approach towards the planning and delivery of health provision and developing a five year primary care strategy¹⁴.
- 9.5. Patients are at liberty to choose which GP practice to register with and NHS England cannot prescribe which surgery patients should attend. 'Constrained' means a practice working to patient over-capacity for the size

of their premises and the clinical space available to provide the required services to their patients. A practice in this situation would usually need to be extended or even relocated to absorb a significant number of new registrations.

- 9.6. There is an overall clinical space deficit for current patient registrations in the east and north east of Hemel Hempstead, Wheathampstead, St Albans, Harpenden, Redbourn, London Colney and Bricket Wood as a whole. Some GP practices with capacity for additional patients and others are constrained or severely constrained. Currently, there is constraint in almost all areas identified above; the exceptions with capacity being the surgery in Redbourn and one surgery in London Colney.
- 9.7. Feasibility assessments are currently on-going of Lattimore Surgery in St Albans (now closed), and its branch surgery Helmsford House, London Colney, which is significantly constrained. The assessment is looking at possibly relocating both surgeries together into a more suitable premise.
- 9.8. It is important to note that despite premises constraints, GP Practices are not allowed to close their lists to new registrations without consultation with, and permission from, the Commissioning Team of NHS England. Even when surgeries are significantly constrained, NHS England would not wish an individual patient to be denied access to their nearest GP surgery. Patient lists are therefore only closed in exceptional circumstances, and NHS England has to take into account patients' freedom of choice when capacity planning for the impact of large residential developments.

Impact of Planned Growth

- 9.9. Using the calculation for patient registration of one GP per 2000 residents and standard household size projections, it is estimated that LP housing growth will require up to an additional 17 full time GPs and 3,383m² of GP surgery floor space across the District. A large proportion of this growth will be spread in smaller developments across the District, and some of the increased demand can be met through existing provision and potential expansion of facilities. The need for new or expanded GP facilities across the District will be kept under review, and will be influenced by the location of major development and the capacity of nearby facilities.
- 9.10. NHS England has provided an updated indication of the provision required at the Broad Locations. Based on this information, it is proposed that the following Broad Locations will be required to make the following onsite provision:

East Hemel Hempstead (North and South combined):

NHS England estimate that development at East Hemel Hempstead could create an additional 9,700 GP registrations in the area, resulting in the need

for 5 additional full time GPs and 960m² of General Medical Services (GMS) floor space.

North Hemel Hempstead

The North Hemel Hempstead development is estimated to create an additional 3,600 GP registrations in the area, resulting in the need for up to two additional full time GPs and 360m² of General Medical Services (GMS) floor space. The development at the North Hemel Hempstead site is likely to require health care provision on site, including GP facilities, to meet this increase in demand.

It should be noted that the closest surgeries to the East and North Hemel Hempstead Broad Locations are located in the east and north east of Hemel Hempstead, where there is already premises constraint. The approach currently being explored in conjunction with the developers to health provision, is that new health facilities could be made available at each of the sites in multi-use buildings housing doctors, dentists and associated health professionals, as well as community facilities.

East St Albans:

The East St Albans development is estimated to create an additional 3,000 GP registrations in the area, resulting in the need for up to two additional full time GPs and 300m² of General Medical Services (GMS) floor space. The development at the East St Albans site is likely to require health care provision on site, including GP facilities, to meet this increase in demand.

Health facilities at the site could potentially be made available in multi-use buildings housing doctors, dentists and associated health professionals, as well as community facilities.

North St Albans

The North St Albans development is estimated to create an additional 2,600 GP registrations in the area, resulting in the need for one additional full time GP and 260m² of General Medical Services (GMS) floor space. The development at the North St Albans site is likely to require health care provision on site, including GP facilities, to meet this increase in demand.

Health facilities at the site, could potentially be made available in multi-use buildings housing doctors, dentists and associated health professionals, as well as community facilities.

In St Albans, three GP practices have some capacity for additional patient registrations and the remaining practices are operating in cramped conditions. Some of the additional demand from new development in St

Albans may be able to be met at these existing practices. However, the need to expand or improve these facilities will be monitored.

North West Harpenden:

It is estimated that an additional 1,400 GP registrations will be created from this Broad Location development, resulting in the potential need for one additional full time GP and associated 140m² of General Medical Services (GMS) floor space.

North East Harpenden:

It is estimated that an additional 1,800 GP registrations will be created from this Broad Location development, resulting in the potential need for up to two additional full time GPs and associated 180m² of General Medical Services (GMS) floor space.

The developments at the Harpenden sites may require health care provision on site including GP facilities, to meet this increase in demand.

Harpenden is currently served by three GP practices. One is significantly constrained, while two have some capacity for additional patient registrations. Some of the additional demand from new development in Harpenden may be able to be met at these existing practices. However, the need to expand or improve these facilities will be monitored.

Park Street Garden Village (PSGV):

It is estimated that an additional 5,500 GP registrations will be created from this Broad Location development, resulting in the potential need for up to 3 additional full time GPs and associated 550m² of General Medical Services (GMS) floor space. The development at the PSGV site is likely to require health care provision on site, including GP facilities, to meet this increase in demand.

Health facilities at the site, could potentially be made available in multi-use buildings housing doctors, dentists and associated health professionals, as well as community facilities.

West of London Colney:

It is estimated that an additional 1,000 GP registrations will be created from this Broad Location development, resulting in the potential need for up to one additional full time GP and associated 100m² of General Medical Services (GMS) floor space.

West of Chiswell Green:

It is estimated that an additional 900 GP registrations will be created from this Broad Location development, resulting in the potential need for up to one additional full time GP and associated 90m² of General Medical Services (GMS) floor space.

- 9.11. It is acknowledged that the final assessment of new development provision will need to take account of changing needs / demand within the existing population – due for instance to falling household size and changing age profiles. This will be assessed in detail through master planning for the Broad Locations as they evolve.
- 9.12. It should be noted that the current information has been provided by NHS England. Infrastructure in relation to secondary, community care and mental health provision is provided by Clinical Commissioning Groups (CCGs) and is covered in a later section of the Infrastructure Delivery Plan.

General Practitioners (GPs)	
Lead Agencies	<ul style="list-style-type: none">• NHS England• Herts Valley CCG• Public Health
Evidence Base	<ul style="list-style-type: none">• NHS Hertfordshire Strategic Plan 2009/2010 – 2013/2014• ‘Your Care, Your Future’: A new vision for the future 2015• Liaison with NHS England & Herts Valleys CCG
Existing Provision	13 GP Practices operating across 19 sites.
Gaps in Provision	At present there are no significant geographical gaps in provision within the District. However, many GP practices are over capacity and cannot accommodate patient growth resulting in an overall current deficit of surgery space.
Planned Provision	Feasibility study on-going for relocation of Lattimore Surgery in St Albans (now closed) and its branch surgery Helmsford House in London Colney into a shared premise.
Impact of Development Proposals	Housing development proposals are, over a period of time, likely to result in the need for an estimated 17 additional full time GPs and 3,383m ² of additional

	<p>surgery space for GMS use. This will be influenced by the opportunities arising in Broad Locations for development as noted above.</p> <p>Broad Locations are likely to require:</p> <p>East Hemel Hempstead (North and South combined), North Hemel Hempstead, East St Albans, North St Albans, Park Street Garden Village:</p> <ul style="list-style-type: none"> • Health facilities at these sites, potentially in multi-use buildings housing doctors, dentists and associated health professionals as well as community facilities. <p>North West Harpenden, North East Harpenden, West of London Colney, West of Chiswell Green:</p> <ul style="list-style-type: none"> • Health care provision may be required on these sites, including GP facilities. <p>Final assessment of new development provision will need to take account of changing needs / demand within the existing population. This will be assessed in detail through master planning for the Broad Locations as they evolve.</p>
Potential for Delivery	Specific provisions for GP premises in the Broad Locations indicated and a charge for health services in the CIL.
Delivery Mechanisms in the Local Plan	<p>Policy S6i-xi – Broad Locations for Development</p> <p>Policy L17 – Infrastructure</p> <p>Policy L22 – Community, Leisure and Sports Facilities</p>

Hospitals & Acute Health Provision

- 9.13. There are currently two major acute hospitals in Hertfordshire. These are in Stevenage and Watford. Whilst these provide over 60% of acute care for the population, residents can also access services at several other acute hospitals outside Hertfordshire. Nearly 98% of Hertfordshire residents, based on modelled travel times, live within 30 minutes by car from an acute hospital.

- 9.14. Within the District there are two hospitals. St Albans City Hospital (SACH) provides a wide range of elective care and a wide range of outpatient and diagnostic services with an excess of 100,000 outpatient appointments. It has 40 beds, six theatres and a minor injuries unit. Harpenden Memorial Hospital is a small community hospital providing outpatient services.
- 9.15. Harpenden Hospital estate is managed by Hertfordshire Community NHS Trust (HCT). HCT is developing an Estates strategy to improve healthcare through the provision of buildings where they are best located, cost-effective and fit for purpose. Redevelopment of Harpenden Memorial Hospital is part of the planned strategy; feasibility studies to redevelop the site and the Stewarts Building are on-going. The ownership of the Harpenden Hospital site is likely to change hands as the Central London Community Healthcare NHS Trust (CLCH) has been selected as the new provider for adult community health services in West Herts from the autumn of 2019, taking over the role from HCT.
- 9.16. West Hertfordshire Hospitals NHS Trust (WHHT) provides acute healthcare services at St Albans, Watford and Hemel Hempstead Hospitals, as well as managing some services at Harpenden Memorial Hospital.
- 9.17. Over the last few years, the Trust has undertaken a significant programme of service and estate reconfiguration. This included the development of St Albans City Hospital into a dedicated centre for elective surgery, the move of A&E and in-patient services from Hemel Hempstead to Watford and the development of a new Acute Admissions Unit at Watford. However, the WHHT Annual Plan highlights that further work is still required, particularly to the physical estates at Watford, Hemel Hempstead and St Albans Hospitals, which are not wholly adequate for modern healthcare provision¹⁵.
- 9.18. Further change is planned in light of the 'Your Care, Your Future' strategic review being undertaken by health and social care providers across West Hertfordshire. The vision document for the review was published in 2015 and looks to initiate a shift of services out of hospital and into the community, with a proposed reduction of 40% in hospital trips by 2024.
- 9.19. In light of this shift, the WHHT intends to centralise and rationalise service provision in the three principal hospitals (St Albans, Watford and Hemel Hempstead) where appropriate. The review has shortlisted three different options for the future of acute hospital services provided by WHHT¹⁶. These are:
- Consolidate acute, emergency and specialised care at Watford General Hospital (WGH) and deliver the majority of planned care and complex diagnostics at St Albans City Hospital.
 - Consolidate all acute care at Watford General Hospital.
 - Consolidate all acute care at a new site (location to be determined).

- 9.20. In autumn 2017, a plan, called a strategic outline case, to redevelop and refurbish existing acute hospital sites was submitted to NHS regulators. This proposed significant redevelopment of Watford General Hospital (WGH) as the main A&E hospital providing emergency, critical and planned care and redevelopment of St Albans City Hospital (SACH) for planned care.
- 9.21. Alongside this, during 2017 and 2018 the CCG worked with local clinicians, patients, councils and the community to develop complementary plans for new hospital facilities within Hemel Hempstead Hospital (HHH) that could provide urgent, diagnostic and outpatient care.
- 9.22. The WHHT are refreshing the Strategic Outline Case following the response from NHS Improvement in 2017 which suggested that a preferred scheme should not exceed WHHT annual turnover, which is approximately £350 million.
- 9.23. Options have been evaluated and 4 were shortlisted in 2019. They are:
- WGH + Medicine HHH / Surgery SACH
 - WGH + Min Planned Care SACH
 - WGH + Max Planned Care HHH
 - WGH + Max Planned Care New Site.
- 9.24. WHHT have been considering possible options for a Planned New Care Site. A representation was submitted at the LP Publication stage to request a new hospital site of circa 7ha, which would result in the closure of both St Albans City Hospital and Hemel Hempstead Hospital. This was not agreed by the Council. In February 2019, SADC Council supported a proposal to recognise the importance of retaining the hospital services at SACH, which include: planned surgery, an Urgent Treatment Centre, midwife-led services, outpatient and diagnostic services.
- 9.25. The review also plans to develop 'Hubs' across West Hertfordshire to support the shift to community provision, looking at four initial sites in Elstree, South Oxhey, Hemel Hempstead and Harpenden. A hub is also planned for St Albans. The hubs will create a network of services and will contain a range of health and social care teams. Services may include some testing and acute care services, as well as health promotion and prevention services, and some GP, pharmacy, optometry and dentistry services.

Impact of Planned Growth

- 9.26. Residential growth over the plan in the District and across Hertfordshire is likely to see increasing pressure being placed on strategic health services. Over the period to 2036, there is likely to be a reduction in acute infrastructure through the active management of patients in the community. This will place additional impacts on community provision. Outcomes of the 'Your Care, Your Future' Strategic Review will be considered upon the release of the final report. Work is on-going and further detailed analysis and option testing is expected to continue into 2019.

Hospitals & Acute Health Provision	
Lead Agencies	<ul style="list-style-type: none"> • NHS England • West Hertfordshire Hospitals Trust • East & North Herts NHS Trust • Herts Valleys CCG • Hertfordshire Partnership Foundation Trust • Hertfordshire Community NHS Trust • Central London Community Healthcare NHS Trust (CLCH)
Evidence Base	<ul style="list-style-type: none"> • 'Your Care, Your Future': A new vision for the future 2015 • WHHT Annual Plan 2015/16 • West Hertfordshire Hospitals Trust - Acute Transformation - Strategic Outline Case - February 2017 • Liaison with Herts Valleys CCG
Existing Provision	<ul style="list-style-type: none"> • St Albans City Hospital • Harpenden Memorial Hospital • Acute hospitals in Hertfordshire: Stevenage and Watford
Gaps in Provision	Potential need for redevelopment / improvement works at Watford, St Albans and Harpenden Memorial Hospitals - Pending outcome of strategic review.
Planned Provision	<ul style="list-style-type: none"> • Rationalisation of acute provision in West Herts • Creation of 'Hub' in Harpenden, Hemel Hempstead and St Albans <p>Further changes to provision will be set out upon completion of the strategic review.</p>
Impact of Development Proposals	Growth in residential development in the District and across Hertfordshire will see increasing pressure being placed on strategic health services. Over the period to

	<p>2036, there is likely to be a reduction in acute infrastructure through the active management of patients in the community. This will place additional impacts on community provision.</p> <p>Further analysis required pending outcomes of 'Your Care, Your Future' Strategic Review.</p>
Potential for Delivery	<p>Main funding provided by NHS.</p> <p>Hospitals and acute provision could receive developer contributions through planning obligations or CIL funding, as there is a direct link between growth and increased need.</p>
Delivery Mechanisms in the Local Plan	<p>Policy S6i-xi – Broad Locations for Development</p> <p>Policy L17 – Infrastructure</p> <p>Policy L22 – Community, Leisure and Sports Facilities</p>

This section focuses on local health facilities and provision for Hertfordshire. However, it is important to note that the north of the District is also served by Luton and Dunstable Hospital.

Health and Community Services

- 9.27. Health and Community Services (HCS), as part of HCC, covers the needs of older people, people with disabilities and people with mental health problems who require assistance, either to live independently, or to live in some form of residential care. HCS provide special needs housing, including housing for older people (residential, nursing and flexicare), for learning disability (residential, nursing and supported living) and physical disability (residential and nursing). It works in partnership with private and public sector organisations to secure provision.
- 9.28. HCS report a significant rise in demand for health and social care services over recent years. This challenge has been met by focusing further on integration between health and social care commissioners to deliver services, with support from the national Better Care Funds. There has also been a focus on providing levels of care for people in their own homes, rather than moving people into residential and nursing homes through assisted living programmes¹⁷.
- 9.29. HCS sets out the approach taken to developing the social care market in these areas through Market Position Statements¹⁸ (MPSs). HCC are currently working on an updated Accommodation Strategy as a background to the MPSs in order to address and understand adult care housing supply

and demand. Outcomes of this strategy review have been considered in the Local Plan policy development.

Care for Older People

- 9.30. HCS published the MPS for Older People in 2016. The MPS outlines the HCS plans to finance 'out of hospital services' for older people, and fund programmes to ensure greater co-ordination in the planning and commissioning of services. The Better Care Fund is also used to trial new initiatives and services to improve service provision.
- 9.31. HCS identifies nursing home provision and flexicare housing as the principal area where demand is likely to increase. HCS is looking to address this through improved access to existing provision and new models of care.
- 9.32. Flexicare housing, which is similar in nature to extra care and ALU, is where residents live in their own apartment but with communal areas and access to on-site care provision, providing more support than sheltered housing and more independence than residential care. Thus, it can reduce the need for new care homes. There are currently two flexicare schemes in St Albans. Currently, Betty Entwistle House in Holyrood Crescent is due to be sold for the development of a mixed-age, flexi-care scheme. Other schemes with planning permission include Quality Hotel and James Marshall House.

Mental Health Care

- 9.33. The MPS for Adults with Mental Health Conditions examines future market opportunities and commissioning intentions for HCS¹⁸. The latest publication released in 2016 reiterates the HCS intention to reduce the use of traditional residential care and group home settings, and increase alternative housing and support options. Further work is pending the outcome of the accommodation strategy review in autumn 2016.
- 9.34. In terms of recent development in hospital provision, a new mental health care facility at Kingsley Green was opened in June 2014. The Hertfordshire Partnership Foundation Trust (HPFT) manages Kingsley Green, based at the former Harperbury Hospital site. The mental health care facility Kingfisher Court at Kingsley Green contains 86 bedrooms on five wards. It specialises in adult mental health care and learning disabilities.

Impact of Planned Growth

- 9.35. Although there is a focus on providing levels of care for people in their own homes rather than moving people into residential and nursing homes, there

is still an increased level of provision required of residential care places over the plan period.

- 9.36. This is particularly the case with provision for older people. With the planned growth and the predicted demographic projections, the District is likely to need an estimated additional 3,756 general needs and specialised dwelling units for older people, including care home places, extra care housing and sheltered housing¹⁹.

Table 3: population projections for older people in the District 2011- 2031

Age band	2011	2016	2021	2026	2031
65 - 74	11,108	12,810	13,222	13,435	15,121
75 - 84	7,584	7,929	8,830	10,386	10,816
85+	3,239	4,071	4,911	5,743	6,989

*source: Edge Analytics

- 9.37. HCS identifies nursing home provision as the principal area where future capacity shortage is possible over the next five years, particularly for health and social care funded placements. HCS is working to address this through improving access to existing provision and exploring new models of care with providers.
- 9.38. There has also been a significant increase in demand for flexicare housing. HCC is committed to developing more flexible housing options, as it has the potential to reduce demand for residential care places. HCS is planning to work with partners in the future to identify new build schemes and support bids for capital funding where needed.
- 9.39. The Local Plan proposes a number of Broad Locations, primarily for residential development, in policy S6. With the exception of one site in Chiswell Green, all contain provision for flexicare and/or care home (or similar) development. Policy S6 seeks to provide a minimum of 300 care home beds, 450 extra care units, and 100 special needs supported living units. Other schemes are expected to come forward within existing settlements in line with historic levels of delivery. It is expected that these will meet need identified by the MPS. Policy L3 is also seeking affordable provision.

Hospitals & Acute Health Provision	
Lead Agency	<ul style="list-style-type: none"> • HCC – Health & Community Services
Evidence Base	<ul style="list-style-type: none"> • Health and Community Services Plan 2015-2019 • HCS Market Position Statement: Adults with Mental Health Conditions 2016 • HCS Market Position Statement: Older People 2016 • HCS Market Position Statement: Adults with Learning Disabilities 2016 • Independent Assessment of Housing Needs and Strategic Housing Market Assessment Update October 2015
Existing Provision	<p>Range of special needs housing across District, including housing for older people (residential, nursing and flexicare), for learning disability (residential, nursing and supported living) and physical disability (residential and nursing).</p> <p>Kingsley Green mental health care facility.</p>
Gaps in Provision	<p>No significant geographical gaps indicated. However, HCC have produced MPSs in order to address and understand adult care housing supply and demand. Outcomes of this work has been taken into account in the development of Local Plan policy.</p>
Planned Provision	<p>No planned HCC funded homes in St Albans. Private flexicare proposals are likely to come forward.</p> <p>Betty Entwistle House due to be sold for the development of a mixed-age, flexi-care scheme.</p> <p>Various schemes planned within Broad Locations.</p> <p>Other schemes are expected to come forward within existing settlements in line with historic rates of provision.</p>
Impact of Development Proposals	<p>Additional dwellings will lead to a rise in population which, through ageing, may eventually be in need of care provision.</p> <p>Estimated additional 3,756 general needs and specialised dwelling units for older people.</p>
Potential for Delivery	<p>Scope exists to incorporate provision of specialist elderly or over 55 housing units in larger residential developments.</p>

<p>Delivery Mechanisms in the Local Plan</p>	<p>Policy S6i-xi – Broad Locations for Development</p> <p>Policy L2 – Provision of Older Persons Housing and Special Needs Housing</p> <p>Policy L3 – Provision of and Financial Contributions towards Affordable Housing</p> <p>Policy L8 – Primarily Residential Areas</p> <p>Policy L17 – Infrastructure</p>
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Education Infrastructure

- 9.40. Hertfordshire County Council (HCC) is the Local Education Authority and has statutory responsibility for the provision of education services. It has a duty to ensure that there are sufficient school places in its area. This provision includes: nursery, primary, secondary and sixth-form education and special needs services and facilities. HCC also has a duty to secure sufficient Free Early Education and childcare places across the county.
- 9.41. Forecasting school place demand is a complex task. Where children go to school involves a range of different factors such as housing growth, inward and outward migration and parental preference. School organisation needs to respond to factors including: local needs; raising standards and promoting diversity; responding to government policy; responding to external and internal findings on the quality of schools and the need to ensure that scarce resources are used efficiently.
- 9.42. HCC has a duty to secure sufficient school places in its area, ensuring that every child has access to a school place. HCC fulfils these planning responsibilities by forecasting the demand for school places in order to identify an appropriate balance between supply and demand. It negotiates the right number of places on an annual basis, whilst in parallel undertaking longer term strategic planning.
- 9.43. Hertfordshire has experienced a significant rise in the demand for primary places across the county in recent years, in line with the picture nationally^H. The rise is not consistent across the county, with some areas experiencing substantial increases in the primary aged population, whilst in some more rural areas demand is less pressing or currently remains fairly static. More information on the rising demand is available through HCC's strategy document 'Meeting the Demand for School Places'^{20 21} (see Source H for further information).

Forecasting

- 9.44. HCC produces pupil forecasts every six months for both Reception and Year 7 demand. At a primary level, HCC publish forecast four years ahead and secondary forecasts stretch to 10 years in the future.
- 9.45. These forecasts are based on actual data of 0-5 year olds in an area, historic pupil movement, as well as an assumed pupil yield from new housing developments. The forecasts have taken account of an assumed housing growth trajectory for the longer term, as provided by Hertfordshire's District and Borough Councils.
- 9.46. Latest forecasts are provided below. These project demand for admissions into Reception and Year 7 and do not include any margin. It should be noted that for Local Plan purposes, HCC would normally plan a surplus of 5% across an area to allow for fluctuations in forecast demand. Building Bulletin 103 provides guidelines²² for mainstream school buildings (part A) and sites (part B) for all age ranges from 3 to 19.

New Schools

- 9.47. The way in which new schools are set up has undergone significant change in recent years. HCC's role as a commissioner of places is such that where it is considered there is a basic need for a new school it must:
- Seek proposals to establish an academy/free school; or (if unsuccessful)
 - Hold a statutory competition to seek / determine a suitable proposal; or (if unsuccessful)
 - Publish its own proposals for a new maintained school
- 9.48. HCC remains responsible for providing the site and meeting all associated capital and pre/post-opening costs in instances where the new school provision is meeting basic need. Therefore HCC continues to hold the key role in negotiating developer contributions for, and the provision of, all school infrastructure.

Forms of Entry

- 9.49. School provision is often described in terms of 'forms of entry'. 1 form of entry (FE) equals 30 places per year group.
- 9.50. Primary schools have seven year groups from Reception through to Year 6. HCC has a preference for primary schools of 2FE or more, as this larger size provides improved opportunities for delivery of a broad education curriculum and staff development, as well as offering the ability to better

manage fluctuations in demand. A 2FE primary school will have 7 year groups of 60 pupils (420 in total), plus a Nursery class where offered.

- 9.51. Secondary schools have five year groups, from Year 7 through to Year 11, and Sixth Forms with lower and upper year groups. HCC has a preference for secondary schools of 6 to 10FE as this offers improved opportunities for the delivery of a broad education curriculum. A 6FE school will have 5 year groups of 180 pupils (1080 in total) plus a Sixth Form.

Developer Contributions

- 9.52. When undertaking high level school place planning related to new residential development, HCC determines child yield based on a ratio of 1FE per 500 dwellings to be 97.5% confident of not underestimating yield. When considering actual proposals or planning applications, HCC uses specific development forecasting models to ascertain more tailored demographic profiles, including pupil yields.
- 9.53. HCC is currently reviewing its Planning Obligations Toolkit to support the funding of infrastructure provision through Section 106 (S106) contributions, and encourages Districts to implement CIL at the earliest opportunity. The cumulative impact of smaller sites can create additional demands and burdens on existing infrastructure which must be addressed through developer contributions. Since April 2015, the ability to pool S106 planning obligations is restricted and it is increasingly difficult to fund projects which mitigate the impact of smaller developments. The implementation of a CIL is currently the most viable option of supporting the development of these sites and the provision of infrastructure, particularly strategic infrastructure such as secondary schools.

Primary Schools

- 9.54. Whilst there are currently sufficient primary school places available across the City and District, there continues to be a concentration of demand in and around St Albans city centre. The number of children in this area fluctuates, but has consistently exceeded the number of places available.
- 9.55. In response to the rising demand for school places, HCC has already created an additional 9FE of permanent capacity across St Albans through the expansion of existing schools, as well as opening new primary schools, of which one was in the city centre.
- 9.56. However, there is currently no identified permanent expansion capacity at schools in the centre of St Albans, and so the strategy has been, of necessity, to provide additional permanent places in the wider area.

However, those schools immediately adjacent to the city centre are now also at capacity.

- 9.57. Given the limitations on existing school sites, further growth in pupil numbers is likely to need to be supported through the provision of new schools. Therefore there is a need for a new primary school in the city centre early in the plan period, and a second primary school later in the plan period. The Local Plan proposes a new school at Land off London Road and in the HCC response to the Regulation 19 publication stage, HCC requested allocation of a primary school at the Ariston site. Further work is being undertaken by HCC.
- 9.58. In the interim period until a new school in the city centre can be brought forward, the strategy to manage this concentration of demand is through permanent or temporary expansion of existing primary schools.

Impact of Planned Growth

- 9.59. Using the pupil yield calculation of 1FE per 500 dwellings, it is estimated that LP housing growth will require up to an additional 27FE to be delivered over the plan period. As outlined in the LP, the Council supports the expansion of existing schools in principle as they can be provided relatively quickly, are cost effective, can serve existing communities and reduce the need for new schools in Green Belt Locations.
- 9.60. HCC has provided an updated indication of the provision required at the Broad Locations. It is important to note that predicting future demand for school provision is challenging: forecasts are subject to change and HCC regularly update their projections. As such, the information provided here reflects the latest information provided.
- 9.61. Based on this information, it is proposed that the following Broad Locations will be required to make the following onsite provision:

East Hemel Hempstead (North and South combined):

2 x 3FE primary school

1 x 2FE primary school

Initial studies undertaken by the developer suggest that the schools will be located onsite in both the North and South sites (see Appendices 50 and 51 for further details).

North Hemel Hempstead:

1 x 3FE primary school

See Appendix 52 for further details

North West Harpenden:

1 x 2FE primary school

Although the development of this site would only generate the need for a 1FE school, HCC have suggested that a 2FE school would be desirable as a cost effective and efficient measure to accommodate future growth in the surrounding area. However, the development in the North West Harpenden Broad Location is likely to only be required to contribute to 1FE of provision, with the additional funding acquired from contributions from new development in surrounding areas and from other HCC funding sources.

See Appendix 56 for further details

North East Harpenden:

1 x 2FE primary school

See Appendix 55 for further details

East St Albans:

1 x 3FE primary school

Initial design work undertaken in conjunction with the developer suggests the provision of an onsite school with links to the neighbouring college (see Appendix 53 for further details).

North St Albans:

1 x 2FE primary school

See Appendix 54 for further details

Park Street Garden Village:

1 x 3FE primary school

1 x 2FE primary school

See Appendix 59 for further details

West of Chiswell Green:

1 x 2FE primary school

See Appendix 58 for further details

West of London Colney:

1 x 2FE primary school

See Appendix 57 for further details

Further details on initial design work undertaken by landowners/developers are shown in the appendices for education (see Appendices 50 to 59).

9.62. The cumulative need from new development in urban areas could be met in part by the expansion of some existing primary schools²⁰. Need from new development could be met by the expansion of some primary schools, for example in:

- St Albans City
- Bricket Wood
- Redbourn

9.63. HCC has indicated that sites for new primary schools outside the Broad Locations may be required in the settlements listed below:

- St Albans City (2 schools)

Where new schools are required, the new school sites shall be identified in the masterplanning work. Additional detached playing field space to support existing schools may assist future provision, including expansion of built provision on site.

In some cases, where primary school provision exceeds expected on-site school populations, additional funding may be acquired from contributions from new development in surrounding areas and from other HCC funding sources.

Further details can be seen in the appendices for education, which provide some additional information on work currently underway on detailed planning for this provision (see Appendices 50 to 72).

Primary Education	
Lead Agencies	<ul style="list-style-type: none"> • HCC • Hertfordshire Education Authority
Evidence Base	<ul style="list-style-type: none"> • Meeting the Demand – HCC • Liaison with HCC • HCC services representations on Local Plan process dated – 2014/2015/2016/2018
Existing Provision	Primary schools across the District.
Gaps in Provision	Some capacity issues in St Albans and Colney Heath. Whilst there are also capacity issues elsewhere in the District, these are not as significant and can be managed through local arrangements.
Planned Provision	Growth in the next five years will predominately be accommodated in existing schools, however there is likely to be a need early in the plan period for a new school to serve central St Albans.
Impact of development proposals	<p>New housing will contribute to the increase in the number of children and young people and the need for school places. It is currently estimated that this will result in the need for up to an additional 27 FE.</p> <p>Need from new development could be met by the expansion of some primary schools, for example in St Albans City, Bricket Wood and Redbourn.</p> <p>Broad Locations will require:</p> <p>East Hemel Hempstead (North and South combined)</p> <ul style="list-style-type: none"> • 1 x 3FE primary school • 1 x 2FE primary school on a 3FE capacity site <p>North Hemel Hempstead</p> <ul style="list-style-type: none"> • 1 x 2FE primary school <p>East St Albans</p> <ul style="list-style-type: none"> • 1 x 2FE primary school

	<p>North St Albans</p> <ul style="list-style-type: none"> • 1 x 2FE primary school <p>North West Harpenden</p> <ul style="list-style-type: none"> • 1 x 2FE primary school <p>North East Harpenden</p> <ul style="list-style-type: none"> • 1 x 2FE primary school <p>Park Street Garden Village</p> <ul style="list-style-type: none"> • 1 x 2FE primary school <p>West of London Colney</p> <ul style="list-style-type: none"> • 1 x 2FE primary school <p>West of Chiswell Green</p> <ul style="list-style-type: none"> • 1 x 2FE primary school <p>New primary school site will be required in St Albans City early in the plan period at Land off London Road. HCC have also requested a further site be identified at Ariston.</p>
<p>Potential for Delivery</p>	<p>Planning obligation funding has traditionally been sought to meet the requirements of demand for additional school places resulting from new housing development. Following the introduction of the CIL Regulations 2010, this approach may be replaced with a combination of CIL and/or planning obligations (depending on local circumstances). Additionally, Free Schools can secure funding from the Department of Education.</p> <p>Policy L17 – Infrastructure</p> <p>Policy L21 – Education (see ‘New Primary School for the St Albans Central Areas’)</p>

Secondary Education

- 9.64. Secondary school places are forecast using education planning areas. In St Albans District, this includes the St Albans and Harpenden planning areas (and also includes some settlements from other districts including Dacorum, North Herts and Hertsmere).
- 9.65. The rising demand for primary school places over recent years has inevitably translated into increased demand in secondary school places. The most recent forecast indicates a future deficit in both the Harpenden and St Albans planning areas to meet the rising demand for places²¹.
- 9.66. HCC has identified a need to provide additional secondary school places in Harpenden. The Harpenden Secondary Education Trust gained approval from the Department of Education to establish a new secondary school in Harpenden from September 2017. Following detailed feasibility assessments, HCC identified the most suitable site for the new school as Land at Lower Luton Road and exchanged contracts with the owners for its purchase on the 15th January 2016. The new school will be built by the Education Funding Authority (EFA) once further studies have been carried out on the site. Katherine Warrington School is due to open in September 2019.
- 9.67. Although the St Albans planning area currently has a small surplus of places, student projections indicate a shortage of places by 2019/20. The proposed Harperbury Free School in the St Albans planning area was originally approved by the Department for Education (DfE) to open in September 2014, but has been cancelled by the DfE due to issues around need and the available site. There may be some potential to expand existing schools in St Albans, but that there are constraints relating to most school sites which mean that this is by no means certain. Feasibility work is underway to establish both the scale of the additional capacity required and potential options for meeting future need across the area.

Impact of Planned Growth

- 9.68. It is projected that up to an additional 24-32 FE are required from pupil projections arising from the current housing stock and from sites identified in the current housing trajectory. HCC regularly update their projections. As such, the information provided here reflects the latest information provided and updates the information contained within the IDS.
- 9.69. In terms of the Broad Location sites, a minimum of one secondary school is required as part of: East Hemel Hempstead (North), Park Street Garden Village, West of London Colney and East St Albans.
- 9.70. In some cases, where secondary school provision exceeds expected on-site school populations, additional funding is to be acquired from

contributions from new development in surrounding areas and from other HCC funding sources.

- 9.71. Further details can be seen in the appendices for education which provide some additional information on work currently underway on detailed planning for this provision (see Appendices 50 to 72).

Secondary Education	
Lead Agencies	<ul style="list-style-type: none"> • HCC
Evidence Base	<ul style="list-style-type: none"> • Meeting the Demand – HCC • HCC services representations on Local Plan process dated – 2014/2015/2016/2018 • Liaison with HCC
Existing Provision	11 Secondary schools in St Albans and Harpenden.
Gaps in Provision	HCC has identified a need to provide additional secondary school places in Harpenden.
Planned Provision	<p>Any growth in the next five years will be accommodated in existing schools and in temporary buildings.</p> <p>A new secondary school will be delivered in Harpenden (planned from September 2019).</p>
Impact of Development Proposals	<p>New housing will contribute to the increase in the number of children and young people and the need for school places.</p> <p>It is projected that up to an additional 24-32 FE are required from pupil projections arising from the current housing stock and from sites identified in the current housing trajectory. There is some potential to expand some existing secondary schools in the District.</p> <p>A minimum of one secondary school is required as part of: East Hemel Hempstead (North), Park Street Garden Village, West of London Colney and East St Albans.</p>
Potential for Delivery	Planning obligation funding has traditionally been sought to meet the requirements of demand for additional school places resulting from new housing development. Following the introduction of the CIL Regulations 2010, this approach may be replaced with a combination of CIL and/or planning

	<p>obligations (depending on local circumstances). Additionally, Free Schools can secure funding from the Department of Education.</p> <p>Policy L17 – Infrastructure</p> <p>Policy L21 – Education</p>
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Further Education – Oaklands College

- 9.72. Oaklands College is the main provider of further education in St Albans. The College is based in Smallford (known as the St Albans Campus). Programmes offered include adult and community learning, art, business, construction, engineering, health and social care, hospitality and catering, IT, media and performing arts, science and maths, sport and specialist programmes for learners with learning difficulties and disabilities²³. The College also has 14-19 and 16-19 year old consortium arrangements with local secondary schools.
- 9.73. In recent years the College has been implementing a plan to rationalise its various sites and buildings, by establishing a main campus at the St Albans Campus. Some relocation of facilities and redevelopment has occurred and the College is now one of the country’s largest further education colleges, with over 800 staff and 3,000 full time and 8,000 part time learners, the majority of which are based at the modernised Smallford Campus.
- 9.74. However, many of the pre-existing facilities are not fit for purpose. The Council gave planning permission for a new bespoke College Hub which was intended to be in place by 2012. The College Hub was unable to be delivered following the loss of substantial grant funding from the Learning and Skills Council in 2009.
- 9.75. The College is now implementing a £51m redevelopment of the St Albans Campus²³. The master-plan²⁴ includes dedicated provision for the various curriculum areas which meet current needs and requirements, as well as being flexible to cater for future developments in teaching and provision. The project will take about five years to deliver.

Impact of Planned Growth

- 9.76. The planned residential growth is likely to result in a need for further higher and further education floor space and facilities. Some of this increased demand may be met through the redevelopment of the Oaklands College St Albans Campus. The funding of the re-development is dependent on the progression of residential development as part of the East St Albans Broad

Location. Planning permission has been granted for 348 homes. Another 902 dwellings are proposed by Policy S6 v in the Local Plan.

Further Education - Oaklands College	
Lead Agency	<ul style="list-style-type: none"> • Oaklands College
Evidence Base	<ul style="list-style-type: none"> • Oaklands College Strategy • Oaklands College St Albans Campus Masterplan
Existing Provision	Oaklands College Smallford Campus
Gaps in Provision	Need for bespoke College Hub
Planned Provision	Expansion of Oaklands College through enabling development of residential development as part of the East St Albans Broad Location. All proceeds from the development are expected to be available for this purpose. Development underway.
Impact of Development Proposals	Development proposals will result in need for further higher and further education floor space and facilities.
Potential for Delivery	Through a combination of enabling development and traditional central funding.
Delivery Mechanisms in the Local Plan	<p>Policy S6 v) – East St Albans Broad Location. To provide an urban extension of St Albans, improved and new education and training facilities, and to further integrate Oaklands College with the wider community.</p> <p>Further detail will be set out in the Local Plan with potential for a Planning Brief or Masterplan.</p> <p>Policy L17 – Infrastructure</p> <p>Policy L21 – Education</p>

Early Education and Child Care Provision

- 9.77. HCC has a duty to secure sufficient free early education and childcare places. Annually, HCC publishes a Childcare Sufficiency Report which details where places are required across the county²⁵. HCC works with the private, voluntary and independent (PVI) sector and schools to ensure adequate places. It also assists and enables the provision of day nurseries,

play schemes and after school clubs, making sure there are sufficient places for parents to access across the County.

- 9.78. The Childcare Act 2006 places a duty on all local authorities to secure sufficient childcare for children aged 0-14 (19 for children with special educational needs and disability) of working parents, or of parents who are studying or training for employment. HCC has a statutory responsibility to provide universal Free Early Education (FEE) for 3 and 4 year olds. Since September 2013, HCC also has a statutory responsibility to provide 15 hours of free early education (FEE) to eligible vulnerable 2 year old children across Hertfordshire.
- 9.79. In September 2017, a new extended entitlement of an additional 15 hours of free childcare was introduced for working parents in Hertfordshire. HCC is currently working on the likely demand across Hertfordshire linked to the number of places available. Consequently, demand for these services is forecast to increase, in addition to the increasing population of young children in the County. Provision for this new entitlement will be within school's preschools and day nurseries and child-minders.
- 9.80. In addition to free early education places, HCC has a duty to ensure there are sufficient childcare places for 0-14 years children (19 for children with special educational needs and disability) in pre-schools, day nurseries and out of school clubs which can run either from school or other community facilities.
- 9.81. HCC has a duty to provide Children's Centres in every community, for children under 5 and their families. Children's centres work in partnership with a number of partners including schools, midwives, health visitors and GPs. They offer services to support child development, outreach and family support, parenting support, access to training and work opportunities and child and family health services. There 82 Children's Centres in Hertfordshire clustered in 29 geographical groups.
- 9.82. There are 10 such centres in St Albans which serve a defined geographical area. The Children's Centre Areas are numbered SA1 to SA10 and their geography is used for the purpose of planning early year's provision.
- 9.83. HCC currently rates the sufficiency levels of Free Early Education places in all Children's Centre Areas for children aged 2, 3, and 4 years old. The latest information held by HCC for children's centres in the District is shown in the table below:

Table 4: Free Early Education in Children’s Centres Community

Children’s Centre	FEE for 2, 3 & 4 year old places required* January 2018	Extended Childcare Entitlement for 3 & 4 year old children for January 2018
SA 1 Wheathampstead & Kimpton	114 GREEN	50 GREEN
SA 2 Harpenden & Batford	125 GREEN	89 GREEN
SA 3 Harpenden & Southdown *	165 GREEN	3 AMBER
SA 4 Redbourn Rural	235 GREEN	165 GREEN
SA 5 Marshalswick *	103 GREEN	6 AMBER
SA 6 Batchwood & St Peters	245 GREEN	177 GREEN
SA 7 Sopwell & Verulam *	162 GREEN	26 AMBER
SA 8 Ashley & Colney Heath	180 GREEN	42 GREEN
SA 9 Park Street	85 GREEN	42 GREEN
SA 10 London Colney *	-22 RED	-11 RED

- **GREEN** = Sufficient Places Available (Provision largely matches family’s needs)
- **AMBER** = Near Sufficient Places Available (A gap exists which may give families difficulties in accessing provision)
- **RED** = Insufficient Places Available (A gap exists which may prevent families from accessing provision)

* Data suggests that parents would struggle to find an extended entitlement place and or FEE place.

9.84. The table shows that sufficient places exist in nine of the children’s centres in the District at present. However, the rating for any area can quickly change: for example, if a preschool or nursery were to reduce the number of children it could accommodate, or if a preschool or nursery were to close. Future requirements will depend on a number of factors, including changes in birth rate, levels of provision and changes in regulations and new Government initiatives relating to the sector.

Impact of Planned Growth

9.85. HCC consider that the number of working households in the District is significantly higher than other areas of the county. The demand for the new extended childcare entitlement will be high, and additional childcare provision will be required in those areas identified as insufficient or near to sufficient to support this new demand. If more housing is developed than the demand for these places will increase further.

- 9.86. Where new primary school sites are identified, early years provision is usually sought on-site. As such, initial master-planning being undertaken indicates that early years provision is likely at ten of the Broad Location sites.
- 9.87. Increasing demand for children’s centre space may arise from residential development in an area. The ten children’s centre areas currently have enough free early education places to meet the proposed demand from the planned growth. However, Childhood Support Services will work with School Planning and the Strategic Estates Team to identify where increases in provision may be required and will look to maximise available space in order to meet predicted demand.

Early Education and Child Care Provision	
Lead Agencies	<ul style="list-style-type: none"> • HCC • Hertfordshire Education Authority
Evidence Base	<ul style="list-style-type: none"> • Hertfordshire Childcare Sufficiency Annual Report – April 2018 • Liaison with Hertfordshire County Council
Existing Provision	Ten Children’s Centres, and a range of nursery classes and schools, playgroups, and after school clubs (Private, Voluntary and Independent).
Gaps in Provision	No indicated gaps in provision currently.
Planned Provision	None as yet, more provision will be required as Broad Locations are developed.
Impact of development proposals	<p>New housing will contribute to the increase in the number of children entitled to access free early years education.</p> <p>Early Years provision is usually sought onsite in new primary school developments. Thus, Early Years provision will be possible in new primary schools at ten of the Broad Location Sites.</p>
Potential for Delivery	Planning obligation funding has traditionally been sought to meet the requirements of demand for additional school places resulting from new housing development. Following the introduction of the CIL Regulations 2010, this approach may be replaced with a combination of CIL and/or planning obligations (depending on local circumstances).
Delivery Mechanisms in	Policy L21 – Education. New and expanded

the Local Plan	state funded primary and secondary schools, as well as Early Years provision, are essential to support recent population growth and the housing growth included in the Plan. Policy L17 – Infrastructure
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Emergency Services

Police Services

- 9.88. The Hertfordshire Constabulary is responsible for policing the District and the Hertfordshire Police and Crime Commissioner (HPCC) ensures that it delivers efficient and effective policing. Hertfordshire Constabulary is concentrating on improving intervention team services and providing safer neighbourhoods²⁶.
- 9.89. The structure of police service provision in the country has changed in line with wider societal change. The increasing accessibility of technology has meant that few police stations require public facing facilities, as a significant proportion of the reporting of incidents and issues is now done online or over the phone. Whilst it is still important to maintain a public facing service, the number of police stations in the County has been reduced and public facing services and custody facilities have been rationalised and centralised.
- 9.90. Hertfordshire has adopted a local policing command structure that has a dedicated command team based at the police headquarters. The Constabulary's headquarters is based in Welwyn Garden City and provides a support and administrative function to the Local Policing Command (LPC). There are locally based Safer Neighbourhood Teams (SNT) that work at Ward and District level, helping to tackle anti-social behaviour as well as criminality. Until recently there have been two police stations in the District, one in St Albans and one in Harpenden.
- 9.91. In 2015, the St Albans dedicated police station building was closed and the Safer Neighbourhood and Intervention Teams were relocated to facilities within St Albans Civic Centre shared with St Albans City and District Council. The facility in St Albans now has no customer facing facilities, but has a free outside public telephone to the police control room. The Harpenden station has the same level of functions as St Albans with a Safer Neighbourhood Team and an Intervention Team.
- 9.92. There is no custody provision in St Albans District. The nearest custodial facilities are in Hatfield and this serves St Albans. The Hatfield police

station building was opened in 2008 and incorporates a 40 cell custody suite. There are two additional custody facilities at Watford and Stevenage.

Impact of Planned Growth

- 9.93. Additional housing provision in the District has implications for police services. The number of staff and facilities needed to police an area is based on criminality rather than population. This is influenced by the type of housing, population density and whether there is a stable population. It is therefore difficult to assess future demand for policing services as a result of housing growth.
- 9.94. The factors described above will determine whether additional police services will be required. It is likely that any additional premises provision required would be located outside of the District. Additional custody provision may be required in the future, in line with the predicted population growth in the County.
- 9.95. In terms of the Broad Location sites set out in the LP, the expanding employment area of the East Hemel Hempstead (Central) site could have implications for the police service because of its close proximity to the M1. There is a police station located in Hemel Hempstead, containing similar facilities to the St Albans station (no custodial facilities, nearest facilities are in Watford). Facilities in Hemel Hempstead are considered adequate to deal with this area, but this conclusion will be reviewed in the LP and master-planning work. Both the Harpenden and St Albans Broad location sites could be served within existing provisions.

Police Services	
Lead Agency	<ul style="list-style-type: none"> • Hertfordshire Police & Crime Commissioner • Hertfordshire Constabulary
Evidence Base	<ul style="list-style-type: none"> • Everybody’s Business: The Police and Crime Plan for Hertfordshire 2017-2022 • Liaison with the Hertfordshire Constabulary
Existing Provision	<p>There are currently two stations within the District located in Harpenden and St Albans. There is also a station in Hemel Hempstead.</p> <p>There are Safer Neighbourhood Teams and Intervention Teams based at both the St Albans and Harpenden stations.</p>
Gaps in Provision	There are currently no gaps in provision but additional custody suites may be required in the future.
Planned Provision	There are no current plans for further provision.

Impact of development proposals	Police requirements are based on criminality rather than housing growth. Specific provision may be required as part of the developments at East Hemel Hempstead. Hemel Hempstead has provision to support growth at East Hemel Hempstead, but review needed.
Potential for Delivery	Hertfordshire Constabulary will identify the most cost effective method of supplying any necessary infrastructure should it be required. Police will seek custody provision via CIL from the local authorities it serves.
Delivery Mechanisms in the Local Plan	Policy L17 – Infrastructure Policy L23 – Urban Design and Layout of New Development says developments should create safe environments which address physical aspects of crime prevention.

Fire and Rescue Services

- 9.96. Hertfordshire Fire and Rescue Services (HFRS) are responsible for providing the fire and rescue service in St Albans²⁷. The HFRS is split into five areas, each of which has a District Plan. St Albans is covered by the Dacorum and St Albans District Plan²⁸.
- 9.97. Fire services plan using a local risk management approach rather than one based on population and general response times. Services are provided in a way that best manages risk. Greater attention is now paid to reducing the incidence of fire and accidents, rather than the reactive fire and rescue services²⁹.
- 9.98. There are four fire stations in St Albans City and District. St Albans Fire Station is permanently crewed 24 hours a day (known as a 'wholetime' station), whilst the remaining stations, Redbourn, Harpenden and Wheathampstead, are crewed by a retained duty system. There is also a wholetime fire station in Hemel Hempstead.
- 9.99. Redbourn and Wheathampstead fire stations are currently being refurbished to be co-located with their local libraries.

Impact of Planned Growth

- 9.100. Fire & Rescue services are not based on population levels, but on risk. An increase in housing and other development may not attach a greater risk level in itself, this will depend on the type of housing and where it is located.

In addition, new housing is more likely to be safer than older properties. The HFRS identify pockets of inequalities where there are high levels of response and prevention activity. No changes are anticipated at the present time to the provision of HFRS facilities in the District. However, a new Integrated Risk Management Plan (IRMP) is currently being produced, which may indicate a requirement for change in the future.

- 9.101. No specific problems are anticipated in serving the developments proposed in the LP. However it is noted that the Broad Locations at Hemel Hempstead will be served mainly from facilities and services within the Town.

Fire Services	
Lead Agencies	<ul style="list-style-type: none"> • Hertfordshire County Council Fire Authority • Hertfordshire Fire and Rescue Service
Evidence Base	<ul style="list-style-type: none"> • HCC Community Directorate Corporate Plan 2013 – 2018 • HFRS Integrated Risk Management Plan 2014 – 2018 • HFRS Dacorum and St Albans District Plan 2014/15 & 2015/16
Existing Provision	<p>Four Fire Stations at: St Albans, Wheathampstead, Harpenden and Redbourn.</p> <p>St Albans Station is crewed 24 hours; the others are crewed on a retained duty system.</p> <p>A crewed 24 hours fire station in Hemel Hempstead.</p>
Gaps in Provision	No indicated gaps in provision
Planned Provision	No additional services are planned for the District, refurbishment of Wheathampstead and Redbourn fire stations currently underway.
Impact of development proposals	Fire and Rescue services are not based on population levels, but on risk. An increase in housing may not attach a greater risk level in itself, this will depend on the type of housing and where it is located. In addition, new housing is more likely to be safer than older properties.
Potential for Delivery	It is anticipated that the Fire and Rescue service will identify the most cost effective method of supplying any necessary infrastructure.

Delivery Mechanisms in the Local Plan	Policy L17 – Infrastructure
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Leisure and Cultural Facilities

Sports and Leisure Facilities

9.102. A 2005 review of the Council’s leisure centres found that many of the existing facilities were ageing and no longer fit for purpose³⁰. Additionally, the facilities at Batchwood were destroyed by fire in August 2011. However, three new leisure centres have opened in the District since 2012:

- Westminster Lodge:

The purpose built leisure centre was opened in November 2012. Its facilities include: two swimming pools, a 4 court sports hall, a 200 station gym and a separate youth gym, group exercise studios, an indoor climbing wall, children’s soft play area, café and crèche. The Abbey View athletics track was reopened in January 2019 having been resurfaced to bring it up to championship standard.

- Batchwood Sports Centre:

The facility at Batchwood was destroyed by fire in August 2011. The new Batchwood Sports Centre and a Lawn Tennis Association High Performance Tennis Centre were opened in May 2014. The centre contains: six indoor and three outdoor tennis courts, a judo dojo, a 48-station gym, squash courts and a strength and conditioning suite. A golf course and bowls green are also on site.

- Cotlandswick Leisure Centre:

The new leisure centre at London Colney was opened in June 2015. Facilities include: nine artificial grass football pitches, a sports hall, a 60-station gym, an exercise studio and a children’s play area.

9.103. The leisure centre improvement scheme may be extended to further facilities³¹. The redevelopment of Harpenden Pool and Sports Centre has been given approval. The redevelopment includes extending and transforming the Swimming Pool site into one modern integrated leisure centre. The existing sports centre will be developed into a modern theatre and cultural centre.

Sports Pavilions

- 9.104. Sports pavilions are essential facilities to encourage sport and the use of playing fields and outdoor sports facilities. They can also include social facilities and meeting rooms for use by community organisations and to hold indoor groups and classes. There are a range of sports pavilions across the District of varying size and function, many of which are managed by the District Council or by Town and Parish Councils.
- 9.105. The St Albans City and District Playing Pitch Strategy 2005³² identifies eight sports pavilions owned by the District Council, which are in need of significant improvement works or replacement:
- St Michaels at Verulamium Park
 - Cricket Pavilion at Verulamium Park
 - Orchard Pavilion at Rothamsted Park
 - Amenbury Lane at Rothamsted Park
 - Marlborough Club
 - Cunningham Hill
 - William Bird Pavilion
 - Clarence Park Pavilion
- 9.106. These pavilions are in various conditions but are all reaching the point in their lifespan where they will be in need of redevelopment or refurbishment. Further details are set out in the Green Space Management Plan and the supporting actions plans produced for each open space in the District. Further surveys will be undertaken to identify priority projects.
- 9.107. The St Albans City and District Playing Pitch Strategy Update 2019³³ estimates that an additional 38-42 pitches will be needed over the Local Plan period until 2036, with junior football having the greatest need. It also estimated that there would be a large need for sports pitches in the proposed development in Hemel Hempstead.

St Albans City Football Club

- 9.108. St Albans City Football Club (SACFC) grounds are located to the North-East of the St Albans City Centre area, at Clarence Park. The existing facilities at Clarence Park are in need of improvement or replacement. For the Club to develop, modern purpose built facilities are needed. Due to site constraints at Clarence Park, it may be difficult for the Club to develop its existing ground and this may necessitate relocating to a new site. The

Council supports the Club’s ambition to develop and recognises the important role played by SACFC in the wider community as noted in the Council’s recent Corporate Plan³¹.

Impact of Planned Growth

- 9.109. Residents of new developments are likely to increase the demand on the existing and new leisure and sports facilities across the District. Therefore, it is expected that new development would contribute towards new, redeveloped or refurbished sport and leisure facilities through planning obligations, or CIL in accordance with the SADC capital programme.
- 9.110. New provision will be required with sports use open space within the East Hemel Hempstead developments. Initial work undertaken with the developers indicates that it will include formal playing pitches and children’s play space. However, there is a need to plan the detail of provision, taking account of existing provision and deficiencies in Hemel Hempstead and the potential for joint use of the secondary school site and facilities. Provision will also be required in the larger Broad Location developments.
- 9.111. At the East St Albans Broad Location, Oaklands College currently has sports facilities including: synthetic pitches, grass pitches, a hydrotherapy pool and a sports hall. The redevelopment of the college site alongside the residential development provides an opportunity for the shared use of sports facilities, which will be explored through the master planning process.

Sports and Leisure Facilities	
Lead Agency	<ul style="list-style-type: none"> • St Albans City and District Council (SADC)
Evidence Base	<ul style="list-style-type: none"> • St Albans City & District Sport and Recreation Facilities Strategy 2005 • St Albans City & District Playing Pitch Strategy 2005 • St Albans City and District Council Corporate Plan 2019 • St Albans City & District Playing Pitch Strategy Update 2019
Existing Provision	<ul style="list-style-type: none"> • A range of sports facilities and leisure centres in the District • Seven sports pavilions associated with playing fields across the District.
Gaps in Provision	No indicated gaps in provision, however future refurbishment of sports pavilions and additional pitches may be required.

Planned Provision	Redevelopment of Harpenden Sports Centre and Pool.
Impact of development proposals	Residents of new development will make use of existing and new leisure and sports facilities across the District. Therefore, it is expected that new development would contribute towards new redevelopment or refurbished sport and leisure facilities through developer contributions, planning obligations or CIL. New provision will be required of open space with sports use within larger Broad Location developments.
Potential for Delivery	Expansion/replacement of existing facilities. Smaller community based facilities could be incorporated as part of larger housing developments. Developer contributions under planning obligations/CIL.
Delivery Mechanisms in the Local Plan	Policy L17 – Infrastructure Policy L22 – Community, Leisure and Sports Facilities. The Council supports the retention of existing community, leisure and sports buildings and facilities. Development which would lead to the loss of buildings or facilities used, or last used, for such purposes, will not be permitted unless suitably re-provided elsewhere, or unless it can be clearly demonstrated that the building or facility is no longer required. The Council supports the principle of the development of a new stadium and training facilities for St Albans City Football Club, and it is likely that the community benefits arising from a thriving football club would carry considerable weight in considering any future application for a new stadium.

Cultural Services & Public Realm

9.112. The requirement for greater private and public sector investment in the City and District’s cultural infrastructure reflects both the aspirations of local

residents and the demands of an expanding visitor economy. The City Vision³⁴ promotes the concept of the City as a cultural hub, which would take the form of both a physical and virtual sub-regional centre for arts and leisure, led by the City Centre and supported by other settlements.

9.113. The Council has prioritised leisure and cultural provision. In addition to the leisure development outlined above, there are several key cultural development possibilities:

- Conversion of the Town Hall to support the presentation of the post Roman heritage of the City and contemporary arts. The previous premise on Hatfield Road has now been closed. St Albans Museum and Gallery opened in summer 2018.
- Development of the Verulamium Museum to provide state of the art facilities to include presentation of the pre-Roman and natural heritage of the District, in partnership with the Herts Wildlife Trust.
- The Alban Arena, an 850 seat auditorium which is located centrally within the Civic Centre Opportunity Site, requires either significant refurbishment or redevelopment in the near future. There are aspirations to increase its capacity to 1,200 seats. Further detail is available in the Civic Centre Opportunity Site Development Brief (adopted July 2012).
- The Maltings Theatre is currently located within the Maltings retail complex. The future use of the Maltings Theatre has recently been reviewed. The annual revenue cost of the theatre is currently subsidised.
- Harpenden Public Halls has a theatre and smaller performance space. They are used for a variety of live performances, film, workshops and local youth theatre. Harpenden Sports Centre will be transformed into a new theatre to replace the Harpenden Public Halls.

Cathedral

9.114. The Abbey Cathedral attracts approximately 200,000 annual visitors in addition to regular weekly congregations in excess of 1,000. The Council is working with the Cathedral to inform emerging plans for the physical and cultural expansion of the Cathedral in a number of spheres, all of which will greatly raise the visitor profile of St Albans as a heritage city, centre for worship and pilgrimage site. The Council has been working closely with the Dean and Chapter and a number of suggested proposals were identified in the City Vision 2009³⁴. These proposals would enhance the Abbey's national and local profile, expand and improve its education and outreach work, and enhance its facilities to fulfil its role as a centre of community activity. Currently, a new Welcome Centre is being built and the Chapter House is being renovated to significantly improve learning facilities as part of the Cathedral's 'Alban, Britain's First Saint' Project. The new Welcome Centre will open in 2019.

- 9.115. The Cathedral is pursuing a substantial proposal for a New Cloister development of over 700m² of new floorspace comprising education, conference and library space; supporting facilities; visitor information and a retail/catering area. This will require significant investment in new infrastructure to support the new facilities, including improved accessibility and movement (particularly for groups), car parking and servicing.
- 9.116. Joint initiatives with the Council would include linked marketing and promotion, enhanced accessibility, signposting and interpretation. These could be delivered in part by planned public realm improvements which would recognise the Cathedral Quarter as a destination linked to Verulamium Park.

Public Realm

- 9.117. The Council has identified the need to carry out a range of public realm improvements in both the City Centre and wider District to meet resident and visitor expectations. A Public Realm Delivery Strategy³⁵ (PRDS) has been developed which identifies, rationalises and prioritises interventions on a long-term basis, and sets out management and funding mechanisms.
- 9.118. There are three key project elements to the Public Realm Delivery Strategy:
- Public Spaces

A series of projects aimed at improving public spaces in the City Centre. Projects look to broaden the appeal of underutilised spaces in St Albans, making them work harder for the city. Long term projects include: the Market Place, the area around the Clock Tower, City Station and the Old Town Hall Square.
 - Routes

These projects are aimed at improving public routes in the City Centre to help the movement of pedestrians, cyclists and vehicles around the city, as well as improve the legibility of the city. The Verulamium Park Cycle Routes project identified in the strategy has now been completed, and the Green Ring cycle route was opened in October 2018. Other short term priorities include City Legibility projects (which are currently being delivered) and Victoria Street improvements. Longer term projects include: City Core Traffic Management, St Peters Junction, George Street, Holywell Hill and Drivers Alley.

- Environment

A series of projects aimed at improving the public environment in the City Centre. Long term priorities include new tree planting and new benches.

Impact of Planned Growth

9.119. The planned growth is likely to lead to an increase in demand for arts and cultural services and facilities. It is unlikely that development will include new cultural facilities. However, developer contributions / CIL could support the expansion/provision of new facilities.

Cultural Services and Public Realm	
Lead Agency	<ul style="list-style-type: none"> • SADC
Evidence Base	<ul style="list-style-type: none"> • St Albans City Vision (2009) • St Albans Rural Vision (2009) • St Albans Public Realm Delivery Strategy (2012)
Existing Provision	<ul style="list-style-type: none"> • Existing Verulamium Museum and St Albans Museum and Gallery
Gaps in Provision	<ul style="list-style-type: none"> • Lack of gallery space in the City Centre • Required public realm improvements
Planned Provision	<ul style="list-style-type: none"> • Harpenden Sports Centre to be transformed into new theatre and cultural centre; • Long term improvements to the Verulamium Museum; • Short and long term public realm improvements set out in the Public Realm Delivery Strategy; • New cloister development at the Cathedral.
Impact of development proposals	Significant housing growth is likely to lead to an increase in demand for arts and cultural services and facilities.
Potential for Delivery	It is unlikely that new cultural facilities will be provided as part of new developments. Developer contributions/CIL could contribute to the expansion/provision of new facilities. New development should also look to enhance the public realm and provide public art.
Delivery Mechanisms in the Local Plan	Policy L13 – Attractive and vibrant cultural and civic areas. Cultural and civic areas will be enhanced and managed to create and encourage business, commercial, cultural and visitor activities which are

	<p>a focus of community activity and pride. The Council will seek to encourage activities which celebrate the District's culture, community and history.</p> <p>Policy L17 – Infrastructure</p> <p>Policy L22 – Community, Leisure and Sports Facilities. The Council supports the retention of existing community, leisure and sports buildings and facilities. Development which would lead to the loss of buildings or facilities used, or last used, for such purposes, will not be permitted unless suitably re-provided elsewhere, or unless it can be clearly demonstrated that the building or facility is no longer required.</p> <p>Policy L23 – Urban Design and Layout of New Development</p>
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Libraries

- 9.120. HCC has responsibility for the delivery of library services. There are six libraries in the District: Harpenden Library; London Colney Community Library; Marshalswick Library; Redbourn Community Library; St Albans Central Library and Wheathampstead Community Library. St Albans Central Library is currently undergoing a major refurbishment to provide a modern, state-of-the art library. Both Redbourn Community Library and Wheathampstead Community Library are being relocated to buildings co-located with the local fire stations, with construction currently underway.
- 9.121. Hertfordshire Library Service adopted the 'Inspiring Libraries' Strategy³⁶ in 2014. This strategy sets out a vision and direction for the library service over a ten year period. The context for library services has changed nationally over the last few years with public sector financial challenges, technological and lifestyle change. The library service needs to respond to these changes to maximise its relevance to customers and contribution to communities. The strategy is underpinned by three principal ambitions: creating community assets, utilising technology for the benefit of residents, and creating libraries as an enhanced gateway to reading, information and wellbeing.
- 9.122. The Strategy categorises Hertfordshire's library buildings into three tiers, with central, town and city libraries branded as tier one, offering the

broadest range of services and longest opening hours, down to tier three libraries, which offer self-service access and short opening hours. Within the District, Harpenden and St Albans libraries will be tier one, Marshalswick tier two, and London Colney, Redbourn and Wheathampstead libraries were classed as tier three. The tier three libraries have been transformed into volunteer-run Community Libraries. Redbourn Library has been operating as a Community Library since 2016, Wheathampstead Library and London Colney Library completed their transitions in 2018.

- 9.123. In addition, Hertfordshire County Council secured £700,000 in grant funding from the Department for Communities and Local Government to investigate the co-location of up to four libraries with retained fire stations in small towns and villages, including Wheathampstead and Redbourn libraries³⁷. Feasibility studies were undertaken in 2015 and the subsequent report recommended the project proceeds to co-locate the libraries. Construction is currently underway.
- 9.124. Plans are progressing for a major refurbishment to modernise and improve facilities at St Albans Library in 2016/17, using planning obligation funding³⁸. Refurbishment is underway at this present time, with expected completion in 2019.
- 9.125. A procurement process has been started by Hertfordshire County Council to see if an external independent organisation can be contracted to provide library services and deliver significant savings, without reducing levels and quality of service. A saving of £500,000 is required in the annual revenue budget for Libraries. The new contract for library services will not start until October 2019 at the earliest.

Impact of Planned Growth

- 9.126. The increased residential development will place pressure on library services. However, Hertfordshire County Council has no plans to provide additional libraries in St Albans District, so any required increase in provision will be met by increasing the capacity of service provision in the most appropriate library, or libraries nearest to the proposed residential developments.
- 9.127. For the East Hemel Hempstead Broad Location development, library facilities in Hemel Hempstead will be available. The Hemel Hempstead library, which is to be classed as a tier one library, was part of the HCC strategy, is located in the new Hemel Hempstead Civic Centre, which opened in 2017.

Library Services	
Lead Agency	<ul style="list-style-type: none"> • HCC
Evidence Base	<ul style="list-style-type: none"> • HCC Inspiring Libraries: A new strategy for Hertfordshire Libraries • HCC Public Health, Localism and Libraries Committee Reports (various) • HCC Cabinet Panel Reports (various)
Existing Provision	There are six libraries in the District
Gaps in Provision	No indicated gaps in provision
Planned Provision	Refurbishment of St Albans Library. Co-location of Wheathampstead and Redbourn libraries with retained fire stations.
Impact of development proposals	Residents of new development are likely to make use of existing and refurbished library facilities. Increased residential development may place pressure on library services. However, new library facilities will not be required.
Potential for Delivery	New library facilities will not be required. Planning obligation or CIL contributions could be used to support improvements to existing facilities or replacement facilities.
Delivery Mechanisms in Local Plan	Policy L17 – Infrastructure Policy L22 – Community, Leisure and Sports Facilities. The Council supports the retention of existing community, leisure and sports buildings and facilities. Development which would lead to the loss of buildings or facilities used, or last used, for such purposes, will not be permitted unless suitably re-provided elsewhere, or unless it can be clearly demonstrated that the building or facility is no longer required.

Cemeteries

9.128. In general terms, over the last 10 years there has been an average of about 225 burials per annum in the District. Approximately one third have been cremated, which means there are about 140-150 burials per year, approximately one third of which are in reopened family graves.

9.129. There are three cemeteries in the District:

- Hatfield Road Cemetery, St Albans – some capacity in relation to reclaimed graves. New laws to allow reuse of graves through ‘lift and deepen’ will potentially increase capacity.
- London Road Cemetery, St Albans – The District Council extended London Road cemetery in 2009 and re-arranged provision in 2017-18 to provide capacity for a further 10 years. Part of the additional land is for Muslim burials. In autumn 2018, a new Garden of Rest was created for the burial of cremated remains. Each of the new plots are edged to define individual graves and also have a larger memorial.
- Westfield Road Cemetery, Harpenden – estimated 33 years capacity.

9.130. There are five Churches in the District which carry out churchyard burials. In 2016, an assessment was carried out to determine the future capacity of churchyard burial sites in the District and to identify whether additional land for churchyard burials was required:

- St Leonard’s Church, Sandridge – limited capacity – estimated 20 years capacity
- St Mary’s Church, Redbourn – additional land for burials is being used at Westfield Road
- St Stephens Church, St Albans – estimated 20 years capacity
- St Marks Church, Colney Heath – estimated 5-10 years capacity
- St Helens Church, Wheathampstead – estimated 10 years capacity

9.131. West Herts Crematorium at Garston is run by the West Herts Crematorium Joint Committee comprising of the authorities: Three Rivers, Dacorum, Hertsmere, St Albans and Watford.

Impact of Planned Growth

9.132. The need for additional cemetery capacity is estimated on the basis of population increase and mortality rates rather than an increase in residential development. The general UK trend is that people are now living longer than they used to; this is particularly the case in St Albans.

9.133. In relation to the growth proposed in the St Albans Local Plan, a Technical Report on Cemeteries Provision in March 2019 identifies the planned extension of London Road Cemetery³⁹. The report states that for London Road Cemetery to meet burial demand for the 18 year period between 2018 and 2036, it would need to occupy approximately 4 to 5 hectares allowing for population growth. Policy L22 allocates an area of land for the extension of the existing London Road Cemetery, as identified in the Policies Map.

9.134. Given the significant development at East Hemel Hempstead impacts on facilities in that town, facilities will need to be checked as part of the LP / master planning process.

Cemeteries	
Lead Agency	<ul style="list-style-type: none"> • SADC – Community Services
Evidence Base	<ul style="list-style-type: none"> • Liaison with Community Services and the Council's Cemeteries Manager • St Albans Parks and Open Spaces Management Plan 2015-2020 • Cemeteries Provision Technical Report 2019
Existing Provision	<ul style="list-style-type: none"> • There are three Cemeteries and five churchyards in the District.
Gaps in Provision	<p>There are no known existing gaps in provision.</p> <p>There may however be a need to contribute to the maintenance of further closed churchyards transferred to the Council for on-going maintenance. SADC currently maintain 4 closed Churchyards.</p>
Planned Provision	Policy L22 allocates an area of land for the extension of the existing London Road Cemetery.
Impact of development proposals	The development proposals will result in an increased population. Currently there is sufficient capacity to accommodate this. However, this will be kept under review.
Potential for Delivery	New cemeteries or crematoria improvements could be delivered by seeking developer contributions, through planning obligations or CIL or funding from planning obligations.
Delivery Mechanisms in the Local Plan	<p>Policy L17 – Infrastructure</p> <p>Policy L22 – Community, Leisure and Sports Facilities (see 'Cemeteries'). The Council needs to ensure provision of additional cemetery facilities over the lifetime of the LP. Expansion of the existing London Road, St Albans cemetery is allocated as the most sustainable way of providing additional capacity, as identified on the Policies Map.</p>

Youth Provision

9.135. YC Hertfordshire⁴⁰ provides young people with targeted prevention and early intervention youth work projects and programmes, information,

advice, guidance and support on areas such as: education, work, health, relationships, emotional wellbeing, alcohol, and drugs.

9.136. YC Hertfordshire centres in the District:

- Pioneer Young People's Centre (shared site with the Pioneer Charity)
- Harpenden Young People's Centre (above the library in the High Street)
- Catherine Street Young People's Centre⁴¹ (St Albans Town Centre)

These venues provide a resource for the delivery of youth work projects and programmes, including some of the below:

YC Hertfordshire projects⁴² in the District:

- St Albans Youth Council - Voice of Young People (in partnership with St Albans City & District Council)
- Creative Spark Project for young people with learning difficulties (13-17)
- Creative Spark Project for young adults with learning difficulties (18-24)
- The Discovery Project (Monthly Trans Gender)
- LGBTQ+ (13-17)
- LGBTQ+ (18-24)
- Independent Living Skills (targeted at young people in and leaving care)
- Harpenden Friday Night Project
- Youth at Risk Project (working with young people at risk of entering the criminal justice system)
- The Refugee Project
- The Wheathampstead Project
- The Wednesday Night Pioneer Project - for children looked after and care leavers
- The Thursday Night Pioneer Project
- The Friday Night Pioneer Project
- Young Carers
- Girls Allowed – project for girls and young women
- Young Parents and Parents to Be Project
- Detached / Street Projects across the District
- Access Point Projects at Catherine Street Young People's Centre - providing information, advice and guidance including education, employment and sexual health

9.137. There are also a number of existing skate parks and BMX tracks in the District which cater for older children at Rothamsted Park (Harpenden), Pioneer Charity Youth Club (St Albans) and Oysterfields (St Albans)⁴³. Additionally, the Verulamium Park Management Plan has identified the need for the provision of a skate park in the park⁴⁴.

Pioneer Young People’s Centre (YC Hertfordshire) and Pioneer Club (Charity)

9.138. The current building is in need of considerable modernisation to ensure the centre is able to meet the wide-ranging needs of both its users and activities. At the same time, HCC is seeking to dispose of its land interest at Harpenden Road, St Albans which includes the site on which the Pioneer Youth Centre is located. HCC is considering options for the re-provisioning of the centre, including new facilities either on a new site or retaining the centre on site, as part of any new developer scheme on the land^{45 46}. Proposals are likely to involve the consolidation of other youth services through shared accommodation with partners such as YC Hertfordshire and HCC’s Health and Community Services.

Impact of Planned Growth

9.139. Development proposals will increase the need for, and use of, youth facilities in the future. Existing facilities and the re-provisioning of the Pioneer Centre are likely to be able to meet some of this demand. However, play areas and smaller youth facilities (including as part of school joint use, or in community buildings and new open spaces) can also be delivered through new developments.

Cultural Services – Youth Provision	
Lead Agency	<ul style="list-style-type: none"> • YC Hertfordshire • St Albans City and District Council • St Albans Youth Council • St Albans Youth Strategy Group • Town and Parish Councils
Evidence Base	<ul style="list-style-type: none"> • St Albans Play and Free Time Strategy (2007)
Existing Provision	<ul style="list-style-type: none"> • St Albans Youth Council - Voice of Young People (in partnership with St Albans City & District Council) • Creative Spark Project for young people with learning difficulties (13-17) • Creative Spark Project for young adults with learning difficulties (18-24)

	<ul style="list-style-type: none"> • The Discovery Project (Monthly Trans Gender) • LGBTQ+ (13-17) • LGBTQ+ (18-24) • Independent Living Skills (targeted at young people in and leaving care) • Harpenden Friday Night Project • Youth at Risk Project (working with young people at risk of entering the criminal justice system) • The Refugee Project • The Wheathampstead Project • The Wednesday Night Pioneer Project - for children looked after and care leavers • The Thursday Night Pioneer Project • The Friday Night Pioneer Project • Young Carers • Girls Allowed – project for girls and young women • Young Parents and Parents to Be Project • Detached / Street Projects across the District • Access Point Projects at Catherine Street Young People’s Centre - providing information, advice and guidance including education, employment and sexual health.
Gaps in Provision	Required re-provisioning of existing facilities
Planned Provision	<p>Re-provisioning of Pioneer Young People’s Centre, St Albans to facilitate development of existing site and provide better quality facilities.</p> <p>Portable Youth Shelters are currently being trialled. Town Councils and Parishes are being consulted about plans to install permanent structures.</p>
Impact of development proposals	Development proposals will increase the need for and use of youth facilities in the future.
Potential for Delivery	Play areas and smaller youth facilities can be delivered through new developments. Larger facilities could be partially supported by developer contributions through planning obligations or CIL contributions.
Delivery Mechanisms in the Local Plan	<p>Policy L17 – Infrastructure</p> <p>Policy L22 – Community, Leisure and Sports Facilities. The Council supports the retention of existing community, leisure and sports buildings and facilities. Development which would lead to the loss of buildings or facilities used, or last used, for such purposes, will</p>

	not be permitted unless suitably re-provided elsewhere, or unless it can be clearly demonstrated that the building or facility is no longer required.
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10. Green Infrastructure

- 10.1. The Council has assembled a substantial and robust evidence base on the need for green infrastructure improvements in the District and at County level. This includes local open space provision as well as green infrastructure in the wider sense. Green infrastructure has many environmental, social and economic benefits and its delivery and management is critical to achieving sustainable communities.
- 10.2. The Council has prepared two key documents in relation to green infrastructure: the Green Infrastructure Plan and the Green Space Strategy. These documents provide an assessment of existing provision at different spatial scales, consider improvement and enhancement strategies and set a direction for future provision. The IDP addresses the strategies set out by both documents in the following section.
- 10.3. This section is split into two parts by spatial scale. The first section deals with large scale strategic green infrastructure which often crosses local authority boundaries; the second focuses on local green spaces, such as parks, allotments and play areas.

Strategic Green Infrastructure

- 10.4. The District⁴⁷ and County⁴⁸ Green Infrastructure Plans identify further work which will be needed in future to provide and manage green infrastructure. The Green Infrastructure Plans:
 - Provide an overview of existing green infrastructure assets;
 - Set out an assessment of the ability of green infrastructure to provide multiple environmental, social and in some cases economic functions;
 - Consider opportunities for enhancement and creation of green infrastructure;
 - Outline a series of potential projects to deliver multiple functions and benefits, and
 - Provide advice on taking green infrastructure proposals forward through spatial planning and practical delivery.
- 10.5. St Albans District has a rich green infrastructure resource centred on the principal river valleys of the Ver, Colne and Lea, in addition to a varied mosaic of landscape and habitat types, such as heathland, ancient and plantation woodland and farmland.

- 10.6. As part of the Green Infrastructure Plan process, consultants were engaged to carry out contextual studies, map analysis and understand the existing supply and need for green infrastructure in the District. They then formulated proposals including a strategic network of spatial and non-spatial projects including a guide to their future delivery.
- 10.7. The consultants identified a vision to:
- Conserve and enhance the varied landscapes, historic sites and riverine environments within the District.
 - Improve and create enhanced connectivity of green infrastructure, both in towns and countryside.
 - Recognise and value the District's existing heritage and cultural pattern and to improve opportunities in the landscape for health, quality of life and education.
- 10.8. Several action zones and green infrastructure types were then identified arriving at five key projects:
- Project 1: The enhancement of commons, grassland and heathland
 - Project 2: The connection and creation of a St Albans Radial Greenway
 - Project 3: The River Valleys (Ver, Lee and Colne) conservation and enhancement
 - Project 4: St Albans approaches and urban greening
 - Project 5: 'Green Hertfordshire' interactive map
- 10.9. There are several key on-going projects identified in the Green Infrastructure Plan, including:

Watling Chase Community Forest

- 10.10. Watling Chase Community Forest (WCCF) was established in 1991 as one of a programme of 12 Community Forests in England. It is a long-term project to improve the countryside around the towns of South Hertfordshire and North London. It covers an area of 72 square miles to the north of London, including land in the southern part of the District. Implementation is made up of area wide and individual projects. This includes the aim to increase woodland cover to 30% by 2030 through schemes to link and expand areas of native woodland and create new wet woodland. There is also a Rights of Way Improvement Plan looking at severance repair, upgrade to routes and links to neighbouring districts.

- 10.11. The vision for WCCF, described in the Forest Plan^{49 50}, is to see much of the area under positive and appropriate management by 2025. The initiative focuses on environmentally led activities for the benefit of all that live, work and play in the area. The vision in the Watling Chase Plan aims to achieve widespread landscape improvement, tree planting and increased opportunities for nature conservation, leisure and recreational access via positive and appropriate management.
- 10.12. The Forest objectives are developed and coordinated by the Countryside Management Service and the Groundwork East charity on behalf of: Hertfordshire County Council, Welwyn Hatfield Borough Council, Hertsmere Borough Council and St Albans City & District Council. The WCCF objectives are to:
- Create new high quality woodland that provides significant landscape, heritage and/or biodiversity gains;
 - Facilitate good management of existing woodland;
 - Create and enhance good quality access networks for leisure, recreation and/or commuting;
 - Secure involvement in WCCF from a wide range of local communities, especially those socially excluded from their environment;
 - Maximise opportunities to address climate change issues through WCCF activities;
 - Maximise financial and in-kind investment from local businesses and external sources to deliver all WCCF objectives; and
 - Maximise environmental benefits from planning applications/development proposals to enable delivery of WCCF objectives.
- 10.13. The Council will support and encourage WCCF projects and funding opportunities, particularly as a result of new development. Policy L29 seeks opportunities for the continued implementation of the WCCF Plan, especially in association with development at the Park Street Garden Village and London Colney Broad locations. The Council will also welcome detailed proposals for the purposes of landscape conservation, improved access, recreation, nature conservation and timber production through planning obligations, in line with the WCCF Supplementary Planning Guidance⁵¹ (SPG).

Heartwood Forest

- 10.14. Located between Sandridge and Wheathampstead, Heartwood Forest⁵² is a large-scale reforestation project. It involved more than 600,000 new trees being planted across 347 hectares of Green Belt land over a period of 12

years, with planting fully completed in 2017. The Forest is managed by the Woodland Trust and supported by the work of volunteers; it is a key part of the District's Green Infrastructure Network. New footpaths, cycle paths and bridleways have been created, linking in with surrounding areas. The Woodland Trust is creating a community orchard in the south-eastern part of Heartwood Forest, along with establishing new wildflower meadows, an arboretum of native tree species and open spaces.

- 10.15. Heartwood Forest is currently the largest continuous new native forest in England. The site will become broadleaved woodland and a natural resource which can support more species than any other land habitat. It is also part of the wider Commons, Grassland and Heathland enhancement projects supported in both the County and District Green Infrastructure Plans. Numbers of visitors have greatly exceeded expectations in the early years of this project, demonstrating a high level of need for strategic green infrastructure. Policy L29 seeks opportunities for the continued implementation of the Heartwood Forest project.

Ellenbrook Country Park

- 10.16. Ellenbrook is a new country park being created on part of the former De Havilland aerodrome site east of Smallford, near Hatfield. The country park was devised and is being delivered through cross-boundary co-operation between this Council and Welwyn Hatfield Borough Council, primarily through a planning agreement related to a major urban extension of Hatfield that has occurred over the last 10 years. Policy L29 seeks opportunities for the creation of the Ellenbrook Country Park in accordance with relevant planning agreements.
- 10.17. The plans for the country park include hay meadows, woodland, cattle grazing, footpaths and a bridleway. Final plans are now under review as a result of new proposals for mineral extraction and possible further urban development in the Welwyn Hatfield Local Plan. A more comprehensive country park plan is being developed to include definitive public access and informal recreation opportunities. The conservation, enhancement and management of existing grassland and ancient woodland will be included alongside the creation of new lakes, woodlands and ecological habitats.

Broad Location Country Parks

- 10.18. In Policy S6, Country Parks are provided with some strategic sites including the Broad Locations at: East Hemel Hempstead (North and South), North Hemel Hempstead and Park Street Garden Village. These new Country Parks will provide facilities for new and existing communities. Provision will be confirmed through the Masterplanning process.

Hertfordshire Ecological Networks project

- 10.19. The 'Hertfordshire's Ecological Networks' report⁵³ (2014) identifies priorities and opportunities to connect, restore and create high priority habitats in order to establish resilient local ecological networks at a landscape scale within the District, at county level and beyond. The ecological networks mapping data will have a key role in informing the planning and development of new green infrastructure. The Broad Locations at: East Hemel Hempstead (North and South), North Hemel Hempstead, East St Albans, North St Albans, North East Harpenden and Park Street Garden Village include proposals for managed ecological network links, as part of strategic and local open spaces.

Hertfordshire Rights of Way Improvement Plan (RoWIP)

- 10.20. The Rights of Way Improvement Plan for Hertfordshire⁵⁴ (third edition) for the period 2017/18 – 2027/28, is a living document forming part of the Hertfordshire Local Transport Plan (LTP4). The Hertfordshire RoWIP includes a local scale Rights of Way Improvement Plan for St Albans District⁵⁵, outlining suggestions for future specific enhancements to the existing rights of way network across the St Albans area⁵⁶. The County and District RoWIPs aim to improve accessibility for all users by addressing severance, supporting sustainable transport and enhancing provision for recreation and leisure activities. The implementation of the RoWIPs is key to the development of a healthy multifunctional green infrastructure network.
- 10.21. Policy L29 seeks opportunities for the implementation of Rights of Way Improvement Plans and other route improvements to improve access to green infrastructure features. It also encourages opportunities for new definitive links between existing rights of way and greater access to the countryside for all users. Furthermore, enhancements to rights of way are included in proposals for improved countryside access links, including off-road paths for the Broad Locations at: East Hemel Hempstead (North and South), North Hemel Hempstead and Park Street Garden Village.

River Corridors

- 10.22. The River Valleys project aims to enhance the riparian character and wetland habitat connections while forming attractive, usable green links designed sensitively to ensure a sustainable outcome, along the District's river valleys (Ver, Lea and Colne). Improvements will also help to create positive approaches to the District's towns and villages. Enhancements will deliver improved and continuous access along the network of rivers, linking with projects in adjacent Districts and Counties. Several groups including:

the River Lea Catchment Partnership⁵⁷, the Ver Valley Society⁵⁸, the Chalk Streams Partnership⁵⁹ and the Colne Catchment Action Network⁶⁰ (ColneCAN) are also continuing to enhance and manage the District's river corridors.

Proposals for the River Valleys project include:

- Conservation and enhancement of the distinctive wetland environment;
- Positive approaches to St Albans and Harpenden (vantage points to appreciate cultural heritage);
- Significant opportunity to enhance wetland character near pinch points (Harpenden and Wheathampstead);
- Potential to create multi-functional spaces serving a multitude of purposes including accessible open space, habitat links, recreational corridors and climate change and flood mitigation functions which may include Natural Flood Management;
- Sustainably managed biomass/wet woodland creation.

10.23. The Thames River Basin District Management Plan 2016⁶¹ sets out how organisations, stakeholders and communities will work together to improve the water environment of the River Thames by 2021. It provides a framework for protecting and enhancing the benefits provided by the river's water environment. In particular, the Management Plan outlines indicative local measures for the Lower Lea North catchment covering St Albans District, which aim to improve water quality, habitats and biodiversity. The Lower Lee catchment partnership includes: the Hertfordshire and Middlesex Wildlife Trust, the Environment Agency, Affinity Water, Groundwork Hertfordshire, Hertfordshire County Council and Natural England. In particular, the Lower Lee and Upper Lea catchment partnerships have undertaken a project titled 'Conserving Slimy Wrigglers', which seeks to improve fish populations in the catchment. The project aims to design, build and install features to ease eel movement on a maximum of three structures.

10.24. The Chalk Streams Partnership⁵⁹, led by Affinity Water and the Environment Agency, is a wider programme of projects which aim to protect and restore rare chalk streams. Affinity Water has agreed to cease or reduce the amount of water abstracted from groundwater sources on six chalk streams, which include the Ver and Upper Lee rivers within the St Albans District area. As part of the Chalk Streams Partnership, outline proposals to improve the River Ver, Verulamium Park Lakes and the wider river area through St Albans were put forward by SADC, the Environment Agency, Affinity Water and HCC's Countryside Management Service in 2018. The River Ver and Verulamium Park Lakes Improvement Project⁶² covers an area of the River Ver, flowing from the north of Verulamium Park

downstream to Sopwell Mill Farm. Further public engagement in the project is proposed in due course.

- 10.25. Policy L29 states that watercourses and their settings will be conserved for their biodiversity value (particularly as rare chalk stream habitats) and to improve water quality to meet the standards set out in Environment Agency River Basin Management Plans. In particular, the Thames River Basin District Management Plan 2016 includes suggested local measures to improve water quality in the Lower Lea North Catchment, which covers St Albans District.

Commons, Grassland and Heathland Enhancements

- 10.26. The District includes ten areas of common land of varying size and character, spread across urban and rural areas. Managed for public access, they also represent an important natural resource and include: semi-natural grassland, heathland, woodland and wetland priority habitats. Several are designated Local Nature Reserves, and Bricket Wood Common is a Site of Special Scientific Interest (SSSI).
- 10.27. The District Green Infrastructure Plan recognises the potential of the Commons to contribute to the development and enhancement of multifunctional green infrastructure and ecological networks. A key factor in this is the enhancement, expansion and linking of fragmented habitats, alongside provision for other green infrastructure functions and ecosystem services.
- 10.28. A core area for heathland restoration and expansion is identified in the Green Infrastructure Plan as the Harpenden-Wheathampstead Complex in the north of the District (based on Nomansland and Gustard Wood Commons, with the possibility of creating heathland type habitats on additional agricultural or forestry land to enlarge the area). Heartwood Forest adjoins Nomansland Common and has the potential to contribute to this objective, in addition to the creation of new woodland.
- 10.29. A second core area for grassland and heathland habitat restoration and expansion is identified as the Upper Colne Valley in the south of the District. This is based on Colney Heath and Bricket Wood Commons and the potential for additional benefits through the restoration of minerals sites.
- 10.30. Commons are covered under the current St Albans Parks and Open Spaces Management Plan⁶³ (2015-2020), which is produced at five year intervals by the District Council. Further details of on-going and planned projects at individual Commons and green spaces can be found in the suite

of Management and Actions Plans, which support the overarching Parks and Open Spaces Management Plan¹ (see Source I for further information).

Flood risk

- 10.31. The Level 1 Strategic Flood Risk Assessment (SFRA) 2018 report for South West Hertfordshire⁶⁴ covers a study area comprising: St Albans District, Dacorum Borough, Three Rivers District and Watford Borough. It provides a comprehensive and robust high-level evidence base on strategic flood risk to support the production of the Council's new Local Plan. Appendix C⁶⁶ of the SFRA 2018 outlines information on flood risk in the District, focusing on: fluvial flood risk, surface water flood risk, groundwater flood risk, as well as sewer flooding.
- 10.32. The sources of fluvial flood risk in St Albans are the River Lee in the north of the District, the Rivers Colne and Ver, and two tributaries of the Colne to the east, the Ellen and Butterwick Brooks. In the River Lee, small sections of north Batford and north east Wheathampstead are located within Flood Zones 2 and 3. East Redbourn and parts of southwest St Albans are situated within Flood Zones 2 and 3 of the River Ver, with the Flood Zone extents becoming greater as the watercourse passes through St Albans. The flood extents associated with the River Colne and its tributaries, the Ellen and Butterwick Brooks are more extensive, affecting eastern St Albans, Colney Heath and Napsbury Park.
- 10.33. Surface water flood risk is largely confined within the valleys of the Main Rivers and ordinary watercourses of St Albans District, particularly within rural areas. Within the main settlements, surface water flow paths are predicted to form on the impermeable surfaces with sufficient gradients. Within St Albans City, surface water follows routes along the road network southwest into the River Ver, and eastwards into Butterwick Brook. Surface water flooding is also predicted to occur in Harpenden during a 1 in 30-year rainfall event, where rainwater is channelled into a natural low point, possibly a dry valley, through the centre of the town. The Midland Mainline railway embankment (running through the centre of the District), as well as Redbourn Road, London Road and the North Orbital Road in St Albans provide topographic barriers to flow. It is predicted that surface water could back up on either side of the transport links. In reality, this risk will partially be managed by drainage beneath the railway and road network.
- 10.34. Groundwater flood risk is concentrated in the floodplains of the Rivers Lee, Ver and Colne, as well as Butterwick and Ellen Brooks. Here, the chalk geology and gravel surface deposits can result in heightened groundwater levels at or just below the ground surface. The settlements identified as at

highest risk of groundwater flooding are: southern St Albans, Marshalswick (St Albans), Redbourn, Batford and Wheathampstead.

- 10.35. Thames Water sewer flooding register data for the District illustrates that the highest number of sewer flooding incidents were recorded in St Albans City. Significant numbers of incidents were also reported in London Colney, Sandridge and Wheathampstead. The presence of flood risk in these areas suggests an interaction with the sewer network, perhaps through ingress or restricted outfalls at high river levels.
- 10.36. Appendix A⁶⁵ of the SFRA 2018 comprises a high level flood risk map, providing further information about different forms of flood risk in the District. In particular, it illustrates the extent of fluvial flood risk, surface water flood risk and groundwater flood risk.
- 10.37. The SFRA report includes assessments by the Environment Agency of the condition of formal structural flood defences in the South West Hertfordshire study area. One flood defence asset, Wheathampstead Wall, is located in the District. Wheathampstead Wall is located in central Wheathampstead on the left bank of the River Lee, west of Station Road. The area of North Wheathampstead (Station Road) benefits from the Wheathampstead Wall flood defence, with its current condition rated at Grade 4 – Poor. This rating describes defects that would significantly reduce the performance of the asset, with further investigation required.
- 10.38. Hertfordshire County Council is the Lead Local Flood Authority (LLFA) responsible for managing the risk of local flooding in the County. HCC published an updated Draft Local Flood Risk Management Strategy⁶⁷ (LFRMS) for consultation in 2018, which sets out policies and a plan of deliverable actions. The key principles of the Hertfordshire LFRMS are as follows:
 1. Taking a risk-based approach to local flood risk management
 2. Working in partnership to manage flood risk in the county
 3. Improving understanding of flood risk to better inform decision making
 4. Supporting those at risk of flooding to manage that risk
 5. Working to reduce the likelihood of flooding where possible
 6. Ensuring that flood risk arising from new development is managed appropriately

- 10.39. In 2015, HCC LLFA published a Flood Risk Asset Register⁶⁸ that identified structures (such as walls or embankments), which are likely to have a significant effect on flood risk. Three assets are identified in the register in St Albans District; two culverts and one speed table (a raised traffic calming device). A culvert is located along the highway/storm drain between Sandridge and Jersey Farm to mitigate surface water flood risk. A second culvert is located in northwest Smallford, on the edge of Oaklands Lane, to mitigate surface water flood risk. Additionally, a speed table is located at the junction of Rose Acre/Lybury Lane in Redbourn. The Southwest Hertfordshire SFRA states that relatively few areas rely on formal flood defences, meaning that there are limited areas where there is potential for rapid inundation to occur in the event of a breach/failure.
- 10.40. As set out in Policy L29, the Council will seek to avoid development in areas at risk from flooding (fluvial and groundwater) in accordance with national policy and ensure that water management and flood risk issues are fully addressed by new development. Sustainable (Urban) Drainage Systems (SuDS) approaches should be taken for all new development schemes.
- 10.41. The Environment Agency advise that green infrastructure may provide opportunities for Natural Flood Management to reduce flood risk. This could include the potential for delivering multiple benefits through reconnecting floodplains, removal of conveyance barriers such as weirs and creation of wet woodland for aiding natural flood attenuation.

Impact of Planned Growth

- 10.42. Development proposals contained in the Local Plan will result in increased demand for and the use of green infrastructure. The Broad Location sites have the potential to help deliver substantial green infrastructure benefits of local, District and County level importance.
- 10.43. Policy L29 illustrates the proposed 'Key Green Infrastructure Network' (outside the urban areas), which is set out at Figure 2 in the Local Plan. Conservation and enhanced public access improvements to this Green Infrastructure Network is a high priority.
- 10.44. Strategic green infrastructure provision will be required as part of development at some Broad Locations. In particular, the Broad Locations at: East Hemel Hempstead (North and South), North Hemel Hempstead and Park Street Garden Village include proposals to deliver new Country Parks, providing facilities for new and existing communities. Proposals for strategic public open space, including managed woodland and ecological network links are included for the Broad Locations at: East Hemel Hempstead (North and South), North Hemel Hempstead, East St Albans,

North St Albans, North East Harpenden and Park Street Garden Village. Further detail will be outlined in the Local Green Infrastructure section of this plan. Provision will be confirmed through the Masterplanning process.

10.45. Additional details can be seen in the appendices for green infrastructure. These provide some further information on work currently underway on detailed planning for this provision (see Appendices 83 to 92).

Strategic Green Infrastructure	
Lead Agencies	<ul style="list-style-type: none"> • St Albans City and District Council (SADC) • Hertfordshire County Council (HCC) • Town and Parish Councils • Hertfordshire Local Nature Partnership (LNP) and member voluntary bodies
Evidence Base	<ul style="list-style-type: none"> • St Albans District Green Infrastructure Plan 2011 • St Albans District Green Space Technical Report 2016 • Hertfordshire Strategic Green Infrastructure Plan 2011 (incorporating the Green Arc Area) • St Albans Parks and Open Spaces Management Plan 2015-2020 • SADC Open Space Management and Action Plans (various) <p>Other important evidence base documents include:</p> <ul style="list-style-type: none"> • Hertfordshire’s Ecological Networks Report 2014 • Landscape Character Assessment, Evaluation and Guidelines for Northern and Southern Hertfordshire (both 2001) • Hertfordshire Biodiversity Action Plan 2001 • Rights of Way Improvement Plan for Hertfordshire 2017/18 – 2027/28 • Watling Chase Community Forest Plan Review 2001 • St Albans City and District Urban Wildlife Survey 2001 • Habitat Survey for St Albans City and District – A Nature Conservation Reference Guide 1998 • Thames River Basin District Management Plan 2016 • Strategic Flood Risk Assessment for South West Hertfordshire 2018 – Final Draft • Hertfordshire Local Flood Risk Management Strategy 2 Draft – 2018

Existing Provision	Existing Green Infrastructure Network
Gaps in Provision	Levels of provision in relation to national standards
Planned Provision	<p>Details are set out in Green Infrastructure Plans. Provision for the Broad Locations will be confirmed through the Masterplanning process. Planned provision includes:</p> <ul style="list-style-type: none"> • Watling Chase Community Forest Projects • Heartwood Forest • River Corridor Improvements • Ellenbrook Country Park • Rights of Way Improvement Plans within St Albans District • Improving Green Approaches to Settlements • East Hemel Hempstead Northern Country Park • East Hemel Hempstead Southern Country Park • North Hemel Hempstead Country Park • Park Street Garden Village Country Park • Strategic public open space at: East Hemel Hempstead (North and South), North Hemel Hempstead, East St Albans, North St Albans, North East Harpenden and Park Street Garden Village
Impact of Development Proposals	<p>Development proposals will result in increased demand for and the use of green infrastructure.</p> <p>Strategic green infrastructure provision will be required as part of development at particular Broad Locations. These are: East Hemel Hempstead (North and South), North Hemel Hempstead, East St Albans, North St Albans, North East Harpenden and Park Street Garden Village.</p>
Potential for Delivery	<p>Delivery alongside identified Local Plan development sites delivered by developers and/or via CIL from developments to deliver District and County Green Infrastructure Plan proposals, as well as other funding mechanisms.</p> <p>The existing SPG for WCCF 'A Guide for Landowners, Developers and Users' is adopted.</p> <p>Management will be critical and it is important that appropriate arrangements are agreed upon at an early stage. Most Broad Location developments are required to deliver either a Community Management Organisation or sufficient assets to provide</p>

	<p>sustainable management of open spaces and parklands.</p> <p>Work in partnership with LNP, HCC, HLGIG, local organisations and interest groups to successfully bid for available funds from Government and other organisations.</p>
<p>Delivery Mechanisms in the Local Plan</p>	<p>Policy L29 Green and Blue Infrastructure, Countryside, Landscape and Trees sets out the importance of natural spaces, environments and green infrastructure across the District.</p> <p>Strategic Green Infrastructure provision will be required as part of the Broad Locations at: East Hemel Hempstead (North) (S6 i), East Hemel Hempstead (South) (S6 iii), North Hemel Hempstead (S6 iv), East St Albans (S6 v), North St Albans (S6 vi), North East Harpenden (S6 vii) and Park Street Garden Village (S6 xi).</p> <p>Policy S6 – Broad Locations for Development (see proposals for ‘Strategic and local public open space’ and ‘Countryside access links’)</p> <p>Policy S6 i) – East Hemel Hempstead (North) Broad Location (see proposals 7, 8, 9 and 17)</p> <p>Policy S6 iii) – East Hemel Hempstead (South) Broad Location (see proposals 8, 9, 10 and 17)</p> <p>Policy S6 iv) – North Hemel Hempstead Broad Location (see proposals 7, 8, 9 and 16)</p> <p>Policy S6 v) – East St Albans Broad Location (see proposals 7 and 18)</p> <p>Policy S6 vi) – North St Albans Broad Location (see proposals 8 and 15)</p> <p>Policy S6 vii) – North East Harpenden Broad Location (see proposals 7 and 13)</p> <p>Policy S6 xi) – Park Street Garden Village Broad Location (see proposals 7, 8, 9 and 19)</p> <p>Policy L17 – Infrastructure</p> <p>Policy L28 – Green Space Standards and New Green Space Provision</p> <p>Policy L29 – Green and Blue Infrastructure, Countryside, Landscape and Trees</p>

Local Green Infrastructure

- 10.46. Green space is multi-functional. It enhances the amenity of urban areas; it provides opportunities for formal and informal recreation; it supports wildlife; and it performs a range of environmental functions. There are many different types of green spaces including: playing fields, allotments, amenity green space, natural green space, parks and gardens, green corridors, children's play and teenager's provision.
- 10.47. St Albans City and District Council are fortunate to own and manage a significant number of the parks and open spaces in the District. The Council has produced a management framework to guide the maintenance and development of these sites. The St Albans Parks and Open Spaces Management Plan⁶³ covers the policies and contexts under which all of the sites are managed, and sets out the approach for the management and development of each site.
- 10.48. At a strategic level, the District Council has also produced an overarching strategy document for green infrastructure. The Green Space Strategy⁶⁹ provides an assessment of existing provision at different spatial scales, considers improvement and enhancement strategies and sets a direction for future provision. The strategy is a comprehensive document that fulfils the following requirements:
- Reviews the amount, distribution and quality of existing provision;
 - Identifies where there is a need for more or better provision and the types of enhancements which will benefit existing facilities and spaces most;
 - Suggests appropriate provision standards for the District Council to use as part of the planning process;
 - Suggests how to tackle the key issues relating to green space, sport and recreation provision facing the Council and its partners.
- 10.49. In 2016, the Council prepared a Green Space Technical Report⁷⁰ drawing on the Green Space Strategy to assist policy development.
- 10.50. This section highlights the key points of the Green Space Strategy and Technical Report for the different types of green space provision, in relation to provision for new development. The Technical Report includes the local standards applicable to each type of green space.
- 10.51. The analysis provides standards that are applicable to all major new development in the Plan. However, it is noted that for major development adjacent to Hemel Hempstead, new provision will need to be planned in detail through the Local Plan and Masterplanning process. The purpose of

this will be to take full account of existing provision and the wider approach to open space in Hemel Hempstead.

Allotments

- 10.52. Allotments are a valued and important asset to St Albans City and District, providing a wide range of benefits to both communities and the environment.
- 10.53. As of January 2019, the Council provides, manages and maintains 763 plots spread across 11 sites within the St Albans Area⁷¹. A further 29 allotment sites providing approximately 1,069 plots are located in the parishes of: London Colney, Colney Heath, Wheathampstead, Redbourn, St Stephens and Harpenden Town. An additional 2 sites totalling 82 plots are managed privately by the Highfield Park Trust.
- 10.54. As of January 2019, there is a waiting list of 131 people for the Council operated sites⁷¹. This rise in demand has been attributed to increased interest in gardening and growing produce generally, as well as a diversification of those interested in becoming allotment holders (particularly by women and younger individuals). The type of demand is also changing with more interest in smaller plots and additional onsite facilities. Traditionally plots have been 10 poles (around 253m²) but many have been subdivided into 5 or even 2.5 pole plots.
- 10.55. The St Albans City and District Council Allotment Strategy 2014-2019⁷² sets out actions to accommodate the current waiting list, including:
- Investigating the demand for smaller plot sizes, and provide if required which will reduce waiting list times.
 - Reviewing the current level of allotment provision and looking at the possibility of opening new allotment sites.
- 10.56. New development will be expected to make contributions towards the provision of allotments. The Green Space Technical Report suggests a general quantity standard of 4.5 square metres per person and an accessibility standard of 600 metres, based on the distance residents indicated they were willing to travel to access an allotment. Accordingly, Local Plan Policy L28 sets out provision standards for allotments in new development (of 100 or more dwellings). For allotments, the quantity standard is 4.5 square metres per person and the accessibility standard is 600 metres. Requirements are dependent on the location of development and deficiencies in that area.

Amenity Green Space

- 10.57. This includes: informal recreation spaces, green spaces in and around housing, domestic gardens and village greens. Surveys in the District have found that the distribution of amenity green space is generally good, but some areas are of poorer quality or value. There are also areas of the City and District without ready access to local spaces. However, the main priority should generally be to harness new development to make essential new provision alongside enhancement of existing spaces.
- 10.58. Amenity green space, natural green space, parks and gardens are considered as multi-functional green space. The specific form and mix of provision within a new development will be negotiated in relation to the considerations in this policy and local green space deficiencies. Where possible, all green space should seek to be multi-functional and provide for various types of users and enjoyment.
- 10.59. Where possible, creation of new green space through development or other opportunities will be directed at meeting identified deficiencies and needs, as identified in the Green Space Strategy.

Natural and Semi-Natural Green space

- 10.60. The definition of natural green space includes: woodlands, urban forestry, scrub, grasslands, wetlands, open and running water, wastelands and derelict open land and rock areas. It is important to note however that the distinction between natural green space and amenity green space is sometimes unclear.
- 10.61. The Green Space Strategy found that the District has some excellent natural green spaces, but more could be done to make them welcoming and inform visitors about nature conservation. Since the Strategy was written, significant work has been undertaken to improve the signage and information available in green spaces. However, a number of improvements are still required, including: better parking and accessibility provision, and measures to ensure better control of dogs in natural and semi-natural green spaces.

Parks and Gardens

- 10.62. In total, there are 17 parks and public gardens across the District. There are: three gardens and three parks in St Albans, two parks in Harpenden, one park in Redbourn, one park on the border of Colney Heath and St Albans, and one park in Chiswell Green. These green spaces range from those such as Verulamium Park in St Albans which attract visitors from

across the District and beyond, to smaller green spaces which primarily serve the immediate locality.

- 10.63. As is the case with natural green space, the presence of parks and gardens have the ability to decrease the need for amenity green space. However, the Green Space Strategy found that parks and gardens space is not uniformly distributed, as some parts of the District have little or no parks or gardens provision such as London Colney, Sandridge and Wheathampstead.
- 10.64. The Green Space Strategy found the need for enhancement works in parks and gardens across the District. As indicated above, significant work has been undertaken over recent years to improve the signage and information available in green spaces. However, additional improvements highlighted by the Strategy include:
- Increased or improved toilet facilities;
 - Lighting for those parks open at night;
 - Increased parking;
 - Improved paths;
 - Enhanced play and educational value;

Playing Pitches

- 10.65. In 2019, SADC published the Playing Pitch Strategy Update Technical Report³³. The technical report outlines how housing growth in the Local Plan will be supported through the provision of infrastructure and community facilities, specifically playing pitches. The Playing Pitch Strategy Update assesses deficiencies and surpluses of playing pitches within the District, and estimates the number of additional playing pitches required in particular areas between 2020 and 2036.
- 10.66. There are a total of 354 playing pitches across the District categorised into two facility types, grass pitches and artificial grass pitches (AGPs). Particular sub facility types of grass pitches include: full-sized football pitches, junior football pitches, junior rugby union pitches, mini soccer pitches, mini rugby pitches, cricket pitches, senior rugby league pitches, senior rugby union pitches, hockey pitches, lacrosse pitches, rounders pitches and softball pitches. For artificial grass pitches, there are three sub facility types: rubber crumb pile (3G) pitches, sand dressed pitches and sand filled pitches. Playing pitches have a dual purpose as they function as both leisure facility and green space provision.
- 10.67. The Playing Pitch Strategy Update indicates a need for between 38 and 42 new playing pitches over the Local Plan period, from 2020 to 2036. It

concludes that the greatest need will be for junior football, and the areas with the greatest need for all sports provision will be within the proposed Broad Location areas adjacent to Hemel Hempstead. The technical report concludes that planning for new playing pitch provision should focus on providing higher quality facilities such as AGPs and multi-use education based pitches, which offer greater flexibility.

- 10.68. Local Plan Policy L28 outlines priority provision for new playing pitches in the Broad Locations. Correspondingly, the Playing Pitch Strategy Update sets out recommendations for new playing pitch provision in the Broad Locations, in accordance with Policy L28. With regard to the Broad Locations, provision will be confirmed through the Masterplanning process.
- 10.69. The Technical Report uses the Playing Pitch Methodology (PPM) to estimate the quantity and types of new playing pitches required within settlement areas across the District. For the future development areas adjacent to Hemel Hempstead, the PPM indicated a need for 11 new pitches across all sports, with the recommendation of AGP/multi-surfaced games areas as the main form of provision to cater for multiple sports. The PPM for St Albans indicated a need for 1 mini rugby pitch, whilst the PPM for Harpenden indicated a need for 1 junior rugby pitch and 2 mini rugby pitches. For Park Street/Park Street Garden Village, the PPM indicated a need for 1 to 2 junior football pitches; the PPM for London Colney indicated a need for 2 to 3 mini rugby pitches. For the rest of the District, the PPM indicated a need for 13 junior football pitches and 6 to 7 junior rugby pitches.
- 10.70. The Green Space Technical Report⁷⁰ suggests that further improvements to existing facilities may be required to allow more intensive use of existing provision. Opportunities to provide new facilities for private, especially junior, clubs through major new development should be considered.

Children's Play Areas

- 10.71. There are 87 equipped play areas across the District. These range from small local play parks with one or two pieces of equipment to much larger facilities with wide catchments areas such as those at Rothamsted, Verulamium and Clarence Parks.
- 10.72. Many of these parks are in need of refurbishment. Much of the equipment is old and in need of replacement⁶⁹. Surveys will be undertaken to identify priority projects. Refurbishment and replacement of facilities will be on-going projects across the plan period. Key improvements needed are:
- Additional play equipment or replacement of some existing equipment

- Enhanced accessibility
- Enhanced safety
- Better facilities for parents and carers
- Enhanced maintenance
- Better signage

10.73. The approach suggested in the Green Space Strategy is based on a mix of fewer, but significantly larger and more stimulating, equipped play areas at key locations such as parks and local green spaces. Existing play equipment in the District has traditionally been quite formulaic in nature. It is proposed that redeveloped and new spaces should be designed with rocks, logs, and other features that stimulate children’s imagination and promote and facilitate “natural play”.

10.74. In terms of new development, the Council is keen to move away from the inclusion of smaller, less equipped spaces introduced as part of new residential areas. Instead, there is an emphasis placed on contributions to improve and extend the existing large and better served play spaces.

Teenage Provision

10.75. Teenage facilities are defined as: aerial runways, ball courts, BMX tracks, shelters, skateboard areas, and similar open access facilities. There are a number of skate parks and BMX tracks in the District including those at Rothamsted Park (Harpenden), Pioneer Youth Club (St Albans) and Oysterfields (St Albans).

10.76. An initiative currently being trialled is the Portable Youth Shelter which provides a space for young people to meet and take shelter when out in the open. The shelter has been installed at different community spaces in the District and usage by young people, park users and residents is being monitored. Town Councils and Parishes are being consulted about whether to install permanent structures⁷³. Additionally, the Verulamium Park Green Space Action Plan has identified the need for the provision of a skate park facility in the park, subject to when a suitable funding opportunity arises⁴⁴.

10.77. There is a real need to work more closely with teenagers to provide them with accessible, attractive facilities and to work with local communities to ensure that groups of teenagers are not seen as a possible threat. Further information is contained in the Youth Provision section.

Impact of Planned Growth

- 10.78. The development strategy contained in the Local Plan will result in increased demand for and use of green infrastructure and local green spaces. To meet this increased demand, all residential developments of more than 30 dwellings will be expected to make on-site provision, in line with green space standards. Indicative green space standards for new developments are set out below and outlined in Policy L28 – Green Space Standards and New Green Space Provision.
- 10.79. In terms of the Broad Locations, ten sites will be required to provide green space as part of the development strategy. Initial work undertaken in conjunction with the landowners and developers of the Broad Location sites suggest that provision may be addressed as follows:

S6 i) – East Hemel Hempstead (North)

S6 iii) – East Hemel Hempstead (South)

S6 iv) – North Hemel Hempstead

The policies for these three Broad Locations include proposals for the delivery of local public open space and recreation space. Policy L28 outlines priority provision for East and North Hemel Hempstead, which comprises: playing pitches for adult and junior football, junior rugby and cricket, as well as strategic play, teenage areas, parks and gardens, and allotments. Hemel Hempstead related provision will be confirmed through the Masterplanning process (see Appendices 83, 84 and 85 for further details).

S6 v) – East St Albans

The development of this site will require the inclusion of green space provision. Policy S6 v includes proposals for the delivery of local public open space and recreation space. Policy L28 outlines priority provision for East St Albans, which comprises: strategic play, parks, playing pitches for adult and junior football, and allotments. Initial work by developers/landowners suggests that development will include: areas of residential amenity space, open public green spaces with shared allotments, alongside private gardens and woodland areas (see Appendix 86 for further details). Provision for East St Albans will be confirmed through the Masterplanning process.

S6 vi) – North St Albans

Policy S6 vi includes proposals for the delivery of local public open space and recreation space. Policy L28 outlines priority provision for North St Albans, which comprises: strategic play, teenage areas, amenity green space, parks and playing pitches for adult and junior football. Initial work by developers/landowners suggests that development will include: areas of amenity green space, football pitches, play spaces, woodland belts, allotments and gardens (see Appendix 87 for further details). Provision for North St Albans will be confirmed through the Masterplanning process.

S6 vii) – North East Harpenden

Policy S6 vii includes proposals for the delivery of local public open space, as well as recreation space and public open space. Policy L28 outlines priority provision for North East Harpenden, which comprises: strategic play, teenage areas, parks and gardens and playing pitches for junior football and junior rugby. Initial work by developers/landowners suggests that development will include: public open space parkland, fields, new sports pitches, children's play facilities and landscaped green spaces (see Appendix 88 for further details). Provision for North East Harpenden will be confirmed through the Masterplanning process.

S6 viii) – North West Harpenden

Policy S6 viii includes proposals for the delivery of recreation space and public open space. Policy L28 outlines priority provision for North West Harpenden, which comprises: strategic play, teenage areas, parks and gardens, playing pitches for junior football and junior rugby, and allotments. Initial work by developers/landowners suggests that development will include: amenity spaces, open spaces, a Central Green, sports pitches, community facilities including play areas, allotments and a community orchard (see Appendix 89 for further details). Provision for North West Harpenden will be confirmed through the Masterplanning process.

S6 ix) – West of London Colney

Policy S6 ix includes proposals for the delivery of recreation space and public open space. Policy L28 outlines priority provision for West of London Colney, which comprises: strategic play, teenage areas, parks and gardens and children's play areas. Initial work by developers/landowners suggests that development will include: open spaces, woodland open space,

community playing fields, children’s play areas and all weather pitches (see Appendix 90 for further details). Provision for West of London Colney will be confirmed through the Masterplanning process.

S6 x) – West of Chiswell Green

Policy S6 x includes proposals for the delivery of recreation space and public open space. Policy L28 outlines priority provision for West of Chiswell Green, which includes: strategic play, teenage areas and children’s play areas. Initial work by developers/landowners suggests that development will include: public open space, parks and amenity green space and private gardens (see Appendix 91 for further details). Provision for West of Chiswell Green will be confirmed through the Masterplanning process.

S6 xi) – Park Street Garden Village

Policy S6 xi includes proposals for the delivery of local public open space and recreation space. Policy L28 outlines priority provision for Park Street Garden Village, which comprises: strategic play, teenage areas, children’s play areas, parks and gardens, playing pitches for adult and junior football, and allotments. Appendix 92 contains further details of initial work undertaken by developers/landowners for this provision. Provision for Park Street Garden Village will be confirmed through the Masterplanning process.

10.80. Further details can be seen in the appendices for green infrastructure (see Appendices 83 to 92), which provide some additional information on work currently underway on detailed planning for this provision.

Local Green Infrastructure	
Lead Agencies	<ul style="list-style-type: none"> • St Albans City and District Council (SADC) • Town and Parish Councils • Hertfordshire Local Nature Partnership (LNP) and member voluntary bodies • HCC Countryside Management Service
Evidence Base	<ul style="list-style-type: none"> • St Albans District Green Infrastructure Plan 2011 • SADC Green Space Strategy 2011 • St Albans Parks and Open Spaces Management Plan 2015-2020 • SADC Open Space Management and Action plans (various, includes Clarence Park,

	<p>Verulamium Park and Rothamsted Park Green Space Action Plans)</p> <ul style="list-style-type: none"> • SADC Playing Pitch Strategy Update 2019 • St Albans District Green Space Technical Report 2016 • SADC Allotment Strategy 2014-2019 <p>Further important elements of the evidence base include:</p> <ul style="list-style-type: none"> • Hertfordshire Biodiversity Action Plan 2001 • Verulamium Park Green Space Action Plan 2017-2022 • St Albans City and District Urban Wildlife Survey 2001 • Habitat Survey for St Albans City and District – A Nature Conservation Reference Guide 1998
Existing Provision	<p>Extensive network of open spaces of various kinds, largely meeting local standards. This includes: playing fields, allotments, amenity green space, natural green space, parks and gardens, green corridors, children’s play and teenager provision.</p>
Gaps in Provision	<p>Some deficiencies exist, particularly in St Albans, London Colney and North Harpenden.</p> <p>Playing Pitch Strategy Update indicates a need for between 38 and 42 new playing pitches in the District over the Local Plan period, from 2020 to 2036.</p>
Planned Provision	<p>On-going enhancement works in various areas, particularly around accessibility, signage and quality of green spaces and play space across the District.</p> <p>Priority provision for new green spaces in Local Plan Broad Locations (Policy L28). Detailed provision for the Broad Locations will be confirmed through the Masterplanning process.</p>
Impact of Development Proposals	<p>Development proposals contained in the Local Plan will result in increased demand for and use of green infrastructure and local green spaces.</p> <p>New green space will be required in development of the Broad Locations. Quantity Standards for new green space provision in new housing development (Policy L28) are:</p> <ul style="list-style-type: none"> • Amenity green space – 15 sq. m/person • Natural and semi-natural green spaces – 5 sq. m/person

	<ul style="list-style-type: none"> • Parks and gardens – 12 sq. m/person • Allotments – 4.5 sq. m/person • Children’s play areas – 0.6 sq. m/person • Teenage areas – 0.18 sq. m/person <p>All new residential developments of between 30 to 100 dwellings will be required to deliver provision for amenity green space and play areas on site, in accordance with green space standards. All new residential developments of 100 or more dwellings will be required to deliver full new green space provision on site, in accordance with green space standards. In some cases, it may be acceptable to commute this requirement in the form of a financial payment to support maintenance and improvement of an existing green space.</p> <p>The specific form/mix of provision within a new development will be negotiated in relation to the considerations in Policy L28 and green space deficiencies.</p> <p>New green space in the Broad Locations (Policy S6) should address deficiencies identified.</p>
Potential for Delivery	<p>Provision alongside identified Local Plan development sites delivered by developers and/or via developer contributions. From smaller sites CIL or appropriate developer contributions will be sought.</p> <p>Management will be critical and it is important that appropriate arrangements are agreed upon at an early stage. Most Broad Location developments are required to deliver either a Community Management Organisation or sufficient assets to provide sustainable management of open spaces and parklands.</p> <p>Work in partnership with HCC, local organisations and interest groups to successfully bid for available funds from Government and other organisations.</p>
Delivery Mechanisms in the Local Plan	<p>Policy L29 Green and Blue Infrastructure, Countryside, Landscape and Trees sets out the importance of natural spaces, environments and green infrastructure across the District.</p> <p>Policy L26 Local Green Space will require the preservation, enhancement and creation of local green spaces throughout the District.</p>

	<p>New green space will be required in development of most Broad Locations (Policy S6).</p> <p>Policy S6 – Broad Locations for Development (see proposals for ‘local public open space’, ‘public open space’ or ‘recreation space’)</p> <p>Policy S6 i) – East Hemel Hempstead (North) Broad Location (see proposals 7, 10, 16 and 17)</p> <p>Policy S6 iii) – East Hemel Hempstead (South) Broad Location (see proposals 8, 11, 16 and 17)</p> <p>Policy S6 iv) – North Hemel Hempstead Broad Location (see proposals 7, 10, 15 and 16)</p> <p>Policy S6 v) – East St Albans Broad Location (see proposals 7, 8, 17 and 18)</p> <p>Policy S6 vi) – North St Albans Broad Location (see proposals 8, 9, 14 and 15)</p> <p>Policy S6 vii) – North East Harpenden Broad Location (see proposals 7, 8, 9 and 13)</p> <p>Policy S6 viii) – North West Harpenden Broad Location (see proposals 7, 8 and 13)</p> <p>Policy S6 ix) – West of London Colney Broad Location (see proposals 7, 8 and 12)</p> <p>Policy S6 x) – West of Chiswell Green Broad Location (see proposals 6, 7 and 11)</p> <p>Policy S6 xi) – Park Street Garden Village Broad Location (see proposals 7, 8, 10, 18 and 19)</p> <p>Policy L17 – Infrastructure</p> <p>Policy L26 – Local Green Space</p> <p>Policy L27 – Green Space Not Designated as Local Green Space</p> <p>Policy L28 – Green Space Standards and New Green Space Provision</p> <p>Policy L29 – Green and Blue Infrastructure, Countryside, Landscape and Trees</p>
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11. Physical Infrastructure

Transport

- 11.1. Hertfordshire County Council (HCC) in its role as the local transport authority is responsible for producing transport strategies. A number of these strategies are relevant to Local Plan work and the IDP.

Local Transport Plan

- 11.2. The County adopted its fourth Local Transport Plan⁷⁴ (LTP4) in 2018. The Local Transport Plan^J is the statutory document setting out the Hertfordshire County Council vision and strategy for the long term development of transport in the County to 2031. The plan sets out how transport can help deliver a positive future vision of Hertfordshire. As well as providing for safe and efficient travel, transport has a major input into wider policies such as: economic growth, meeting housing needs, improving public health and reducing environmental damage (see Source J for further details).
- 11.3. The plan accelerates the transition from a previous transport strategy that was largely car based, to a more balanced approach which caters for all forms of transport and seeks to encourage a switch from the private car to sustainable transport (e.g. walking, cycling and passenger transport) wherever possible.
- 11.4. LTP4 is supported by a number of documents that provide strategies for specific areas of transport in Hertfordshire, contributing to the overall goals⁷⁵. The supporting strategy documents are indicated below:

Figure 2: LTP4 Strategy Supporting Documents

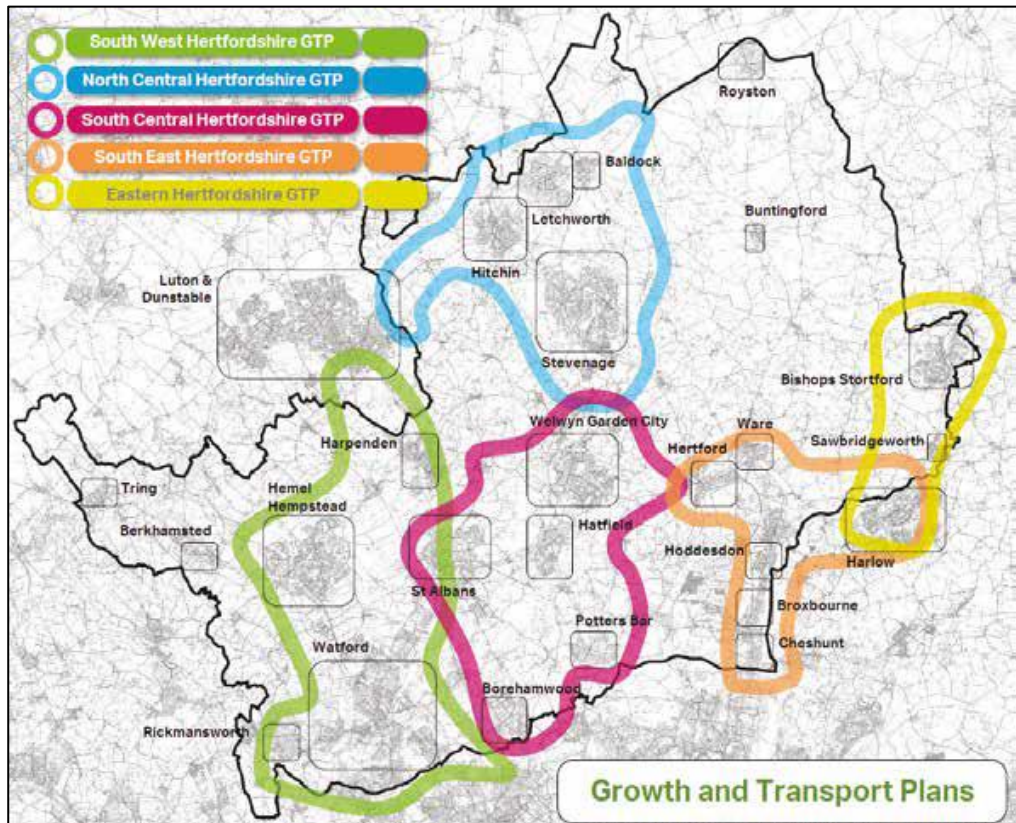


*source: HCC

Urban Transport Plans & Growth and Transport Plans

- 11.5. HCC has prepared Urban Transport Plans (UTPs) covering St Albans (main area of City), South St Albans and Harpenden to address the detail of local transport requirements⁷⁶. These set out locally specific transport issues and explore potential improvements, with an emphasis on sustainable transport modes and improving highway safety.
- 11.6. HCC is currently developing Growth and Transport Plans (GTP) which will replace the UTPs. GTPs will cover wider geographical areas and be broadly aligned to where growth is predicted to occur. SADC will be included in the South West Hertfordshire Growth and Transport Plan⁷⁷ and the South Central Hertfordshire GTP⁷⁸. The SW Hertfordshire area covers the M1/ M25 growth corridor and includes the administrative areas of Dacorum Borough Council, St Albans City and District Council, Hertsmere Borough Council and Watford District Council. A map of the GTP areas is shown below:

Figure 3: GTP Coverage



*source: HCC

- 11.7. The purpose of the GTPs will be to apply Local Transport Plan policies and objectives to a growth-focused area and identify packages of schemes and

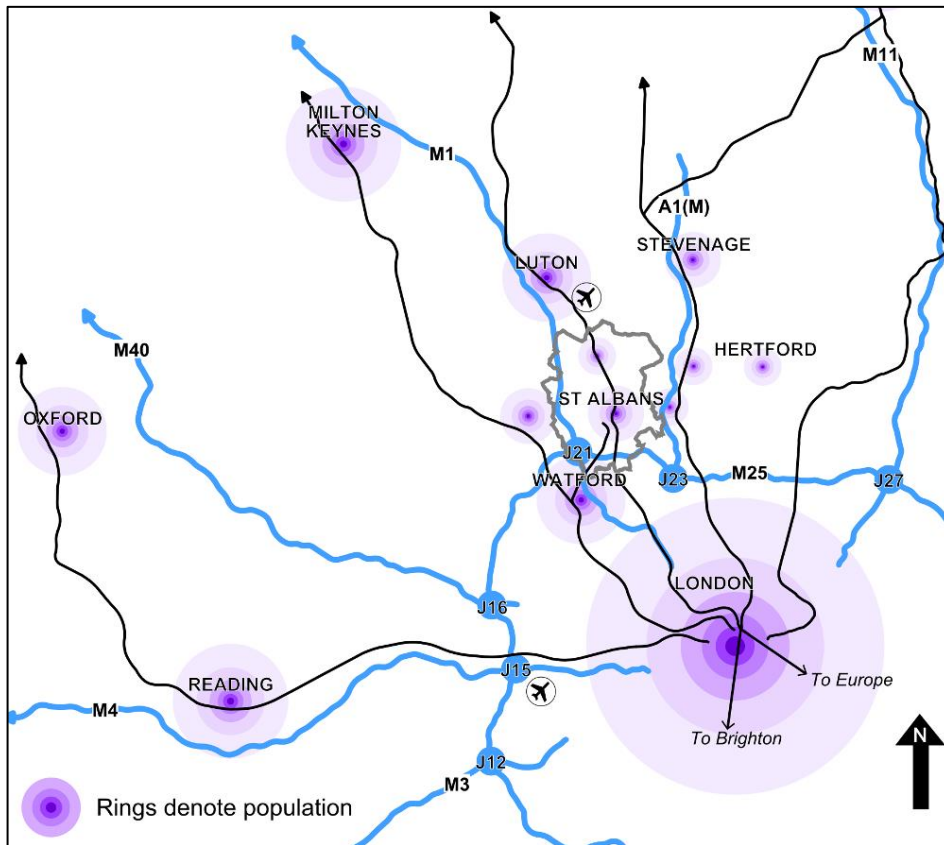
actions required to deliver the planned growth. The South West Hertfordshire GTP went to consultation in September 2018. This emphasises a new, clear, focus by HCC on the transport infrastructure measures needed to deliver growth proposals arising from Local Plans across Hertfordshire.

- 11.8. The LTP4 also considers a new Mass Rapid Transit system for Hertfordshire. The strategy identifies the potential for a new Mass Rapid Transit (MRT) system spanning the entire A414 Corridor. A MRT system would need to link the major urban settlements and be a fast, efficient, affordable and frequent service which is an attractive alternative to the car. The draft A414 Corridor Strategy⁷⁹ was subject to consultation in early 2019.

Road Network

- 11.9. The road network in Hertfordshire is dominated by the north-south routes with major roads running through the county as part of the national transport system, linking London to the rest of the country. Traffic levels are high with a complex movement pattern both within the County and across the borders. The M1 runs through the west of St Albans District and the A1(M) motorway runs immediately to the east. The M25 provides the London orbital east-west route across the south of the District.
- 11.10. Throughout the network, congestion at peak times is a major issue. At the county level, daily flow rates on the motorways and trunk roads are over twice the national average for similar standard roads. Due to the historic road pattern, the District, and particularly in St Albans, suffers from traffic congestion especially during peak hours and when there is congestion on the M1 and M25.

Figure 4: Motorway Road Network



Strategic Road Network

- 11.11. Highways England operates, maintains and improves motorways and major A roads in England and is the highway authority, traffic authority and street authority for the strategic road network (SRN). The SRN is a critical national asset and as such Highways England works to ensure that it is managed in the public interest, both in respect of current activities and needs as well as its long-term operation and integrity. In the District area the SRN is the M1, M25 and A1(M).
- 11.12. Highways England has a number of projects underway in the County area. Work is on-going to create a network of smart motorways, known as the 'Smart Spine', using Active Traffic Management (ATM) technology to manage traffic flows and increase capacity. The Smart Spine will include the M1 from London to Leeds. Parts of the M1 and M25 in Hertfordshire have already been converted to smart motorway roads. While the next phases of the scheme will be delivered outside of the County, outcomes should deliver journey time reliability improvements to the M1 in Hertfordshire.
- 11.13. Highways England is also planning to improve the reliability of journeys on the A1(M) through the introduction of smart motorway between junctions 6-

8, funded through the Roads Investment Strategy scheme. In addition, work has been completed to widen the M25 to four lanes between junctions 16 and 23, and between junctions 27 and 30.

Local Road Network

- 11.14. The local highway network is managed by Hertfordshire County Council (HCC). As part of its role as local transport authority, HCC is responsible for producing transport strategies for the road network in the County to support the Local Transport Plan.
- 11.15. The Inter-Urban Route Strategy⁸⁰ (IURS) was published in 2013 and provides a strategy for a series of key corridors, linking the urban centres within the County and across the borders to neighbouring authorities. The IURS identifies congestion issues and potential interventions across the key highway corridors. Two of these are directly related to St Albans District. These are the A405/A1081 Watford – St Albans – Luton and the A414 Hemel Hempstead to Harlow. Both of these corridors suffer from congestion and are key commuter routes. Potential major transport schemes for the District area include:
- Bus priority along Hatfield Road A1057 between Hatfield, St Albans City Station and St Albans Abbey Station
 - Maylands Business transport hub with improved bus facilities and networks serving the Business Park, Hemel Hempstead town centre and St Albans city centre and stations in both towns
 - Potential for Transport hub at junction of M1 Junction 10A / A1081 which could provide park and ride facilities (destination of park and ride dependant on further analysis work)
 - Parallel walking and cycling route along all bus ways, including investigation of potential for linked routes near Abbey Line between St Albans and Watford

Further work will be undertaken to identify which routes and interventions identified in the strategy will be prioritised.

- 11.16. Policy 12 of LTP4 seeks to reduce traffic congestion and the potential of using Intelligent Transport Systems (ITS) has been investigated⁸¹. Using traffic data, advanced modelling and the provision of real time information, traffic can be re-routed and junction signalling optimised to maximise the efficient use of the highway network. Further details are available in LTP4⁷⁴ and the HCC Intalink Strategy⁸².

- 11.17. In conjunction with HCC, the Council is looking to introduce a range of city centre public realm enhancements and traffic management initiatives, as part of the package to improve the public realm in St Albans City centre. Such initiatives include traffic restraint and improved conditions for bus use, pedestrians and cyclists in St Peter's Street and surrounding streets. Feasibility work is on-going.

Countywide Model of Transport (COMET)

- 11.18. Hertfordshire County Council has developed a Countywide Model of Transport (COMET) which will enable testing of the cumulative impact of development across the County.
- 11.19. This exercise will enable HCC to identify the locations requiring mitigation and will provide the platform to test further interventions. The COMET model will also be available for local authorities' use and for developers to commission their own standalone tests. The runs are undertaken on an annual basis. To date there have been runs for the future years of 2031 and 2036, and relevant findings are now being made available. The Council has commissioned additional interpretation work to assist in strategic assessment of the transport infrastructure needs arising from the LP proposals. This will inform the Master planning work. Further details of this COMET modelling project are included in the transport appendices to the IDP (see Appendices 30, 31, 38, 39, 40, 41, 42 and 43).

Impact of Planned Growth

- 11.20. The LP Development Strategy is expected to result in some increased pressure on parts of the strategic and local highway network. Discussions with Highways England suggest that the proposed growth could generate increases in journeys between Junctions 7 and 8 of the M1, A1(M) Junctions 3 and 4, M1 Junction 9 and M25 J21a.
- 11.21. Increased stress on the highway network is predicted as a result of general growth pressures, particularly in St Albans City centre, at key junctions on the main roads into St Albans and in Harpenden town centre. Although this is unlikely to result in the need for major new transport infrastructure, some road improvement measures, such as junction improvements, will be desirable. These will be complemented by a range of sustainable movement and public realm enhancements and traffic management measures.
- 11.22. Some transport infrastructure requirements will arise specifically from LP proposed development at the Broad Locations. To support the Development Strategy outlined in the LP, St Albans City and District

Council has been working with HCC as well as landowners and developers to develop transport assessments and explore intervention options for the Broad Locations. Transport assessments, testing and modelling for the Broad Locations is on-going and the outcomes will be fed into the master planning and planning application processes. The following sections include an outline of the outcomes of investigative work to date by developers/landowners. Further details can be seen in the appendices for transport (see Appendices 1 to 29).

East Hemel Hempstead (North, Central and South combined)

- 11.23. The development of the East Hemel Hempstead sites will necessitate major strategic and local road network improvements. Over the medium to long term, there is a need to complete the significant improvement works along the Maylands Growth Corridor (formally known as the Hemel Hempstead North-East Relief Road). This work will relieve congestion in and around the Maylands Business Park and facilitate development in East Hemel Hempstead and on the Spencer's Park site, both within this District and in Dacorum.
- 11.24. The Maylands Growth Corridor Study is a project undertaken by the Council in conjunction with the Hertfordshire Local Enterprise Partnership (LEP), HCC and Dacorum Borough Council, with specialist consultancy provided by AECOM. The study has identified a package of key transport infrastructure scheme concepts that, in combination, aim to improve existing traffic conditions in the area. In conjunction with developer-led measures within their schemes, this will facilitate planned new development (see Appendices 1 to 6 for further details).
- 11.25. The Maylands Growth Corridor Study Hemel Hempstead: Investment Prospectus (January 2018) is the key document which outlines a schedule of interventions (see Appendix 3). It is exploring two major road network improvements options with a particular focus on highway connectivity and reducing traffic congestion:
- A414 Breakspear Way/Green Lane Junction Improvement:
This project involves improvements in the vicinity of M1 Junction 8 and the A414 Breakspear Way – Green Lane roundabout. Out of eight schemes tested, three are to be taken forward for further study. Options include a reconfigured M1 Junction 8 with new Maylands western gateway access to the north, a new large lozenge signalised junction with access links north and south, and a new compact grade-separated junction with northern and southern roundabouts on Green Lane. Further assessment is planned to allow selection of the most appropriate scheme.

- East Hemel Hempstead North-South Spine Road:

This project involves the creation of a new north-south spine road, utilising part of the existing Green Lane alignment, and linking the B487 Redbourn Road with the A414 and the A4147. Forthcoming masterplanning exercises to be carried out by the Crown Estate and local authorities, will help define the exact alignment and form of the spine road. However, conceptually, it is understood that a link road of some form will be provided between the B487, A414 and A4147.

- 11.26. A number of other potential transport schemes have also been identified. These comprise interventions to improve local traffic flows and encourage a modal shift to walking, cycling and public transport (including improved bus facilities and services, the potential conversion of Cherry Trees Lane, Buncefield Lane and Green Lane to 'Quietways' to discourage through traffic, a new link road between Wood End Lane and Boundary Way, measures to improve lorry parking).

North Hemel Hempstead

- 11.27. The North Hemel Hempstead Broad Location will require road junction improvements, access roads and sustainable travel initiatives. Due to the proximity and close relationship to the East Hemel Hempstead sites, some of the transport mitigations for the East Hemel Hempstead Broad Locations may be relevant as part of the wider transport picture (see Appendices 7 and 8 for further details).

East St Albans

- 11.28. The East St Albans site will have implications for the local road network. Initial investigations undertaken in conjunction with the developers indicate that the largest increase in traffic flows is forecast to occur at the Marshalswick Lane/Sandpit Lane junction. Significant traffic increases are also anticipated on Sandpit Lane at the junctions with Barnfield Road and House Lane. There is potential for traffic flows to increase by more than 5% in the following locations:

- Marshalswick Lane/The Ridgeway (mini-roundabout);
- Sandridge Road/Sandpit Lane (priority T-junction);
- Hatfield Road/Beechwood Avenue/Ashley Road (double mini-roundabout)

11.29. New road junction and improvements will be required as part of the delivery of this site including new off-site junctions and access roads on both Hatfield Road and on Sandpit Lane. Testing of network improvements and access proposals are on-going. However, initial assessments suggest a range of potential transport interventions, including:

- A new entrance to the College on Hatfield Road aimed at reducing the amount of traffic using South Drive;
- Two new vehicular accesses on Sandpit Lane to serve the proposed residential development;
- A new bus only road link across the site that connects Sandpit Lane and Hatfield Road;
- A range of improvements to existing junctions in the immediate vicinity along Sandpit Lane to accommodate the additional traffic movements.

A significant issue to investigate further is whether the link road across the site should be open to all traffic. This will inevitably have both advantages and disadvantages (see Appendices 9, 10, 11 and 12 for further details).

North St Albans

11.30. An interconnected network of primary and secondary streets and pedestrian and cycle routes will be provided to ensure that the development has a high level of permeability and promote direct and efficient access. Key points will be to:

- Establish appropriate management of the access / routing of vehicles onto Harpenden Road;
- Design an internal arrangement of interconnecting streets and pathways which accommodates proposed land uses and resident travel patterns effectively;
- Ease traffic flows through the Ancient Briton and King William IV junctions;
- Manage vehicular traffic access to / from Porters Wood via Valley Road;
- Promote appropriate use of secondary points of access at Sandridgebury Lane and Valley Road ensuring safety and convenience for pedestrians, cyclists and existing users.

11.31. The delivery of the site will be supported by a number of sustainable transport improvements that offer a significant opportunity to provide a step change from the existing levels of accessibility to sustainable forms of transport in the area (see Appendices 13, 14 and 15 for further details).

North West Harpenden

- 11.32. The North West Harpenden Broad Location will require road junction improvements, access roads and sustainable travel initiatives.
- 11.33. The site fronts onto the A1081 Luton Road which is likely to form the principal access point. There are also frontages onto Thrales End Lane, Cooters End Lane and Ambrose Lane.
- 11.34. New road junctions into residential development on Luton Road will be required. Initial assessment has identified the possibility of taking vehicular access for the development site from Thrales End Lane or Cooters End Lane, potentially using simple priority junctions and localised road widening if required (see Appendices 18, 19, 20, 21, 22 and 23 for further details).

North East Harpenden

- 11.35. The North East Harpenden Broad Location will require road junction improvements, access roads and sustainable travel initiatives.
- 11.36. There are options for the provision of access to the site and the initial assessment work has shown that all of these are feasible and would safely accommodate future traffic levels. A single access onto Lower Luton Road with separate emergency access(es) onto Bower Heath Lane and/or Common Lane could serve the site. Secondary accesses would have the advantage of dissipating the traffic associated with the new housing.
- 11.37. The site is in an accessible location for walking, cycling and public transport and as part of the proposed development, the accessibility of the site will be further enhanced with the use of sustainable transport modes, especially walking and cycling, being encouraged.
- 11.38. Bus and train use would be encouraged through potential subsidies for bus passengers, and through the provision of information on the services and how to walk to local bus stops and to the railway station along the improved routes (see Appendices 16 and 17 for further details).

Park Street Garden Village

- 11.39. The Park Street Garden Village Broad Location envisages various transport initiatives.
- 11.40. Vehicular access to the site from North Orbital linked to a by-pass around the development.

- 11.41. Segregation of pedestrian and vehicular traffic flows and the retention of existing rights of way and informal footpaths with potential pedestrian links to the West of London Colney (north and south of Napsbury) development.
- 11.42. New park and rail facility on the Abbey Railway line south of the A414. 15-20-minute peak period service on the Abbey railway line which is likely to require a passing loop.
- 11.43. Full exploration of possibilities for direct services to Euston via Watford and/or links to a future Metropolitan Line extension in Watford. Full exploration of possibilities for an Abbey Line stop or active travel routes/measures directly serving the BRE. Full exploration of possibilities for an additional station on the Midland Mainline (see Appendix 29 for further details).

West of London Colney

- 11.44. The West of London Colney Broad Location will require road junction improvements, access roads and sustainable travel initiatives.
- 11.45. The site is likely to generate demand for travel by a range of modes of transport. It is located within walking and cycling distance of a range of services and facilities, and the proposed schools will be accessible on foot/by bicycle from existing residential development in London Colney. The site will also be served by an existing bus service (approximately hourly frequency) between St Albans and Borehamwood.
- 11.46. A package of enhancements is proposed that could address the predicted demand for travel by sustainable modes and promote increased use of such modes in line with national and local policy. A new pedestrian/cycle crossing off Shenley Lane is included in the access strategy for the site, as well as proposed enhancements to existing infrastructure in London Colney to promote access on foot/by bicycle. It is also proposed to improve the frequency of the existing bus service to half hourly, as well as local bus stop facilities.
- 11.47. The most suitable form of vehicular access to the site will be a three-arm roundabout from Shenley Lane. This means of access can accommodate predicted traffic flows in 2031 'with' development and is designed to promote bus access to the site.
- 11.48. Several junctions on the highway network in the local area have been assessed as being at or close to capacity in one or more peaks both 'without' and 'with' development in 2031. Some of this capacity constraint is reflected in the highway authority's own strategic traffic model in both 2014

and 2031. It is unlikely that enough highway capacity could be found to meet demand even for the 'without' development scenario.

- 11.49. The package of sustainable transport measures and a possible contribution towards safety focused highway improvements is considered the most effective way of accommodating travel demand of the proposed development. This approach complies with current national and local policy (see Appendices 24 and 25 for further details).

West of Chiswell Green

- 11.50. The West of Chiswell Green Broad Location will require road junction improvements, access roads and sustainable travel initiatives.
- 11.51. Four potential access points have been identified from Chiswell Green Lane to the north and the residential estate roads (Forge End and Long Fallow) to the east. All of these roads lead to the main arterial route through Chiswell Green, the Watford Road (B4630).
- 11.52. Watford Road / Chiswell Green Lane mini-roundabout, which forms part of a double-mini arrangement with Watford Road / Tippendell Lane, is identified as requiring mitigation measures. Mitigation envisaged is a linked staggered signalised junction in place of the double mini-roundabouts. As part of these works, the existing Zebra crossing would be upgraded and signalised.
- 11.53. A package of sustainable transport measures are proposed, aimed at discouraging reliance on the private car, and to reduce car ownership and emissions. These will be developed at the planning application stage. Measures include: residential and school travel plans, a car club scheme, electric vehicle charging points, contributions to improvements to NCN Route 6, local bus services and cycle parking facilities at How Wood Station.
- 11.54. A Walking and Cycling Audit has been undertaken of three key routes to the local railway stations. Following this, footway improvements to Tippendell Lane, between Watford Road and Park Street Lane are proposed (see Appendices 26, 27 and 28 for further details).

Road Network	
Lead Agencies	<ul style="list-style-type: none"> • Hertfordshire County Council • Highways England • SADC (through planning decisions / control)

Evidence Base	<ul style="list-style-type: none"> • Local Transport Plan 4 (LTP4) & Supporting Documents • Growth & Transport Plans (GTP) • Inter Urban Route Strategy (IURS) 2013 • COMET model investigations of growth impacts • Broad Location initial transport studies / assessments
Existing Provision	Existing road network
Gaps in Provision	Network congestion at peak times is a significant issue, interventions and junction improvements required.
Planned Provision	<p>Further motorway improvements around M25, M1 and A1(M).</p> <p>Further improvement works planned, pending outcomes of County Wide Traffic Model and Maylands Growth Study.</p>
Impact of Development Proposals	<p>The LP Development Strategy is expected to result in some general increased pressure on the road network.</p> <p>Transport network (junction and road) improvements will be required associated with all Broad Locations. Sustainable travel initiatives are also required. See above for more information.</p>
Potential for Delivery	<p>Delivered by developers and/or via CIL or developer contributions. Collection of CIL or developer contributions from smaller developments may assist in delivery of wider HCC transport initiatives and highway improvements in line with LTP4.</p> <p>Other funding mechanisms may also be used (e.g. LEP funding and Enterprise Zone investment).</p>
Delivery Mechanisms in the Local Plan	<p>Policy S6 – Broad Locations for Development</p> <p>Policy L17 – Infrastructure</p> <p>Policy L18 – Transport Strategy builds on LTP4 and Urban Transport Plans to set out the identified transport issues, priorities and solutions in the District.</p> <p>Policy L19 – Highways / Access Considerations for New Development</p>

Parking

- 11.55. The Council's Parking Service covers the management of Council owned car parks and the enforcement of Controlled Parking Zones on-street, and the enforcement of parking in car parks (off-street). There are a total of 48 car parks in the District. Of these, 31 are owned by the Council and 17 are privately owned or leased by external organisations⁸³.
- 11.56. An average of 30,513 cars per week use the District's public car parks, equating to around 1,525,650 per year and this level of vehicular activity needs to be managed effectively⁸⁴. The appeal of local retail centres and tourist attractions locally has increased pressures on parking in and around the District. Sufficient parking provision is an important component of local infrastructure provision to ensure the vitality of retail centres and employment areas.
- 11.57. In 2015, the Council revised the St Albans City and District Council Parking Strategy. The strategy looks to ensure parking provision meets the needs of residents, businesses and visitors while contributing to the effective management of congestion in urban areas.
- 11.58. The strategy looks to promote off-street car parks across the District. Many multi-storey car parks in the District are not used to capacity, and public feedback indicates dissatisfaction with the flexibility of use and the perceived cost. The strategy looks to address this through a number of measures including the reclassification of car parks to reflect main uses, reviewing tariff structures accordingly, and improving surrounding signage.
- 11.59. Additionally, the Council set a commitment in the 2016 Corporate Plan to work with residents and businesses to improve parking provision in the District and explore solutions to difficulties in parking 'hot spots'.

Impact of Planned Growth

- 11.60. The Local Plan looks to follow the approach set out by the Council's Parking Strategy to ensure parking provision. Further detail of parking provision for new development will be set out in the LP, which will contain a policy setting out levels of parking for broad classes of development. This policy will be based on a zonal approach which reflects the character and accessibility of different parts of the District. Consideration of parking provision for new development will be required at the Broad Location sites.

Parking	
Lead Agencies	<ul style="list-style-type: none"> • SADC • Hertfordshire County Council (through planning decisions / highway advice)
Evidence Base	<ul style="list-style-type: none"> • Annual Parking Report 2017 – 2018 • St Albans City and District Council Parking Strategy 2014 – 2019 • St Albans City and District Council Corporate Plan
Existing Provision	<p>48 off-street car parks in the District</p> <p>On-street parking provision across District</p>
Gaps in Provision	Increased demand for parking-need to improve the flexibility of off-street provision to encourage use.
Planned Provision	On-going investigative work
Impact of Development Proposals	<p>The LP Development Strategy is expected to result in some general increased pressure on parking provision. This will be principally managed through the promotion of existing off-street car parks.</p> <p>New development will be required to provide adequate parking provision for residents, visitors or employees. Further details are set out in the LP.</p>
Potential for Delivery	Onsite provision delivered directly by developers.
Delivery Mechanisms in the Local Plan	<p>Policy L17 – Infrastructure</p> <p>Policy L18 – Transport Strategy</p> <p>Policy L20 – New Development Parking Guidance and Standards</p> <p>LP Appendix 1 – New Development Parking Guidance and Standards</p>

Public Transport

11.61. 'Quality Network Partnerships' (QNP) exist for public transport networks works in the County. These are voluntary partnerships, bringing together local authorities, public transport operators alongside transport experts. The St Albans Network (branded as 'Network St Albans^K') has been set up by St Albans Council, Hertfordshire County Council and local bus and train operators. The main aim of QNPs is to achieve improvements to local passenger transport services providing viable alternatives to car use, reducing congestion and promoting sustainable travel. The partnerships

have been part funded through financial support from the Department for Transport (see Source K for further information).

11.62. Among the objectives of the QNP are to provide:

- Truly integrated passenger transport;
- Better accessibility for the disabled;
- Improved reliability and punctuality;
- Enhanced frequency of service;
- Better quality travel information;
- Encouragement to use other non-car modes of travel e.g. walking and cycling.

11.63. A programme of initiatives started in October 2011. Improvements so far include an increase of bus frequencies on certain routes, multi operator bus tickets, and the introduction of low emission diesel hybrid buses.

11.64. The Intalink Quality Partnership has subsumed the roles of individual Quality Network Partnerships, providing a forum for councils and operators to work together in a proactive, structured and co-ordinated fashion to enhance the network and improve the service to passengers. In addition, the partnership enables the facilitation and marketing of multi-operator ticketing which can be used across the network.

Rail Network

11.65. There are four major rail lines through Hertfordshire: the Midland Main Line through St Albans, the West Coast Main Line through Watford, the East Coast Main Line through Stevenage and the West Anglia Line through Broxbourne. The Midland Main Line that runs through the District is also part of the Thameslink system which crosses through London to the south. A significant proportion of rail users in the County are commuters to central London, resulting in capacity problems and overcrowding at peak hours⁸⁵.

11.66. The Abbey Line, a single non-signal line, runs from St Albans Abbey station to Watford Junction. However, there is no east-west rail line across the County, although the possibility of such a link is supported by HCC.

11.67. HCC created a Rail Strategy for Hertfordshire in 2016. The strategy included the following aims:

- Improved connectivity to a wider range of destinations, either with direct trains or requiring minimal changes

- Improved service frequency and journey times
- Reduced overcrowding on trains and at stations by addressing capacity needed now and in the future
- Improved access to stations for all
- Improved access to key employment centres and hospitals

11.68. HCC has recently created a new Rail Strategy which should be available after December 2018. This also sets out a proposed strategic priority to lobby for the introduction of long distance stops at St Albans following electrification of the Midland Main Line. This would improve connections to key destinations such as Sheffield and Nottingham.

Thameslink Programme

11.69. This is a government funded £6bn programme of works to improve the Thameslink service to and across London⁸⁶. The improvements include new and improved stations, new track, new cross-London routes and new longer and more frequent trains with the express purpose of increasing capacity and reducing overcrowding. The first phases of the project have been completed and the entire project should be completed by the end of 2019. There have been problems associated with the introduction of a new rail timetable in May 2018.

11.70. There are two stations on this line in the District, Harpenden and St Albans City, and a large number of commuters in the District rely on these services.

11.71. An additional £5 million in funding for the redevelopment of St Albans City station was confirmed by the Department for Transport in March 2016. The redevelopment plans include: additional ticket gates, better pedestrian access, an expanded entrance concourse and improved station facilities. The redevelopment gained planning permission in October 2018.

11.72. Govia Thameslink Railway who manage the network are also keen to improve parking facilities at Harpenden Station. However, a recent bid to the Department for Transport for a decked car park at Harpenden station was not successful. Govia Thameslink Railway are exploring alternatives.

Abbey Railway Line

11.73. HCC and the Department for Transport (DfT) want to increase the frequency of services on the local rail line between Watford Junction and St

Albans Abbey stations (the 'Abbey Line'). At present, the Abbey Line is a single non-signal line with one train running from St Albans to Watford and back.

- 11.74. A number of strategies have been considered to improve the service, including converting the branch line into a light railway, introducing a guided busway, or enhancing the existing infrastructure to enable the delivery of a heavy rail service. HCC outline in the new Transport Vision that the improvement option pursued should enable extension of the service at either end of the line⁸⁷. Further work will be undertaken through the delivery of LTP4.
- 11.75. There are plans to develop a new park and rail facility as part of the Park Street Garden Village Broad Location development. The policy also seeks to deliver a 15-20 minute peak period service on the Abbey Railway Line from the date of first house occupation. This will likely require a new passing loop on the Abbey Railway Line, either on site or delivered elsewhere. Full exploration required of possibilities for direct services to Euston via Watford and/or links to a future Metropolitan Line extension in Watford; and full exploration of possibilities for an Abbey Line stop or active travel routes / measures directly serving the BRE.

St Albans Station Connections

- 11.76. HCC is exploring the possibility of improving the connectivity between St Albans Abbey rail station and St Albans City rail station. This would enable faster and easier connections between the Midland Main Line at St Albans and the West Coast Main Line at Watford. The recent trial of a dedicated shuttle service between the station and the city centre demonstrated that there is limited demand for an extra service, as patronage was nowhere near break-even point in relation to costs at this point in time.

High Speed 2

- 11.77. Construction on the new north-south High Speed 2 (HS2) railway line is expected to commence in 2019, with implications for West Hertfordshire through the construction of the new railway to Euston. When HS2 services commence in 2026, virtually all long-distance services (up to 15 per hour) will transfer from the West Coast Main Line to HS2. This presents a significant opportunity to radically enhance commuter and medium distance services on this corridor, which could deliver connectivity, capacity and reliability benefits for Hertfordshire's commuters. It will also open up the opportunity for more long-distance journeys to call at Watford and potentially St Albans⁷⁴.

Impact of Planned Growth

- 11.78. The growth in the District is likely to place further pressure on the existing rail infrastructure. In particular, numbers of commuters may grow with the increase in both housing and employment in the District. However, the on-going projects set out by the rail operators (detailed earlier in this chapter) are likely to have a positive impact on rail capacity and support the increase in demand linked to the growth strategy.
- 11.79. The LP development strategy proposals for the East Hemel Hempstead Broad Locations are to be considered in view of rail transport opportunities in the town. The opportunities arising from changes noted to the West Coast Mainline and potential expansion of Crossrail to Hertfordshire (including a proposed station stop in Hemel Hempstead) are important. Bus network connections and service quality to the Hemel Hempstead stations are crucial.
- 11.80. Rail proposals are also required in relation to the Park Street Garden Village Broad Location. These include:
- Plans to develop a new park and rail facility as part of the Park Street Garden Village Broad Location development. The policy also seeks to deliver a 15-20 minute peak period service on the Abbey Railway Line, which will likely require a new passing loop on the Abbey Railway Line, either on site or delivered elsewhere.
 - Full exploration of possibilities for direct services to Euston via Watford and/or links to a future Metropolitan Line extension in Watford. Full exploration of possibilities for an Abbey Line stop or active travel routes/measures directly serving the BRE. Full exploration of possibilities for an additional station on the Midland Mainline.
- 11.81. Further details can be seen in the appendices for transport. Appendices 1 to 43 provide some additional information on work currently underway on detailed planning for this provision.

Rail Network	
Lead Agencies	<ul style="list-style-type: none">• Govia Thameslink Railway• Network Rail• London Midland Trains• HCC
Evidence Base	<ul style="list-style-type: none">• Local Transport Plan 4 (LTP4)• Growth & Transport Plans (GTP)• HCC Rail Strategy 2016

	<ul style="list-style-type: none"> Thameslink Programme website
Existing Provision	Existing rail transport network
Gaps in Provision	<p>Identified gaps highlighted in forthcoming HCC Rail Strategy include: the need for greater connectivity to a wider range of destinations, greater service frequency and journey times, and improved accessibility to stations.</p> <p>Links between St Albans City and Abbey Line station required.</p>
Planned Provision	<p>Thameslink programme improvements include new and improved stations, new track, new cross-London routes and new longer and more frequent trains with the express purpose of increasing capacity and reducing overcrowding.</p> <p>Redevelopment of St Albans City station.</p> <p>Potential to improve parking facilities at Harpenden Station.</p> <p>Abbey line improvements related to PSGV Broad Location and investigation of other possibilities for Abbey line and Midland Mainline.</p> <p>Park and rail at PSGV Broad Location.</p>
Impact of Development Proposals	<p>Development proposals are likely to place further pressure on the existing rail infrastructure in the District.</p> <p>However, the projects listed above will have positive implications for capacity on services in the District.</p>
Potential for Delivery	<p>Development proposals will not be of a sufficient scale to provide strategic rail improvements. However, as noted in LTP4, options for developer funding support will need to be considered. This is likely to relate to promotion of inter-modal public transport and particularly walking, cycling and bus interchanges.</p> <p>Abbey line proposals and Park & Rail at PSGV Broad Location. Delivered by developers and/or via CIL or developer contributions. Collection of CIL or developer contributions from smaller developments may assist in delivery of wider HCC transport initiatives and highway improvements in line with LTP4.</p>

	Other funding mechanisms may also be used (e.g. LEP funding and Enterprise Zone investment).
Delivery Mechanisms in the Local Plan	<p>Policy S6 – Broad Locations for Development</p> <p>Policy L17 – Infrastructure</p> <p>Policy L18 – Transport Strategy works in conjunction with LTP4 and Urban Transport Plans to set out the identified transport issues, priorities and solutions in the District.</p>

Bus Network

- 11.82. Bus networks provide an important service in the District, particularly for more rural areas. However, in rural areas such routes often suffer from economic viability issues due to the low population density and therefore are not as frequent as users would like⁸⁸.
- 11.83. Providing viable and sustainable bus services in counties such as Hertfordshire is complex. The county has high car ownership, leading to congestion on some roads particularly at peak times. It has many small towns surrounded by Green Belt, which do not create natural conditions for commercial bus operation. Furthermore, the current transport legislation offers limited powers or controls for the county to fundamentally change commercial bus provision.
- 11.84. Hertfordshire County Council is keen to promote passenger transport across the county to encourage increased use of modes of travel other than by car. There is a need for improved bus links from the rural areas to the towns and City⁸⁹. Existing bus services including minibuses, taxi buses and community transport are sometimes expensive, unreliable, infrequent and do not sufficiently provide an effective alternative to the car. Further details of potential initiatives will be available in the Local Transport Plan 4 and The South-West Hertfordshire Growth and Transport Plan.
- 11.85. LTP4 identifies the potential for a new Mass Rapid Transit (MRT) system spanning the entire A414 Corridor. More information can be found in the Draft A414 Corridor Strategy⁷⁹.

Park & Ride

- 11.86. Small Park and Ride schemes on the main routes into St Albans and at Hemel Hempstead have been considered by HCC as a potential solution to congestion and parking issues in the central areas. City Centre park and ride schemes have shown to be an effective solution in other cities with

historic street patterns, such as Oxford and Cambridge. Smaller park and ride sites, which would not require dedicated bus services, could be located on the main entry / exit route to and from St Albans. Further investigation into park and ride schemes is being considered by HCC. However, viability and ability to successfully divert journeys, plus the impact on full use of public transport use within the urban areas needs to be carefully considered.

Multi-Modal Transport Interchange (MMTI)

- 11.87. A Multi-Modal Transport Interchange with facilities to encourage and facilitate modes of transport other than the private car is identified at East Hemel Hempstead (Central).

Impact of Planned Growth

- 11.88. Public transport links will be considered to facilitate connectivity within proposed development areas. In particular, the East Hemel Hempstead Broad Location requires new public transport links to connect the new community to District and Hemel Hempstead facilities. Initial investigations undertaken with developers suggest that new bus routes could be introduced, and existing routes expanded to link the development with both Hemel Hempstead (including the train station) and St Albans (see Appendices 1 to 6 for further details).
- 11.89. In terms of East St Albans, the Oaklands College Campus is currently served by several bus routes that operate along Hatfield Road, linking the site with St Albans city centre and the rail station, as well as to Hatfield and Welwyn Garden City. The initial masterplan presented by the developer includes proposals to provide a bus link through the Oaklands College site connecting Sandpit Lane and Hatfield Road. This would offer the opportunity for existing bus services to be effectively diverted through the site (see Appendices 9 to 12 for further details).
- 11.90. Public transport provision for all Broad Location sites will be explored through the LP and master planning process.
- 11.91. Further details can be seen in the appendices for transport, which provide some additional information on work currently underway on detailed planning for this provision (see Appendices 1 to 43).

Bus Network	
Lead Agencies	<ul style="list-style-type: none"> • HCC • SADC • Various bus operators
Evidence Base	<ul style="list-style-type: none"> • Local Transport Plan 4 (LTP4) • Growth & Transport Plans (GTP) • HCC Bus Strategy 2011-2031 • St Albans UTP • Harpenden UTP • South St Albans UTP • HCC Intalink Strategy 2011-2016 • Intelligent Transport Systems (ITS) Strategy • HCC Rural Transport Strategy 2012-2031
Existing Provision	Existing bus transport network
Gaps in Provision	<p>Need for improved bus links from the rural areas to the town and city areas.</p> <p>Provision to ensure new development has sufficient bus links.</p>
Planned Provision	Further planned provision pending outcomes of Local Transport Plan 4, The South-West Hertfordshire Growth and Transport Plan, The South-Central Hertfordshire Growth and Transport Plan and A414 Corridor Strategy.
Impact of Development Proposals	<p>There will be a need for review of bus provision to facilitate services within proposed development areas. This will be included in collaborative master planning work. Diversity of provision to improve access to/from rural areas to towns and key community facilities, such as hospitals will be encouraged. Larger new developments will need to be supported by new or enhanced bus routes. Promotional strategies and incentives will be a key part of improvements and embedding of usage.</p> <p>Public transport links for the Broad Locations will be addressed, particularly to provide links to town centres, rail stations and key community facilities. For East Hemel Hempstead to Hemel Hempstead facilities, and between St Albans and the Broad Locations to connect the new communities to the District.</p>

Potential for Delivery	Development proposals at the Broad Locations are of a sufficient scale to support bus improvements. As supported in LTP4, developer contributions to service / facility provision and improvements will be considered.
Delivery Mechanisms in the Local Plan	Policy S6 – Broad Locations for Development Policy L17 – Infrastructure Policy L18 – Transport Strategy builds on LTP4 and Urban Transport Plans to set out the identified transport issues, priorities and solutions in the District.

Walking and Cycling Infrastructure

- 11.92. Sustainable travel infrastructure is strongly supported by both HCC and the District Council. The LTP4, the strategies that support it, and strategies set by the District Council outline various measures to encourage walking and cycling locally.
- 11.93. SADC’s Walking Strategy⁹⁰ encourages walking to school, walking for short journeys and as a leisure activity. It also provides guidance and requirements for meeting the needs of disabled groups when designing new development. Key actions in the Walking Strategy include encouraging walking to school and work, promoting walking as a leisure activity, improving rights of way, addressing the needs of disabled people and designing new development to encourage walking.
- 11.94. The Council will support improvements to public rights of way as part of delivering the County’s Rights of Way Improvements Plan and as green infrastructure connections⁵⁵.

Green Ring

- 11.95. The Green Ring originated in work undertaken by the District Council as part of the “City Vision” for St Albans in 2009 as a project to provide new, sustainable walking and cycling infrastructure for the City.
- 11.96. The St Albans Green Ring aim is to provide a continuous walking and cycling route (approximately 9km long) that will encircle the city centre to help reduce congestion, pollution and provide a valuable and easy way to get enough exercise⁹². The route primarily enhances existing cycling and walking routes and extends from Townsend in the north to Fleetville in the

east, Sopwell in the south and into Verulam Estate to the west. At least 13 green spaces are connected by the Ring along with schools, places of worship, heritage sites, retail centres, leisure facilities and both city railway stations.

- 11.97. The route has been sub-divided into a number of specific, self-contained sections according to the cost of delivery; difficulty of resolving design and safety concerns and related maintenance issues. The entire route was opened in October 2018.
- 11.98. Further connections will be sought to assist in the comprehensive coverage of the District.

Cycle Routes

- 11.99. There are other cycle route projects planned in the District. Key priorities in the Council's Cycling Strategy⁹¹ include new cycle routes, secure cycle parking (e.g. at stations) and other facilities such as shared use of paths in public parks. Future projects include:
- Improvements in Harpenden and Wheathampstead to National Cycleway Routes 6 and 57. A new link should be provided to connect Routes 6 and 57 in Harpenden
 - Cycle link along the A4147 – New cycle route to be provided from King Harry Lane, St Albans to Leverstock Green

Impact of Planned Growth

- 11.100. All new development will require consideration of walking and cycling infrastructure to ensure connectivity and promote sustainable transport. In the Broad Location sites, there will be a need for reviewing and introducing new walking and cycling routes to facilitate services within proposed development areas. For new schools, measures to support reductions in car journeys to education sites and school journey planning initiatives are needed. School travel plans will also be required. The following sections include an outline of the outcomes of investigative work to date by developer/landowners. Further details can be seen in the appendices for transport and education (see Appendices 1 to 29 and Appendix 63).

East Hemel Hempstead (North, Central and South combined)

The development of the East Hemel Hempstead site will necessitate cycle and footpath links. The Maylands Growth Corridor Study has considered walking and cycling links as part of its remit. The study has suggested two

concept improvements options related directly to access for walking and cycling (see Appendix 3 for further details).

Nickey Line Access Improvements:

A key issue identified is the poor linkage between the Nickey Line, Cherry Tree Lane and Three Cherry Trees Lane for pedestrians and cyclists. The existing connections from these roads onto the Nickey Line are steep and do not conform to preferred path widths and gradients. Access improvements to the Nickey Line are being tested which may include a branch line extension.

Pedestrian and Cyclist Crossings:

This project involves the creation of a new and/or improved pedestrian and cyclist crossing facilities to address existing severance and enhance access to the Maylands area from surrounding residential areas. The scheme being considered recognises the need to provide a number of pedestrian and cycling crossings along key corridors around Maylands Avenue, Redbourn Road and Breakspear Way.

Additionally, initial design work undertaken by the developers shows the potential for new footpaths and cycle links. These could connect to both Hemel Hempstead and east into St Albans City and District through linkages to the Nickey Line, and the potential creation of a cycle route within grass verges along the A414.

See Appendices 1, 2, 3, 4, 5 and 6 for further details.

North Hemel Hempstead

The Developer is willing to provide funding towards walking and cycling infrastructure between the site and the Business Park. This would include extending the existing footway on the southern side of Redbourn Road along the southern boundary of the site. This will provide a walking route from the site to the Business Park and towards Hemel Hempstead Town Centre. This would also include contributing towards the two 'Scheme Concepts' outlined in the paragraph below.

Within the 'Maylands Growth Corridor' study, it refers to a proposed Quietway on Cherry Tree Lane (SC3a) which would consist of a mix of new signs and kerbed build-outs in order to discourage through movements, along with areas where vehicles will be banned. The document also refers

to the Nickey Line (SC5) where improved access facilities are proposed from Cherry Tree Lane and Three Cherry Trees Lane where they route over and under the Nickey Line respectively. On Cherry Tree Lane, it is envisaged that a system of ramps with appropriate gradients for cyclists and pedestrians to negotiate would be provided between the level of the road and the level of the track.

See Appendices 3, 7 and 8 for further details.

East St Albans

Initial assessment work undertaken on behalf of the developers envisages a number of enhancements to existing paths and the creation of new links. Concepts being investigated include:

- New segregated cycle path along South Drive with improved cycle access into the College from the south.
- A shared footway/cycleway alongside the residential access road from Sandpit Lane with an east-west spur.
- New footpath along the south-eastern boundary of the site linking East Drive with Hatfield Road.
- Routes for walking or running around the perimeter of the Oaklands site and an internal cycle and footpath network, including links between residential areas and the college site.
- Improved connections to the Alban Way, with new pedestrian and cycle crossings on Hatfield Road at the Colney Heath Lane junction.

Further work will be undertaken and addressed through the master planning process (see Appendices 9, 10, 11 and 12 for further details).

North St Albans

The developer/landowner has indicated the following approach:

- Walkable neighbourhoods help to promote a healthy lifestyle, a socially inclusive society and environmental sustainability. The site layout will be designed to promote pedestrian and cyclist permeability, with a network of green infrastructure corridors offering dedicated non-vehicular routes.
- Green spaces interconnect to form a network of public footpaths and cycleways that link each part of the site with one another and with St

Albans to the south and west and open countryside (including the Heartwood Forest) to the north east.

- The Site lies adjacent to the Sustrans National Cycle Route 6 with strong opportunities to connect proposed facilities within the new development to an established existing cycle network. It will also be important to provide high quality links to join with the St Albans 'Green Ring', a continuous walking and cycling route that encircles the city centre. The objective of the Green Ring is to make cycling and walking a sensible first choice for journeys within the city where previously a car would have been used.
- The development will also focus on improving existing walking and cycling infrastructure on routes to public transport and local facilities to reduce the numbers of car trips.

See Appendices 13, 14 and 15 for further details.

North West Harpenden

The developer/landowner has indicated the following approach:

- Walking and cycling links to Harpenden will be considered as part of the design process. Assessment work undertaken on behalf of the developers identified scope for a shared footway / cycleway along the site frontage on Luton Road which could be continued to the east with a potential link to the Nickey Line. Additionally, improvements to footpaths and new rights of way to improve public access to the surrounding countryside have been proposed.
- Comprehensive network of walking and cycling routes with enhanced "leisure" and "commuting" cycle routes to the town centre and station, a new footway along Luton Road, and contributions to improve countryside access. Enhanced cycle and pedestrian routes to key local destinations.
- Opportunity for strategic footpath links to the north of the site. Links to the Nickey Line via footpaths on Ambrose Lane. A network of Green Routes and Open Spaces within the site connect to existing links. Links to the Nickey Line via footpaths on Luton Road. Existing National Trail runs along Cooters End Lane.
- A Cycle Connection Strategy will be worked up and delivered as part of the ongoing design and development processes in order to promote cycling. Two new sustainable cycle routes have been identified from the proposed development to Harpenden town centre/rail station: a new cycle route via the A1081 Luton Road; and, a "quiet" cycle route via a shared carriageway along the lightly trafficked Ambrose Lane.

- On site, there will be a comprehensive network of walking and cycling routes that will connect the housing and other areas within the proposed development, ensuring the development is fully accessible.

See Appendices 18, 19, 20, 21, 22 and 23 for further details.

North East Harpenden

The developer/landowner has indicated the following approach:

- The use of sustainable transport modes, especially walking and cycling, is encouraged. Extensive pedestrian and cycle links through the site and connecting to urban area.
- There are several Public Rights of Way (PRoW) that connect the site with the adjoining residential areas to the south, Common Lane and Bower Heath Lane. A sequence of proposed pedestrian and cycle routes will provide connections to local services, amenities and bus stops and will enhance and complement existing routes.
- Existing public rights of way through the site preserved; Potential for new pedestrian/cycle access between development and adjacent playing facilities; Potential pedestrian/cycle access onto Common Lane, towards new Katherine Warrington School; Potential pedestrian/cycle link to Sauncey View Lodge if required.

See Appendices 16 and 17 for further details.

Park Street Garden Village

The developer/landowner has indicated the following approach:

- Segregation of pedestrian and vehicular traffic flows, and the retention of existing rights of way and informal footpaths with potential pedestrian links to the West of London Colney (north and south of Napsbury) development.

See Appendix 29 for further details.

West of Chiswell Green

The developer/landowner has indicated the following approach:

- A Walking and Cycling Audit has been undertaken of three key routes to the local railway stations. Following this, footway improvements to Tippendell Lane, between Watford Road and Park Street Lane are proposed.

- Proposals and promotions to increase the proportion of utility trips made through walking and cycling; including implementation of Rights of Way Improvement Plans and new off-road cycle and walking routes; including alongside primary roads.
- It is proposed to extend the footpath along the southern side of Chiswell Green Lane to run along the entire length of the northern boundary of the site, tying in with the existing footway provision. This will provide direct access to the local amenities on Watford Road from the northern part of the site. Walking and cycling will be promoted within the site with footways / cycleways linking the northern and southern parts of the site.

See Appendices 26, 27 and 28 for further details.

West of London Colney

The developer/landowner has indicated the following approach:

- A new pedestrian/cycle crossing off Shenley Lane is included in the access strategy for the site as well as proposed enhancements to existing infrastructure in London Colney to promote access on foot/by bicycle.
- The means of access includes making use of the existing signalised crossing on Shenley Lane (north of the site), as well as providing a new signalised crossing (south of the site) for pedestrians/cyclists. Additional enhancements could include upgrading the footway on the east side of Shenley Lane to allow pedestrian and cycle access between crossings. This upgrade would also connect Kings Road to St Anne's Road and, potentially the byway alongside the River Colne. Potential upgrades to improve pedestrian/cycle access along King's Road. St Anne's Road and the byway adjacent to the River Colne would enable access to/from the site from London Colney on foot/by bicycle.

See Appendices 24 and 25 for further details.

Further details can be seen in the appendices for transport, which provide some additional information on work currently underway on detailed planning for this provision (see Appendices 1 to 29).

Walking and Cycling Infrastructure	
Lead Agencies	<ul style="list-style-type: none"> • SADC • HCC
Evidence Base	<ul style="list-style-type: none"> • Local Transport Plan 4 (LTP4) • Growth and Transport Plans (GTP) • St Albans UTP • Harpenden UTP • SADC Cycling Strategy 2007 • SADC Walking Strategy 2007 • Rights of Way Improvements Plan • Broad Location initial transport studies / assessments
Existing Provision	Existing walking and cycling infrastructure network
Gaps in Provision	<p>Further provision of walking and cycling infrastructure. Particularly, improved cycling provision along more routes in the District and connecting new development.</p> <p>Rights of Way Improvements across the District.</p>
Planned Provision	<ul style="list-style-type: none"> • New and enhanced walking and cycle routes • The Green Ring • Rights of Way Improvements Plan
Impact of Development Proposals	<p>The Local Plan requires new development to be located in areas which reduce the need to travel and encourage the use of sustainable transport modes. New development will be required to produce travel plans to encourage sustainable travel.</p> <p>There will be a need for masterplanning/reviewing walking and cycling routes to facilitate services within proposed development areas.</p> <p>The Broad Locations are considering various proposals. See above for further details:</p> <ul style="list-style-type: none"> • <u>East Hemel Hempstead (North, Central & South)</u>: Access and upgrading to Nickey Line, footpath and cycle network links both internally and to facilities in Hemel Hempstead and St Albans. • <u>North Hemel Hempstead</u>: Footpath and cycle routes to the business park.

	<ul style="list-style-type: none"> • <u>East St Albans</u>: Footpath and cycle routes, including connections to the Alban Way. • <u>North St Albans</u>: Footpath and cycle routes with opportunities to connect to National Cycle Route 6 and the Green Ring. • <u>North East Harpenden</u>: Extensive pedestrian and cycle links through the site and connecting to urban area. • <u>North West Harpenden</u>: Comprehensive network of walking and cycling routes with enhanced “leisure” and “commuting” cycle routes to the town centre and station, a new footway along Luton Road, and contributions to improve countryside access. • <u>West of London Colney</u>: A new pedestrian/cycle crossing off Shenley Lane is included in the access strategy for the site, as well as proposed enhancements to existing infrastructure in London Colney to promote access on foot/by bicycle. • <u>West of Chiswell Green</u>: A Walking and Cycling Audit has been undertaken of three key routes to the local railway stations. Following this, footway improvements to Tippendell Lane, between Watford Road and Park Street Lane are proposed. • <u>Park Street Garden Village</u>: the retention of existing rights of way and informal footpaths with potential pedestrian links to the West of London Colney (north and south of Napsbury) development. <p>Further detailed investigations are on-going.</p> <p>Significant improvements to a number of inter-urban cycling routes are envisaged in the LP. This includes: (1) along the A1081 from the north to Harpenden, Harpenden to St Albans and beyond to the south; (2) a circular route from East Hemel Hempstead (South) along the A4147 to St Albans – to the Redbourn Road – to Redbourn – along the Nickey Line to East Hemel Hempstead (North).</p> <p>Various schemes in the GTPs.</p>
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Potential for Delivery	Depending on the location and scale of development, proposals may be able to provide required sustainable transport improvements either in kind or through planning obligations. It is likely that CIL contributions will be required towards sustainable and local transport improvements.
Delivery Mechanisms in the Local Plan	<p>Policy S6 – Broad Locations for Development</p> <p>Policy L17 – Infrastructure</p> <p>Policy L18 – Transport Strategy sets out that the Council supports measures which ensure the free flow of traffic, reduce traffic congestion and encourage more sustainable travel, by public transport, walking and cycling. Various required improvements are set out in the policy.</p>

12. Utilities Infrastructure

- 12.1. Utilities infrastructure provision traditionally operates on shorter planning horizons and is therefore quite reactive towards infrastructure requirements for new development. This is because the providers operate in a regulated but commercial framework. Their capital investment plans have to be related to agreed pricing negotiations with regulating bodies. The Council and public sector partners have however tried to adopt a proactive approach. This has included extensive engagement with utilities companies to estimate the requirements for utilities infrastructure as a result of growth in the District.

Water Infrastructure

- 12.2. The Water Cycle Study⁹³ was jointly conducted in 2010 by Local Planning Authorities in the southwest of Hertfordshire including: Dacorum Borough Council, St Albans City and District Council, Three Rivers District Council, Watford Borough Council and Welwyn Hatfield Borough Council. The study provided an evidence base to support policy work related to water resources, supply and sewerage, wastewater treatment, flood risk, water quality and the wider water environment.
- 12.3. Work has taken place to update this study to reflect current growth levels in Hertfordshire, which will increase pressure on water related infrastructure and the environment. The Water Project for Hertfordshire 2015-2051 is a joint study undertaken by: Hertfordshire County Council, the Environment Agency, the Hertfordshire Local Economic Partnership, Local Hertfordshire Councils and water infrastructure providers. The project aims to gather information to provide project partners with a range of information on the effects of planned growth on the water environment, water supply and wastewater treatment infrastructure requirements in the county. This will provide an evidence base which allows informed decisions to be made on how water and wastewater infrastructure needs can be managed to facilitate sustainable future growth.
- 12.4. The first stage of the project delivered a draft Hertfordshire Water Study⁹⁴ in 2017. The draft study models planned growth in Hertfordshire and assesses infrastructure options for water supply and wastewater treatment across the County and beyond. It confirms that there is available water supply to support projected levels of growth in Hertfordshire in the current round of Local Plans. Additionally, the draft report confirms that waste water treatment capacity is available to support current growth levels in Hertfordshire to 2031; however investment in capacity will be required to service growth beyond that period.

- 12.5. The outcomes of stage one will feed into the further detailed infrastructure planning at the District level once published and signed off by all authorities. More information is available in the appendices for water infrastructure (see Appendices 44 to 49).
- 12.6. A possible second stage to the Hertfordshire Water Study could be commissioned in due course if required. This would aim to examine the conclusions of the stage one report, in order to provide detailed information about the cost and requirements of water and sewerage infrastructure for each district. HCC has agreed to create a generic brief for stage two. Ultimately, local authorities will decide on an individual basis if work for a possible second stage will be undertaken.

Water Supply

- 12.7. The District is supplied water by Affinity Water who provide drinking water to approximately 1.4 million properties in the South East of England. Currently, Affinity Water has 130 groundwater sources, four river intakes on the River Thames, one impounding reservoir and 12 bulk supply imports from neighbouring water companies. Within St Albans District, there are two major water sources which are responsible for transferring water across the region - one in Harpenden and one in St Albans.
- 12.8. Affinity Water supply is divided into eight Water Resource Zones (WRZs) that are broadly connected areas in which customers are supplied by a common pipe network from a number of local water resources. St Albans is in the Colne catchment area (Water Resource Zone 2). The population forecasts used by Affinity Water for the Colne catchment area show an increase of 14% by 2040, based on the 2011 Census figure projections⁹⁵. This increase is sufficient to reflect the development growth envisaged in the Local Plan. An assessment of water available identifies that the South East region does not have sufficient water for the whole of the 25 year planning period to meet demand.
- 12.9. Water companies are required to produce a Water Resources Management Plan (WRMP) every five years. Each WRMP looks ahead at least 25 years to ensure sufficient water to meet customer demand whilst balancing the needs of the environment at a strategic level. The most recent WRMP⁹⁵ covers the period 2015 – 2040 and identifies a supply / demand deficit in five of the eight water resource zones (which includes Water Resource Zone 2) at the beginning of the planning period and in seven zones by 2040. Water Resource Zone 2 is one of the zones with some level of deficiency across the plan period. The WRMP sets out a series of preferred options for Water Resource Zone 2 to improve supply and efficiency, including source optimisation in St Albans and leakage reduction.

- 12.10. Affinity Water published its revised draft Water Resources Management Plan⁹⁶ covering the period 2020 – 2080, for further consultation between March and April 2019. The revised draft WRMP is based on the “Alternative Plan” option (with modifications) outlined in the previous draft WRMP consultation undertaken between March and May 2018. In particular, the revised draft WRMP outlines key changes with regards to: sustainability reductions, leakage reduction, drought resilience and per capita consumption. Additional changes include a commitment to no development of new chalk groundwater options in the Central region (which covers St Albans District) and the Supply 2040 programme for strategic water transfers.
- 12.11. Affinity Water has a legal requirement to supply water to new developments. The Water Industry Act 1991 recognises the impact of new developments on the existing water supply network and allows water companies to make an infrastructure charge for each property connected to the water supply. These charges are designed to ensure that existing customers do not have to bear the full burden of the investment needed to serve new developments. This charge is separate to the cost that companies charge developers for the requisition of new mains, which is based on the total cost of the mains off-site pipe work and any necessary upgrades downstream.

Water Drainage / Sewerage

- 12.12. Thames Water is the statutory sewerage undertaker for the District. Statutory water and sewerage undertakers’ investment programmes are based on a five year cycle, known as the Asset Management Plan (AMP) process. AMP6⁹⁷ is the current period, which runs from 1 April 2015 to 31 March 2020. In September 2018, Thames Water published its draft updated AMP7⁹⁸ for the next period 2020 to 2025, with the aim of agreeing and finalising its plan by the end of 2019.
- 12.13. As part of the five year business plan review, Thames Water advise the regulator Ofwat of the funding required to accommodate growth to ensure their treatment works can continue to meet the standard required by treatment consents, set by the Environment Agency. Their investment programmes are based 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. The AMP6 sets out a commitment to sewage works improvements, flooding prevention and the generation of renewable energy to meet some of their own operational needs.

- 12.14. Thames Water’s wastewater network includes sewers, pumping stations and other equipment used to capture and transport sewage. All of the District’s sewage drains to the Maple Lodge, Harpenden or Blackbirds Wastewater Treatment Works (WwTW). These WwTWs serve other Local Authorities, whose proposed Local Plans also need to be considered when planning future infrastructure.

Table 5: Wastewater Treatment Works

Wastewater Treatment Works (WwTW)	Settlement(s)
Blackbirds	Chiswell Green, How Wood, London Colney, Park Street/Frogmore, Redbourn, St Albans
Harpenden	Harpenden, Wheathampstead
Maple Lodge	Bricket Wood, Chiswell Green, How Wood, London Colney, Park Street/Frogmore, Redbourn, St Albans

- 12.15. In terms of planning for new development, water and sewerage undertakers have limited powers under the Water Industry Act to prevent connection ahead of infrastructure upgrades. Waste water undertakers may tend to rely heavily on the planning system to try to ensure that infrastructure is provided ahead of development, either through phasing or the use of planning conditions. However the planning system is often not ideally suited to dealing with these issues and this can lead to longer term infrastructure planning uncertainties. This issue has been reflected in IDP engagement with the providers.
- 12.16. From 1st April 2018, all off site wastewater network reinforcement works necessary as a result of new development have to be delivered by the relevant statutory undertaker (Thames Water covering SADC). Local reinforcement works will be funded by the Infrastructure Charge, which is a fixed charge for water and wastewater for each new property connected. Wastewater treatment infrastructure will be funded through water companies’ investment programmes, which are based on a 5 year cycle known as the Asset Management Plan process.

Impact of Planned Growth

- 12.17. Current growth levels in Hertfordshire will increase pressure on water related infrastructure and the environment. Although Hertfordshire is located in one of the driest regions in the UK, Affinity Water predicts no

significant supply issues during the Local Plan period based on the planned improvement and efficiency works set out in the Water Resources Management Plan. Despite this position, the future reality of increasing water supply constraints is reflected in joint work with the industry in the Water Study, and in the emerging policy approach to water saving measures in new development (Policy L25).

- 12.18. In terms of waste water and sewerage, additional capacity at Maple Lodge and/or Blackbirds WwTW are likely to be required to accommodate the increase in wastewater from development in the District to 2036. However, this may be constrained by growth in surrounding districts served by the WwTW. In particular, the Broad Locations at North East Harpenden and North West Harpenden are likely to require upgrades to the wastewater network. Additionally, the Broad Locations at East Hemel Hempstead (North, Central and South) and North Hemel Hempstead are likely to require consideration for wastewater network upgrades, due to planned levels of development already being considered within Dacorum Borough.
- 12.19. New development puts additional pressure on the existing wastewater infrastructure network and could exacerbate existing sewer flooding issues, or lead to sewer flooding if there is insufficient existing capacity within the sewerage network. It is therefore critical that any development is delivered alongside any necessary upgrades to the sewerage infrastructure network required.
- 12.20. It is essential that developers engage with the providers in detail when planning development, and that best use is made of available capital investment and land use planning mechanisms to address constraints at the earliest opportunity. Where there is a capacity problem and network reinforcement upgrades are required, planning conditions may be used to phase development ensuring that additional capacity is provided ahead of the occupation of the relevant phase of development. One aim of the Water Study is to create a robust overall framework, including modelling tools, to deal with this issue.
- 12.21. Indicative information on water infrastructure needs for St Albans District are listed in the draft Hertfordshire Water Study Project. Further details can be seen in the appendices for water infrastructure (see Appendices 44 to 49).

Water Infrastructure	
Lead Agencies	<ul style="list-style-type: none"> • Affinity Water – Water supplier • Thames Water – Statutory sewerage undertaker
Evidence Base	<ul style="list-style-type: none"> • Water Project for Hertfordshire 2015-2051 • Hertfordshire Water Study 2017 (draft to be finalised once signed off by all authorities) • Water Cycle Study Scoping Study 2010 • Thames Water AMP6 Business Plan • Thames Water Draft AMP7 Business Plan • Thames Water 25-Year Strategy for 2015 to 2040 • Affinity Water Business Plan • Affinity Water: Water Resources Management Plan, 2015-2020 • Affinity Water: Revised Draft Water Resources Management Plan, 2020-2080
Existing Provision	<p>St Albans District drains to three WwTW facilities:</p> <ul style="list-style-type: none"> • Harpenden • Maple Lodge • Blackbirds
Gaps in Provision	<p>No current gaps in potable water supply as Affinity Water already set out plan to improve distribution network in this WRMP to 2040.</p>
Planned Provision	<p>None identified at present, but pending outcomes of Water Project.</p>
Impact of Development Proposals	<p>Growth will increase pressure on water supply and waste and sewerage infrastructure.</p> <p>North East Harpenden and North West Harpenden are likely to require upgrades to the wastewater network.</p> <p>East Hemel Hempstead (North, Central and South) and North Hemel Hempstead are likely to require consideration for wastewater network upgrades due to planned levels of development within Dacorum Borough.</p> <p>The draft Hertfordshire Water Study 2017 confirms that there is available water supply to support projected levels of growth in the current round of Local Plans. Additionally, waste water treatment capacity is available to support current growth levels in Hertfordshire to 2031; however investment in capacity will be required to service growth beyond that period.</p>

<p>Potential for Delivery</p>	<p>The water provider has a duty to supply water to all development. It is essential that developers demonstrate that adequate capacity exists both on and off the site to serve the development and that it would not lead to problems for existing users. Developer funded impact studies and developer contributions to infrastructure upgrades may be required.</p> <p>Approximate timescales for delivery of necessary upgrades:</p> <ul style="list-style-type: none"> • 18 months to 3 years for waste water network upgrades; • 3 to 5 years for waste water treatment upgrades; • 7 years + for new treatment works. All timescales are subject to funding being in place first. <p>New dwellings will be required to meet higher standard (building regulation) Code for Sustainable Homes water usage efficiency targets.</p> <p>Supply infrastructure and connections are part funded by the developer in the form of a connection charge.</p>
<p>Delivery Mechanisms in the Local Plan</p>	<p>Policy S6 – Broad Locations for Development (see proposals on ‘water management’ in Policies: S6 i, S6 iii, S6 iv, S6 v, S6 vi, S6 vii, S6 viii, S6 ix, S6 x and S6 xi)</p> <p>Policy L17 – Infrastructure (see ‘Utility Infrastructure’)</p> <p>Policy L23 – Urban Design and Layout for New Development (see ‘Detailed design and layout’, paragraph C ‘Drainage’)</p> <p>Policy L25 – Energy and Environmental Performance of New Development (see ‘Design of development for environmental performance’, paragraph seven)</p> <p>Policy L29 – Green and Blue Infrastructure, Countryside, Landscape and Trees (see ‘Watercourses and flood risk’)</p>

Energy Distribution

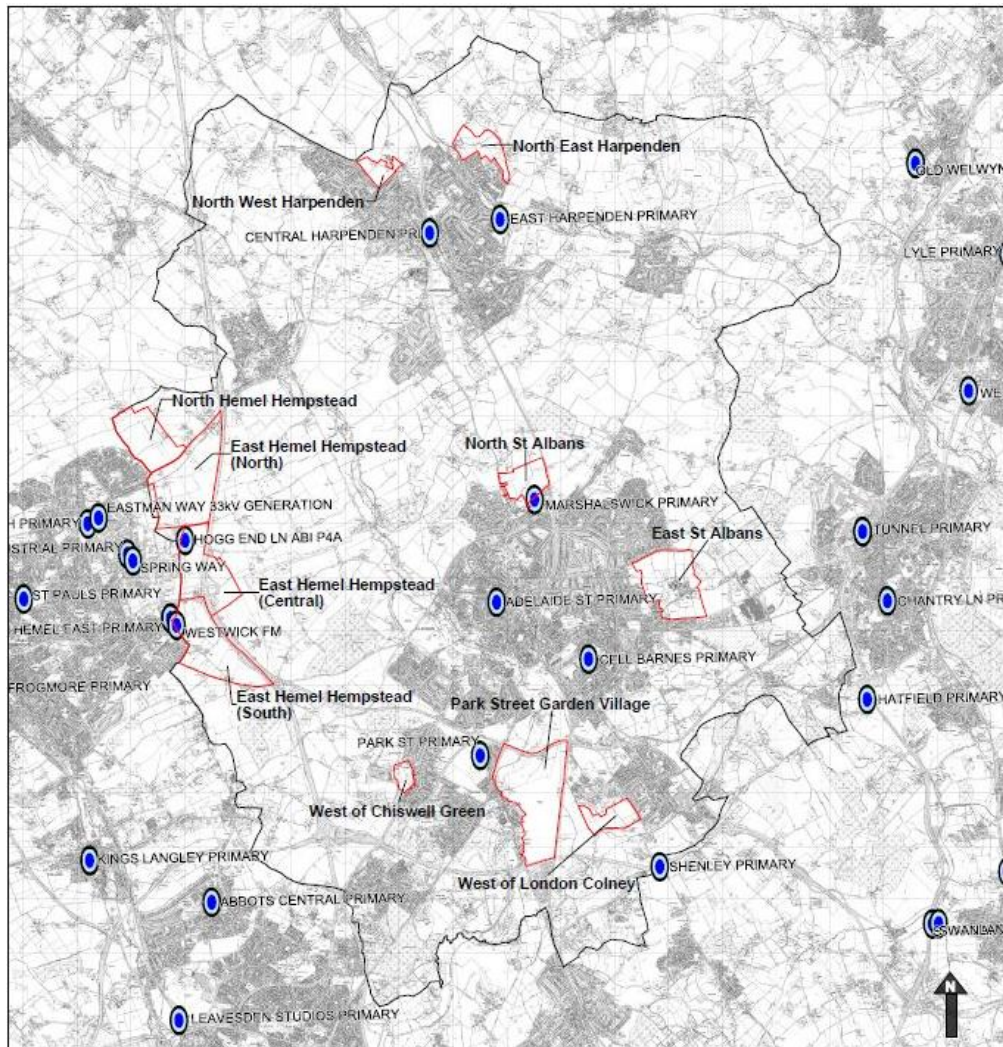
National and local energy strategies

- 12.22. In 2017, the Government published the Clean Growth Strategy⁹⁹ (amended in 2018), which set out its national ambition of delivering economic growth and reducing greenhouse gas emissions. The Strategy looks forward to 2050, highlighting the development of decentralised smart systems of energy in the UK through measures such as interconnection, electricity storage and demand side response. In addition, the Clean Growth Strategy emphasises a move towards the electrification of heating, as the majority of heat produced nationally is sourced from natural gas at present. This will involve households changing from gas or oil boilers to electric heat pumps.
- 12.23. In 2018, Local Energy East (LEE) comprising the three Local Enterprise Partnership (LEP) areas of Hertfordshire, New Anglia (Norfolk and Suffolk) and Cambridgeshire & Peterborough published the Local Energy East Strategy¹⁰⁰. The LEE Strategy reflects the Government's Clean Growth Strategy and outlines the local opportunities for the three LEP areas to implement local energy growth initiatives in the period 2018 to 2030. A key principal objective of this Strategy lies in the future localisation of energy infrastructure. This includes the creation of a flexible energy system comprising smart energy grids and new distribution networks which lead development. Moreover, the LEE Strategy supports the move towards the electrification of heating and transport in the three LEP areas.
- 12.24. The Greater South East Energy Hub¹⁰¹ was established in April 2018, comprising 11 LEP areas and their local authorities (including Hertfordshire LEP and SADC). The purpose of a Local Energy Hub is to co-ordinate, manage and derive the technical feasibility studies needed to promote and accelerate the delivery of new local energy infrastructure. The Greater South East Energy Hub will coordinate with its member LEPs for the production of Local Energy Strategies (including the LEE Strategy). In addition, this Energy Hub will support the delivery of local energy infrastructure as identified in the Local Energy Strategies (including the LEE Strategy) and their associated evidence-based analysis.
- 12.25. In 2018, the Government published its Road to Zero Strategy¹⁰². It outlines the Government's long-term ambition to put the UK at the forefront of the design and manufacturing of zero emission vehicles, and for all new cars and vans to be effectively zero emission by 2040. In particular, the Strategy sets out measures to enhance charging infrastructure for electronic vehicles in homes, workplaces, streets and at public charge points. In particular, a key general requirement of Policy L20 for New Development Parking Standards, states that the provision of electric vehicle charging points in new communal parking areas should be considered.

Electricity Distribution




- 12.26. UK Power Networks (UKPN) manages the local electricity distribution network in St Albans District. They are supplied from the exit points from the high voltage network managed by National Grid. A map of existing electricity 33kv substations in the District is illustrated below:

Figure 5: Map of Electricity (33kv) substations in St Albans District (2018)



SADC - 33kV Electricity substations

Key

-  District boundary
 -  S8 Broad Locations for Development (wider boundaries including retained Green Belt)*
 -  33kV substation
- *NB: the extent of the school sites shown are only indicative areas of search and are mostly much larger than the areas that will ultimately be needed

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*Source: UK Power Networks – Distributed Generation Mapping Tool¹⁰³ (2018)

- 12.27. Harpenden, Redbourn, Wheathampstead and northern areas of the District are supplied from two Primary substations (33kV), East Harpenden and Central Harpenden. The Primary substations are fed from Luton South Grid (132kV), which is in turn fed from Sundon Supergrid (400kV/132kV).
- 12.28. St Albans, London Colney, Chiswell Green, Park Street and southern areas of the District are supplied from six Primary (33kV) substations: Marshalswick, Adelaide Street, Hatfield (within Welwyn Hatfield Borough), Cell Barnes, Park Street and Shenley (within Hertsmere Borough). The Primary substations are fed from either Cell Barnes Grid or Hatfield Grid (132kV/33kV), which are in turn fed from Elstree Supergrid (400kV/132kV).
- 12.29. The planned Broad Location areas adjacent to Hemel Hempstead at East Hemel Hempstead (North, Central and South) and North Hemel Hempstead, could be supplied by two existing Primary substations (33kV) in the District. Hogg End Lane is located within the East Hemel Hempstead (Central) Broad Location site, and Westwick Farm is located within the site of East Hemel Hempstead (South). In principle, the four Broad Locations adjacent to Hemel Hempstead could also be supplied by several existing Primary substations (33kV) in Hemel Hempstead (within Dacorum Borough). Hemel East substation is adjacent to the west of East Hemel Hempstead (South). Additionally, Industrial Primary and Spring Way substations are located to the west of East Hemel Hempstead (Central). Hemel North Primary and Eastman Way substations are located near to the west of East Hemel Hempstead (North) and southwest of North Hemel Hempstead. The Primary substations in Hemel Hempstead are fed from Piccotts End Grid or Lye Green Grid (132kV), which are in turn fed from Elstree Supergrid (400kV/132kV).
- 12.30. There are no existing infrastructure or capacity issues in the District, although UKPN are currently looking to replace switching gear at East Harpenden Primary (circa 2019). Capacity in the Harpenden area is supplied via East Harpenden and Central Harpenden Primary substations. Whilst spare capacity is limited in the Harpenden area, UKPN will seek to maximise the utilisation of the 11kV network and transfer loads between sites accordingly.
- 12.31. In an event of new development, UK Power Networks aim to align installation of underground power cables. UK Power Networks has an obligation under the terms of their distribution license to develop and maintain an economic and efficient network¹⁰⁴. To this end, UKPN does not seek to reinforce the electricity network ahead of need, but consider current and future predicted load growth as a result of planned development. Where proposed development triggers the need for reinforcement, the developer will be expected to pay all or a proportion of the costs.

- 12.32. On average, a 3/4 bed property consumes 1.5kVA to 2kVA, this will vary depending on systems used with the property. It is the responsibility of the developer to engage with the supplier and nominated specialist consultants to determine their load requirements and determine the connection to the electricity network.

Electric Vehicle Charging Infrastructure

- 12.33. Several charging points for Electric Vehicles (EVs) are in operation in St Albans District¹⁰⁵. Hertfordshire County Council own and operate five EV charging points in SADC on the POLAR network, whilst other parties own and manage an additional four EV charging points across the District. A list of EV charging points in SADC is outlined below:

Table 6: Electric Vehicle Charging Points in St Albans District (June 2017)

Settlement	EV Charging Point – Site Address
St Albans	London Road (outside Morrisons Local supermarket)
	Charter Close (opposite multi-storey car park, outside park)
	Upper Dagnall Street (opposite White Swan Public House)
	Hall Place Gardens (opposite house numbers 1-5)
	*St Albans City Railway Station
	*Waitrose supermarket Car Park, Mayne Avenue
	*Glyn Hopkin, Lyon Way
Harpenden	Bowers Way Car Park
Frogmore	*Toyota, Radlett Road

**Owned and managed by other parties*

Gas Transmission and Distribution

- 12.34. National Grid also owns and operates the high pressure gas transmission system throughout Great Britain. There are no gas transmission pipelines within the administrative area of St Albans. National Grid has a duty to develop and maintain an efficient, co-ordinated and economical transmission system for the conveyance of gas. New gas transmission infrastructure is periodically required to meet increases in demand and changes in patterns of supply¹⁰⁶.
- 12.35. National Grid Gas Distribution previously owned and operated the regional gas distribution network in St Albans District. Reinforcements and developments of the local distribution network are generally as a result of overall demand in a region, rather than site specific developments. National

Grid will not install infrastructure on a speculative basis to serve potential developments. Provision of on-site gas distribution is the responsibility of the developer.

- 12.36. National Grid may wish to install strategic pipelines at an early stage of the developments and will recharge a proportion of the costs to each developer. National Grid will not install infrastructure on a speculative basis to serve potential developments and will need to enter into agreements with developers before any work is commenced.
- 12.37. In 2017, Cadent Gas became the gas regional distribution network operator for the East of England network, having separated from National Grid. This network includes the East Anglia local distribution zone, which covers St Albans District. Cadent Gas published its Long Term Development Plan¹⁰⁷ in 2018, which forecasts gas demand over a ten year period from 2017/18 to 2026/27. Peak gas demand forecasts for the East Anglia local distribution zone indicate a relatively stable level of demand for the ten year future forecast period.

Onsite Energy Provision

- 12.38. The Council is committed to sustainable development and is working to reduce greenhouse gas emissions in line with local and national targets. Onsite energy generation through renewable and low carbon generation is one of the ways in which the District can work towards carbon-neutral status.
- 12.39. The Local Plan sets out a requirement for all major new development to maximise realistic opportunities for delivering renewable and low-carbon energy technologies. Such provision has the potential not only to supply new development but also nearby existing development. Local Plan Policy L25 states that residential development of 50 or more dwellings or 1,000 sq. m of non-residential floorspace must present and explain the energy strategy for development.
- 12.40. Large scale development such as the Local Plan Broad Location sites present significant opportunities for the delivery of renewable energy. As set out in Policy L25, the Broad Locations at: East Hemel Hempstead (North, Central and South), North Hemel Hempstead, East St Albans, North St Albans and Park Street Garden Village, will be expected to deliver renewable or low-carbon energy supply. This requirement applies to planned new development within these Broad Location areas, and if possible to also link to nearby existing development. All Broad Locations (with the exception of East Hemel Hempstead Central), include proposals for excellence in energy efficiency, as well as appropriate renewable energy production and supply mechanisms.

- 12.41. In particular, two Broad Location sites include proposals to potentially deliver new renewable or low-carbon energy distribution infrastructure. The scale of employment development at East Hemel Hempstead (Central) provides exceptional environmental opportunities for new energy technologies, including Combined Heat & Power and large scale solar power generation. In addition, the East St Albans Broad Location includes a proposal for the provision of a site wide Combined Heat & Power system that would be delivered in association with research and teaching initiatives at Oaklands College and its partner institutions.

Impact of Planned Growth

- 12.42. Growth over the plan in the District will increase demand on both electricity and gas distribution infrastructure. Much of the planned growth can be accommodated with the existing infrastructure provision. However, upgrades may be required at the Central Harpenden, Adelaide Street and Hatfield Primary Substations in order to accommodate the level of growth set out in the Local Plan.
- 12.43. In terms of the Broad Location sites, the following works may be required to ensure adequate provision:

S6 i) – East Hemel Hempstead (North) Broad Location

S6 ii) – East Hemel Hempstead (Central) Broad Location

S6 iii) – East Hemel Hempstead (South) Broad Location

S6 iv) – North Hemel Hempstead Broad Location

The Broad Locations at East Hemel Hempstead (North, Central and South) and North Hemel Hempstead could trigger a need for reinforcements to the UKPN network, in conjunction with the proposed extension of Maylands Business Park in Hemel Hempstead (within Dacorum Borough). This is in part due to the commercial uses in this location which are likely to require large power supply loads. Further modelling work may be required.

For East and North Hemel Hempstead, it is likely that provision of onsite renewable or low carbon energy will be required to supply new development and potentially to supply nearby existing development in line with Policy L25.

S6 v) – East St Albans Broad Location

S6 vi) – North St Albans Broad Location

There is currently sufficient capacity at the Primary Substation level. Cell Barnes Primary Substation could supply East St Albans, whilst Marshalswick Primary Substation could supply North St Albans.

For East St Albans, it is likely that small scale renewable energy production will be required to supply the college and new development, if possible to also link to nearby existing development.

S6 vii) – North East Harpenden Broad Location

S6 viii) – North West Harpenden Broad Location

Capacity is more limited in Harpenden. However there is the potential to transfer load from alternative primary substations to manage capacity as necessary. This could require physical upgrades of switching gear or upgrades to cabling.

- 12.44. For the Local Plan Broad Location sites, an assessment of indicative network capacity in the existing electricity distribution network is outlined in the table below:

Table 7: Indicative Electricity Distribution network capacity for Broad Locations

Broad Location	Electricity Distribution Network status (indicative)
S6 i) East Hemel Hempstead (North)	Capacity available
S6 ii) East Hemel Hempstead (Central)	Capacity available
S6 iii) East Hemel Hempstead (South)	Capacity available
S6 iv) North Hemel Hempstead	Capacity available
S6 v) East St Albans	Capacity available (for majority of site)
S6 vi) North St Albans	Significant capacity available
S6 vii) North East Harpenden	Capacity available (for majority of site)
S6 viii) North West Harpenden	Highly utilised and/or reinforcement required
S6 ix) West of London Colney	Capacity available
S6 x) West of Chiswell Green	Significant capacity available
S6 xi) Park Street Garden Village	Significant capacity available

Source: UK Power Networks – Distributed Generation Mapping Tool¹⁰³ (2018)

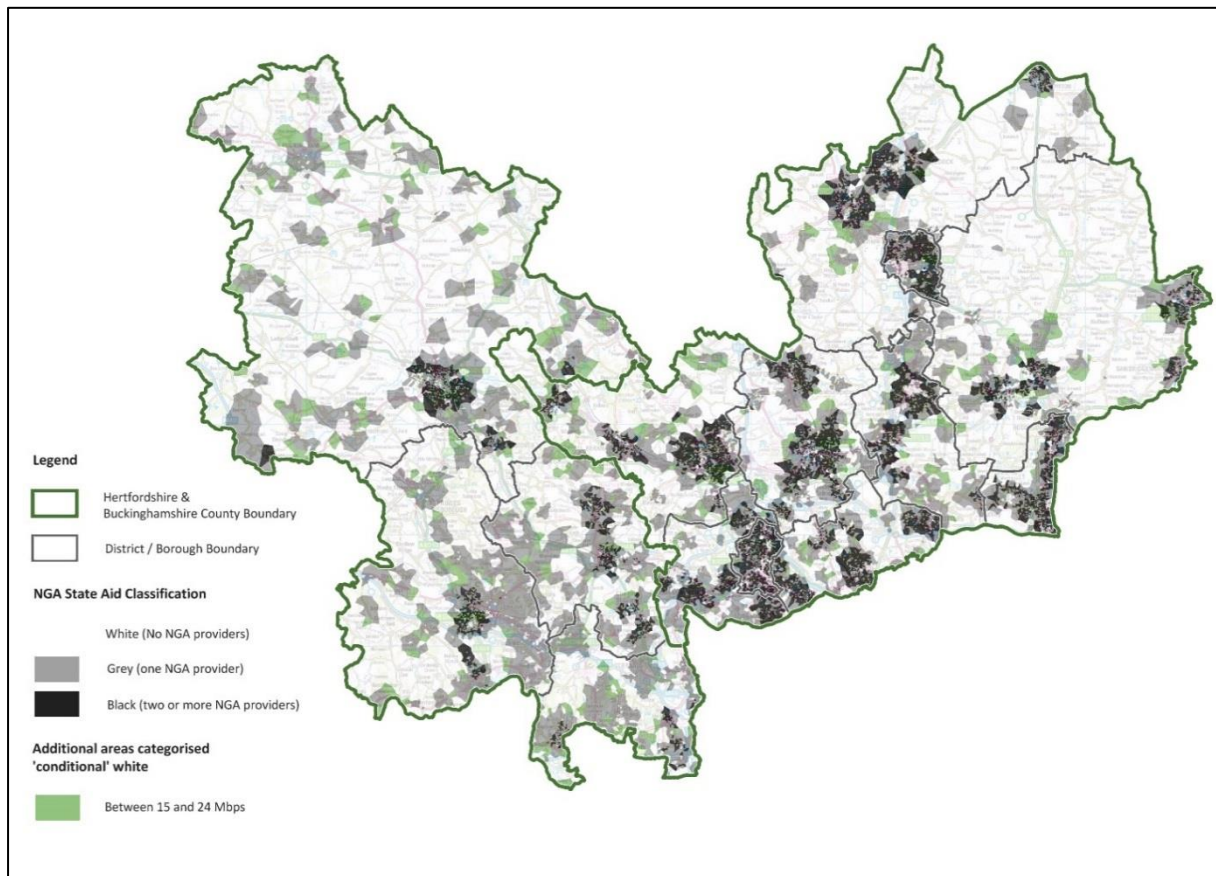
Energy Distribution	
Lead Agencies	<ul style="list-style-type: none"> • National Grid – Gas National Transmission System Operator • Cadent Gas – Gas Regional Distribution Network Operator • UK Power Networks – Electricity Distribution Network Operator
Evidence Base	<ul style="list-style-type: none"> • Clean Growth Strategy 2018 • Local Energy East: Tri-LEP Area Strategy 2018 • Road to Zero Strategy 2018 • Eastern Power Networks Business Plan (2015 to 2023): Core narrative • National Grid Gas Ten Year Statement 2018 • Cadent Gas Long Term Development Plan 2018 • Liaison with UK Power Networks • UK Power Networks Distributed Generation mapping tool • Liaison with National Grid • SADC – Electric vehicles web page
Existing Provision	<p>Grid site at Cell Barnes and three Primary substations in St Albans (Cell Barnes, Adelaide Street, Marshalswick) and a further Primary substation at Park Street.</p> <p>Harpenden and the surrounding area is supplied by two Primary substations (Central Harpenden and East Harpenden), which are connected to Luton South Grid substation.</p> <p>Broad Locations adjacent to Hemel Hempstead could be supplied by two Primary substations in SADC (Hogg End Lane and Westwick Farm) and additional Primary substations in Hemel Hempstead (within Dacorum Borough).</p> <p>Nine Electric Vehicle charging points in District (seven in St Albans, one in Harpenden and one in Frogmore).</p> <p>Gas network is supported by a range of local and regional infrastructure.</p>
Gaps in Provision	None at present
Planned Provision	None at present

<p>Impact of Development Proposals</p>	<p>Much of the planned growth can be accommodated with the existing infrastructure.</p> <p>There is currently sufficient capacity at the Primary Substation level and Cell Barnes Primary Substation can supply the East St Albans Broad Location.</p> <p>Capacity is limited in Harpenden, however there is the potential to transfer load from alternative primary substations to manage capacity as necessary.</p> <p>The East Hemel Hempstead (North, Central and South) and North Hemel Hempstead Broad Locations, in conjunction with the proposed extension of Maylands Business Park in Hemel Hempstead, could trigger a need for reinforcements to the UKPN network. Further modelling work may be required.</p>
<p>Potential for Delivery</p>	<p>It is the responsibility of the developer to engage with consultants to determine their load requirements and determine the connection to the electricity and gas networks.</p> <p>Where proposed development triggers the need for reinforcement then the developer will pay all or a proportion of the costs.</p>
<p>Delivery Mechanisms in the Local Plan</p>	<p>Policy S6 – Broad Locations for Development (see proposals on ‘energy efficiency’ and ‘renewable energy production and supply’ in policies: S6 i, S6 iii, S6 iv, S6 v, S6 vi, S6 vii, S6 viii, S6 ix, S6 x and S6 xi)</p> <p>Policy S6 ii) – East Hemel Hempstead (Central) Broad Location (see proposal 11)</p> <p>Policy S6 v) – East St Albans Broad Location (see proposal 20)</p> <p>Policy L17 – Infrastructure (see ‘Utility Infrastructure’)</p> <p>Policy L20 – New Development Parking Guidance and Standards (see ‘Parking Standards: General Requirements’, General Requirement eleven)</p> <p>Policy L25 – Energy and Environmental Performance of New Development</p>

Digital Infrastructure

- 12.45. Although there has been significant progress in digital infrastructure provision in recent years, much of the underlying network in the UK has remained unchanged for decades. The access network, which feeds off the underlying network, is the section of the network that connects between the consumer's premises and the nearest location which houses the provider's equipment¹⁰⁸.
- 12.46. The copper access networks which support much of the mass market broadband services today restricts the type, and speed, of technologies and services that can be delivered. The continuing development of high speed services may mean that current generation access networks will be unable to meet future demand. Next Generation Access (NGA) networks are designed to overcome these limitations and involve fundamental changes to the infrastructure of the underlying network.
- 12.47. The government allocated £500 million nationally to subsidise upgrades of broadband coverage to superfast broadband, specifically to deal with areas where commercial provision is not viable. Connected Counties¹⁰⁹ operates under this Government project to provide public funding for improvements to broadband provision in areas where such provision would not be commercially viable. The programme is a partnership between Hertfordshire County Council and Buckinghamshire County Council working to increase fibre broadband coverage in the two counties. The programme is funded jointly by Buckinghamshire and Hertfordshire County Councils, the Local Enterprise Partnerships for each county, BT and the Government's Broadband Delivery UK team (BDUK).
- 12.48. The first phase of the Connected Counties programme was completed in 2016, with delivery of Phase 2 comprising the installation of 34,000 additional superfast broadband connections in Buckinghamshire and Hertfordshire by the end of December 2019. Phase 3 of the Connected Counties programme is planned to begin from January 2020. It will involve Buckinghamshire and Hertfordshire separating their approaches to superfast broadband infrastructure, and adopt individual approaches to digital infrastructure provision for each county.
- 12.49. The diagram below shows the level of broadband provision in Hertfordshire and Buckinghamshire in 2016. The colour coding highlights the number of Next Generation Access (NGA) providers available per postcode area. NGAs are access networks which have been substantially upgraded and are capable of delivering super-fast broadband speeds.

Figure 6: Next Generation Access provision



*Source: Connected Counties (2016)

- 12.50. Connected Counties is working with BT to achieve a goal of over 98% superfast broadband coverage for Hertfordshire after January 2020. It aims to ensure that all homes and businesses in Buckinghamshire and Hertfordshire have access to a minimum of 2 megabits per second (Mbps) broadband speeds. The programme has extended superfast broadband coverage in Hertfordshire from 83% in 2012, to over 97% in November 2018; with the aim of achieving 98.5% coverage by December 2019.
- 12.51. As of November 2018, St Albans District has 97.77% superfast broadband coverage, compared with 94% prior to the commencement of the Connected Counties programme in 2013.
- 12.52. Planning for new development is not covered under this programme and requires direct communication with the commercial providers. Broadband is not a regulated utility and commercial providers have no legal obligation to provide broadband to a newly developed area. Therefore, facilitating early contact between developers and service providers is necessary to ensure provision of basic service infrastructure.

12.53. For developers, Connected Counties offer detailed guidance about the provision of digital infrastructure for new developments. It is noted that the free installation of superfast broadband infrastructure is available from some network providers for new residential schemes comprising 20 (or 30) plus dwellings.

12.54. Broadband provision is commercially based. The two major providers of infrastructure (as opposed to specific services through that infrastructure) are:

- British Telecom (BT) – currently the principal provider of infrastructure. For infrastructure provision BT operate as Openreach – providing the network through which other commercial providers can offer services.
- Virgin Media – own a fibre cable system which has wide coverage in Hertfordshire, but is not being actively extended. There is no other provider access through the Virgin cable network. Virgin’s main focus is on increasing usage/customers for their system.

In addition, other providers such as Gigaclear and Grain Connect also deliver access to superfast broadband infrastructure in Hertfordshire.

12.55. It is noted that Hertfordshire LEP produced a Strategic Feasibility Report on Digital Enablement for the Hertfordshire Enviro-Tech Enterprise Zone¹¹⁰. It was presented at the Hertfordshire Enterprise Zone Partnership Board Meeting on 10th October 2018. The Enterprise Zone includes three sites within the District at: the Building Research Establishment in Bricket Wood, Rothamsted Research in Harpenden and employment land within the East Hemel Hempstead (Central) Broad Location. The Strategic Feasibility Report summarises Soft Market testing conducted by seven companies at the Maylands Business Centre in Hemel Hempstead during July 2018. It includes several recommendations concerning: ducting networks, fibre networks, voice data and mobile, public infrastructure, extended mobile coverage and existing business parks and social housing.

Impact of Planned Growth

12.56. Utility provision for the broadband network will be required in new development areas including at the Broad Locations. Early contact between developers and service providers is necessary to ensure provision of basic service infrastructure within all new developments. Further work is likely to be considered through the master planning process.

12.57. As set out in Policy L9, high-speed broadband and next-generation telecommunications will be supported in the Hertfordshire Enviro-Tech Enterprise Zone site located within the East Hemel Hempstead (Central) Broad Location.

Digital Infrastructure	
Lead Agencies	<ul style="list-style-type: none"> • Openreach • Connected Counties (Hertfordshire Broadband – Hertfordshire County Council)
Evidence Base	<ul style="list-style-type: none"> • Liaison with Connected Counties • Connected Counties website • Liaison with Openreach • Planning for Broadband – Hertfordshire: A guide for Planners and Property Developers 2018 • Hertfordshire Enterprise Zone Digital Enablement: A Strategic Feasibility Report 2018
Existing Provision	<ul style="list-style-type: none"> • Across the County of Hertfordshire (97% superfast broadband coverage, November 2018) • Across St Albans District (97.77% superfast broadband coverage, November 2018)
Gaps in Provision	Need to increase broadband speeds and access, particularly in some rural areas.
Planned Provision	<p>The government allocated £500 million nationally to subsidise upgrade of broadband coverage to superfast broadband specifically to provide digital infrastructure for areas where commercial provision is not viable.</p> <p>Connected Counties Programme (Phase 3) aims to provide superfast broadband (24Mbps and over) to cover over 98% of properties in Hertfordshire from January 2020. Hard to reach properties (particularly in some rural areas) will receive minimum speeds of 2Mbps under the Government’s ‘Better Broadband Subsidy Scheme’.</p> <p>High-speed broadband and next-generation telecommunications will be supported in the Hertfordshire Enviro-Tech Enterprise Zone, East Hemel Hempstead (Central) Broad Location.</p>
Impact of Development Proposals	<p>Utility provision for broadband network in new development areas, including at the Broad Locations.</p> <p>Broadband is not a regulated utility and commercial providers have no legal obligation to provide broadband to a newly developed area. Facilitating early contact between developers and service providers is necessary to ensure provision of basic digital service infrastructure.</p>

Potential for Delivery	Development guidance required to encourage early provision of basic service infrastructure. Negotiated provision agreements with developer and public service obligation providers (Openreach) or alternative providers to maximise choice and quality of provision for residents and businesses.
Delivery Mechanisms in the Local Plan	Policy L9 – Primarily Business Use Areas (see paragraph five and paragraph six) Policy L17 – Infrastructure (see ‘Utility Infrastructure’ and ‘Planning for Broadband’)

Waste Infrastructure

- 12.58. As the local Waste Collection Authority, St Albans City and District Council is responsible for providing the household refuse and recycling collection service for all residents in the District. A current priority for the Council is providing a high standard waste and recycling service for the benefit of all households, as set out in the 2019 Corporate Plan³¹. The Council has set an ambitious target of ensuring that over 60% of waste is recycled, and is currently working to improve the rate of delivery of this target.
- 12.59. Hertfordshire County Council (HCC) operate a network of seventeen Household Waste Recycling Centres (HWRCs) across the county. Postcode survey data has demonstrated that residents within SADC use four HWRCs, these are: Harpenden HWRC, located at Dark Lane, Harpenden (off Grove Road). St Albans HWRC, located at Ronsons Way, Sandridge (off St Albans Road). Waterdale HWRC, located at St Albans Road, near Garston (within Three Rivers District); this facility serves the southern and western areas of St Albans District. Elstree HWRC, located at Allum Lane (within Hertsmere Borough) serves the far south of St Albans District Council.
- 12.60. In 2017, the County Council assessed the long term suitability of Hertfordshire’s seventeen HWRC sites over the period to 2031 and beyond, as part of its Household Waste Recycling Centre Annex¹¹³. In 2018, HCC subsequently provided additional information in its Household Waste Recycling Centre Information Appendix¹¹⁴. Harpenden HWRC is identified as suitable for the long term (10-15 years), given that it does not experience any issues and functions well during peak periods; consequently, no expansion or relocation of this centre is required. HCC assessed St Albans HWRC as unsuitable for the long term due to poor accessibility, as the site is not large enough to meet increasing demand with queues impacting local traffic flows on Ronsons Way during peak times. This is despite the centre’s

recent expansion to its maximum capacity. The County Council has stated its preference to relocate St Albans HWRC to a larger site in order to accommodate local growth. However, it is important to note that HCC's assessment of St Albans HWRC and its preference for relocating the site has not been fully accepted and agreed by SADC. Waterdale (Garston) HWRC is assessed as suitable for the long term due to several factors. Waterdale has the largest capacity (car parking spaces) of any HWRC in Hertfordshire, is situated close to the primary road network (near junction 21A of the M25), and is strategically located between the large settlements of St Albans and Hemel Hempstead. Overall, the centre does not experience any issues and functions well during peak periods; therefore, no expansion or relocation of Waterdale HWRC is required. Elstree HWRC is identified as unsuitable for the long term as it is too close to residential properties and it is not possible to expand or reconfigure the centre.

- 12.61. HCC published the Hertfordshire Local Authority Collected Waste (LACW) Spatial Strategy¹¹² in 2016, along with the Household Waste Recycling Centre Annex¹¹³ in 2017. The LACW Spatial Strategy and HWRC Annex both set out two Areas of Search (AoS), in order to locate three new HWRC super sites which can provide strategic waste management facilities to meet increased future need in Hertfordshire. Central, eastern and western areas of the District are located within AoS2, including the city of St Albans, the Broad Locations at East and North St Albans, along with the Broad Locations at East Hemel Hempstead (North, Central and South) and North Hemel Hempstead. HCC state that two new HWRC super sites are required within AoS2.
- 12.62. In October 2018, the County Council put forward its aspiration for a new 1ha HWRC super site to be located in employment land at the East Hemel Hempstead (Central) Broad Location. HCC cited findings from the LACW Spatial Strategy and HWRC Annex, which identified St Albans and Hemel Hempstead HWRCs as both being unviable for the long-term. The County Council reason that a new HWRC supersite at East Hemel Hempstead (Central) could replace the existing two HWRCs in St Albans and Hemel Hempstead, and effectively support their catchment areas. However, it is important to note that HCC's future aspiration for a new HWRC in East Hemel Hempstead (Central) has not been fully accepted and agreed by SADC.
- 12.63. Additionally, there are seventeen recycling bank sites across the District¹¹¹ (fifteen of which are operated by SADC). The recycling banks are principally based in accessible car parks in the locations below:

Table 8: Recycling Bank sites in St Albans District (May 2018)

Settlement	Recycling Bank – Site Address
St Albans	Newhouse Park, Whitecroft Shopping Centre
	Civic Centre Car Park
	Drovers Way (rear of M&S supermarket)
	The Ridgeway Car Park, Marshalswick
	*Sainsbury's supermarket, Everard Close
	Waitrose supermarket, Mayne Avenue
	High Oaks Hall Car Park
	St Albans Hospital, Waverley Road
	Homebase Car Park, Hatfield Road
	Morrison's supermarket, Hatfield Road
	Harpenden
Bowers Way Car Park	
London Colney	*Sainsbury's supermarket, Barnet Road
	Hasledene Road Car Park
Colney Heath	High Street Car Park
Redbourn	Redbourn Recreational Centre Car Park, Dunstable Road
Sandridge	Village Hall Car Park

**Not managed by SADC*

- 12.64. HCC is also the Waste Planning Authority for Hertfordshire and is responsible for waste planning in the County, including: Local Authority Collected (LAC) waste, Commercial and Industrial (C&I) waste, as well as Construction, Demolition and Excavation (C,D&E) waste.
- 12.65. Plans for the provision of waste management and disposal are specified in the Hertfordshire Waste Local Plan¹¹⁵, which sets out the strategic vision, overall spatial strategy and development management policies for waste planning in Hertfordshire from 2011 to 2026. The two documents that form the Waste Local Plan are the Hertfordshire Waste Development Framework: Waste Core Strategy and Development Management Policies Document¹¹⁶ (adopted in 2012), and the Waste Site Allocations Document¹¹⁷ (adopted in 2014).
- 12.66. The vision set out by the Waste Core Strategy places significant emphasis on waste prevention, reduction, reuse and recycling, in line with national priorities. Measures are already in place to reduce the amount of waste produced and to reuse or recycle material wherever possible. However, HCC is working to introduce new, more sustainable ways of dealing with waste to reduce dependence on landfill.

- 12.67. Existing waste management facilities in Hertfordshire have insufficient capacity to secure the maximum recovery of waste. The Waste Core Strategy states that a number of new facilities will be needed to ensure a more sustainable approach to waste management. While landfill and landraise are the least preferred options, some provision is still required to deal with residual waste during the plan period.
- 12.68. Hertfordshire's Waste Development Framework aims to facilitate the provision of waste management facilities in Hertfordshire for both Local Authority Collected (LAC) waste and Non-LAC waste, with sufficient capacity to manage the quantity of waste that the County is expected to produce. In order to provide adequate and sustainable management of waste arising over the plan period (2011-2026), the Waste Site Allocations Document identifies Existing Strategic Sites, Allocated Sites and identified Employment Land Areas of Search (ELAS) sites.
- 12.69. There are currently five Existing Strategic Sites in Hertfordshire, which provide waste management beyond the local areas in which they are located. At present, none are situated within the District. However, the Waste Core Strategy identifies an area covering the east of the District and Hatfield (within Welwyn Hatfield Borough), as an Area of Search (AS) for a waste treatment and transfer facility. The Waste Site Allocations document also identifies one Allocated Site in the District, which HCC considers to be the most suitable locations to manage the County's existing and future waste arising during the plan period. This site is Roehyde (AS036), which is located at the north-east border of the District area.
- 12.70. Additionally, sixty ELAS sites have been identified, which HCC considers may be compatible with waste management uses but currently have little immediate potential for redevelopment. Seven of the ELAS sites are located in St Albans District:
- Colney Street Industrial/Warehousing Estate (ELAS210)
 - Acrewood Way (ELAS122)
 - Porters Wood/Soothouse Spring (ELAS203)
 - Council Depot and Adjoining Land (near Soothouse Spring) (ELAS204)
 - Brick Knoll Park (ELAS205)
 - North Orbital Trading Estate (ELAS207)
 - Riverside Estate (ELAS208)
- 12.71. In 2018, HCC began to review the currently adopted Hertfordshire Waste Local Plan¹¹⁸. For HCC, the overall purpose of the review is to prepare and deliver a new Waste Local Plan for the County, which (once adopted) will replace the existing Waste Development Framework. As part of the first stages of the Waste Local Plan review process, HCC conducted the Waste Local Plan Initial Consultation, between February and March 2018. Subsequently, a Waste Local Plan Call for Sites was held between July and

September 2018, in which potential sites for the location of new or enhanced waste management facilities in Hertfordshire were submitted. Following this, HCC aim to publish a new Draft Waste Local Plan in the summer of 2019, with the intention of submitting the Plan to the Secretary of State in the winter of 2020, for independent examination in 2021. County Council policy seeks adoption of a new Waste Local Plan in 2021.

- 12.72. There is still a significant waste capacity gap across the county and the County Council will work with each of the District/Borough Councils to identify sufficient, suitable opportunities for waste management in the future.

Impact of Planned Growth

- 12.73. The anticipated population, housing and employment growth within the Local Plan period (2020-2036) will produce an increased amount of waste. The County Council as Waste Planning and Disposal Authority, encourages Districts and Boroughs to promote the sustainable management of waste generated by new development. HCC also encourages local authorities to promote the re-use of unavoidable waste where possible, and the use of recycled materials where appropriate in the construction of new developments and infrastructure.
- 12.74. As the operator of the household waste collection service, the District Council looks to ensure adequate provision of space and facilities for waste and recycling collection. This is particularly important for developments of flats as provision can be overlooked. The Council offers guidance for new developments to ensure satisfactory provision for the storage and collection of both refuse and recyclables.
- 12.75. For particular Broad Location sites, the following considerations are required:

S6 i) – East Hemel Hempstead (North) Broad Location

S6 ii) – East Hemel Hempstead (Central) Broad Location

S6 iii) – East Hemel Hempstead (South) Broad Location

S6 iv) – North Hemel Hempstead Broad Location

East Hemel Hempstead (North, Central and South) and North Hemel Hempstead fall within Area of Search A for LAC Organic Waste Recovery Facility. In addition, these four Broad Locations are in close proximity to three identified Employment Land Area of Search (ELAS) sites in the neighbouring town of Hemel Hempstead (within Dacorum Borough): Buncefield (ELAS168), Maylands (East and West) (ELAS006) and Swallowdale (ELAS007). Moreover, the Existing Safeguarded Strategic Site

at the Council (Cupid Green) Depot – Dacorum (SA060) in Hemel Hempstead, is in close proximity to the Broad Locations at East Hemel Hempstead (North, Central and South) and North Hemel Hempstead.

At a strategic level, new employment land at the East Hemel Hempstead (Central) Broad Location could provide opportunities for waste and recycling uses. As outlined in HCC's LACW Spatial Strategy and HWRC Annex, East Hemel Hempstead (Central) is located within AoS2 for new strategic waste management facilities. The County Council has put forward an aspiration for a new 1ha HWRC site to be located within the new 38ha logistics and mixed industrial northern area of East Hemel Hempstead (Central). However, it is important to note that HCC's future aspiration for a new HWRC in East Hemel Hempstead (Central) has not been fully accepted and agreed by SADC.

S6 v) – East St Albans Broad Location

There are currently no capacity issues. However, East St Albans is located near to the Employment Land Area of Search sites at Acrewood Way (ELAS122) and Brick Knoll Park (ELAS205). This Broad Location falls within Area of Search C for Local Authority Collected (LAC) waste Treatment & Transfer.

S6 vi) – North St Albans Broad Location

The Employment Land Area of Search sites at Porters Wood/Soothouse Spring (ELAS203) and Council Depot and Adjoining Land (ELAS204) are adjacent to the south of this Broad Location.

S6 ix) – West of London Colney Broad Location

The Employment Land Area of Search site at Riverside Estate (ELAS208) is located in close proximity to the east of this Broad Location.

S6 xi) – Park Street Garden Village Broad Location

The Employment Land Area of Search sites at North Orbital Trading Estate (ELAS207) and Colney Street Industrial Warehousing Estate (ELAS210) are located near to Park Street Garden Village.

- 12.76. Future development in the Broad Locations will need to take account of the Hertfordshire Waste Local Plan and LACW Spatial Strategy 2016.

Waste Infrastructure	
Lead Agencies	<ul style="list-style-type: none"> • Hertfordshire County Council (HCC) – Waste Planning Authority and Waste Disposal Authority • St Albans City and District Council (SADC) – Waste Collection Authority
Evidence Base	<ul style="list-style-type: none"> • Hertfordshire Waste Local Plan • Hertfordshire Waste Development Framework – Waste Core Strategy & Development Management Policies Development Plan Document 2011-2026 • Hertfordshire Waste Development Framework – Waste Site Allocations: Development Plan Document 2011-2026 • Hertfordshire Local Authority Collected Waste Spatial Strategy 2016 • Hertfordshire Local Authority Collected Waste Spatial Strategy – Household Waste Recycling Centre Annex 2017 • Hertfordshire Local Authority Collected Waste Spatial Strategy – Appendix 3: Household Waste Recycling Centre Information 2018 • SADC Recycling Centres and Sites • SADC Refuse Collection and Recycling Requirements for New Developments and Change of Use. • SADC Corporate Plan 2019-2024
Existing Provision	<ul style="list-style-type: none"> • Five existing Strategic Sites in Hertfordshire providing waste management (none within the District). • District-wide household refuse and recycling collection service for all residents. • Four Household Waste Recycling Centres serving the District at Harpenden, St Albans, Waterdale (Garston) (within Three Rivers District) and Elstree (within Hertsmere Borough). • Seventeen Recycling Bank sites across the District (ten sites in St Albans, two sites in Harpenden, two sites in London Colney, one site each in Colney Heath, Redbourn and Sandridge).
Gaps in Provision	Existing waste management facilities in Hertfordshire have insufficient capacity to secure the maximum recovery of waste. The Waste Core Strategy and LACW Spatial Strategy both state that a number of new facilities will be needed to ensure a more sustainable approach to waste management.

	<p>St Albans HWRC is assessed as unsuitable for the long term, as the site does not have sufficient capacity to meet increasing demand. HCC's preference is to relocate St Albans HWRC to a larger site in order to accommodate local growth. However, this has not been fully accepted and agreed by SADC.</p>
<p>Planned Provision</p>	<p>HCC identify an area covering the east of the District and Hatfield as an Area of Search for a waste treatment and transfer facility.</p> <p>Eight Allocated Sites have been identified (including a site at Roehyde) and sixty Employment Land Areas of Search (ELAS), which HCC considers may be compatible with waste management uses (seven located in St Albans District).</p> <p>HCC has an aspiration for a new HWRC supersite to be located in employment land at the East Hemel Hempstead (Central) Broad Location, however this has not been fully accepted and agreed by SADC.</p> <p>Given the limited opportunities (Green Belt constraints and residential areas), there is likely to be a heavy reliance on existing employment areas and locations outside of the District.</p>
<p>Impact of Development Proposals</p>	<p>The anticipated growth within the plan period (2020-2036) will produce an increased amount of waste. HCC encourages local authorities to promote the sustainable management of waste generated by new development. HCC also encourages local councils to promote the re-use of unavoidable waste where possible, and the use of recycled materials where appropriate in the construction process.</p> <p>East Hemel Hempstead (North, Central and South) and North Hemel Hempstead Broad Locations fall within Area of Search C for Local Authority Collected (LAC) waste Treatment & Transfer. These four Broad Locations are near three Employment Land Area of Search (ELAS) sites in Hemel Hempstead (Dacorum Borough): ELAS168, ELAS006 and ELAS007 and Existing Safeguarded Strategic Site SA060 in Hemel Hempstead (Dacorum Borough).</p> <p>East St Albans Broad Location is located near to two ELAS sites at ELAS122 and ELAS205.</p>

	<p>North St Albans Broad Location is adjacent to two ELAS sites at ELAS203 and ELAS204.</p> <p>West of London Colney Broad Location is located near the ELAS site at ELAS208.</p> <p>Park Street Garden Village Broad location is adjacent to two ELAS sites at ELAS207 and ELAS210.</p> <p>Future development in the Broad Locations areas will need to take account of the County's Waste Local Plan and LACW Spatial Strategy 2016.</p>
Potential for Delivery	<p>Use of construction and demolition methods that minimise waste generation and reuse / recycle materials on site will be encouraged in all development.</p> <p>Development proposals should include well designed and efficient facilities that meet waste disposal, storage and recycling needs in a way that supports the principles of the waste hierarchy.</p>
Delivery Mechanisms in the Local Plan	<p>Paragraph 2.8 – Minerals and Waste</p> <p>Policy L9 – Primarily Business Use Areas (see paragraph one)</p> <p>Policy L17 – Infrastructure</p> <p>Policy L23 – Urban Design and Layout of New Development (see 'Detailed design and layout', paragraph g – 'Access, parking, garaging and servicing')</p> <p>Policy L25 – Energy and Environmental Performance of New Development (see 'Design of development for environmental performance', paragraph two)</p>

Annex 1: Infrastructure Delivery Schedule Update

Schedule (Table) available as separate document for ease of reading

IDS Explanatory Note

The IDS provides an overview of key infrastructure requirements, especially those related to the Local Plan Broad Locations for Development. It does not provide a full list of all infrastructure schemes that will be considered, programmed and implemented over the Plan period.

The IDS only includes estimated costs of currently known, site specific, infrastructure required to facilitate development at the Broad Locations for Development.

There will be a significant number of additional costs related directly to development that will be identified through Masterplanning (Policy S6) and detailed in the Plan Infrastructure Delivery Schedule (Policy L17).

Both IDP & IDS are 'live' documents which will be updated at appropriate intervals as and when further information becomes available.

The IDS assumes land required for infrastructure and public uses will be provided by the landowner at nil value. If given notional alternative use land values these would be significant.

This IDS gives no cost to the land owner subsidy on the value of affordable housing. A 'rule of thumb' expectation / nominal 'value' in this area this would be at least £150,000 per dwelling.

The IDS and IDP should be read in conjunction with the emerging viability evidence referred to in the Plan (Policy L17).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Infrastructure Delivery Schedule (IDS)																	
2	LOCATION	East Hemel Hempstead (North) Broad Location	East Hemel Hempstead (South) Broad Location	North Hemel Hempstead Broad Location	East St Albans Broad Location	North St Albans Broad Location	North East Harpenden Broad Location	North West Harpenden Broad Location	West of London Colney Broad Location	West of Chiswell Green Broad Location	Park Street Garden Village Broad Location	Other Non BL development	TOTAL	Funding source(s): landowner/developer (D) / S106 &/or CLL (S&C) / other (O)	Key delivery stakeholder(s): landowner/developer (D); LA; HCC; Other (O)	Est Cost	Est delivery phase by Yr 5 / by Yr 10 / by Yr 15 Linked to trajectory	NOTES
3	Infrastructure																	
4	Transport Infrastructure:											y***		D; S&C; O		£72.5m *	by10/by15	* Estimate for 4 x SLP proposed locations. Other BL tbc £ to be confirmed as costed schemes become available *** contributions towards transport infrastructure from non BL dev ETBC
5	Strategic - LTP4 major scheme	y*	y*									y**		D; S&C**; O	D; HCC; O	see above	by10/by15	* Linked to EHHC £ See LTP / GTP for estimates **S&C beyond site area may contribute to transport infrastructure where it has a strategic role serving a wider area. Delivery & funding to include transport agencies & providers
6	Local highway - on & off site	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			D; S&C	D; HCC	see above	by10/by15	
7	Sustainable travel - public transport	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			D; S&C	D; HCC	see above	by10/by15	
8	Sustainable travel - walking + cycling on & off site	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			D; S&C	D; HCC	see above	by10/by15	
9																		
10	Education:											y***		D; S&C*	D; HCC		by10/by15	Land provided at nil cost to HCC *S&C beyond site area may provide additional funding where planned school capacity exceeds onsite school population *** contributions towards education infrastructure from non BL dev ETBC
11	Primary (assumes £8.7m per new 2FE primary school or £12.4m per new 3FE primary school)	1 x 3fe	1 x 3fe 1 x 2fe	1 x 3fe	1 x 3fe	1 x 2fe	1 x 2fe *	1 x 2fe *	1 x 2fe	1 x 2fe *	1 x 3fe 1 x 2fe	1 x 2fe 1 x 3fe	34 fe	D; S&C	D; HCC	£144m	by10/by15	Est 2.25 Ha per new 2FE primary school or 2.95 Ha per new 3FE primary school * Site and appropriate contribution
12	Secondary (assumes £37.3m per new 8FE secondary school)	1 x 8-10fe			1 x 6-8fe				1 x 6-8fe		1 x 6-8fe		26fe - 34fe	D; S&C	D; HCC	£149.2m	by10/by15	Est 12-15 Ha per new secondary school To be provided in GB location next to housing areas except PSGV
13	Early years	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			D; S&C	D; HCC	£3.6m	by10/by15	Est for nursery provision
14																		
15	Green Infrastructure:	CMO	CMO	CMO	CMO	CMO					CMO	y***		D; S&C	D; CMO; O	ETBC	by10/by15	CMO = community management organisation required Land provided at nil cost Commuted sum for maintenance required ETBC Playing field stakeholder - sports clubs *** contributions towards green infrastructure from non BL dev ETBC
16	Strategic open space	Y*	Y*	Y*	Y	Y	Y					Y*		D; S&C	D	£12.3m	by10/by15	*Includes country park
17	Local open space / play space	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			D; S&C	D	£12.3m	by10/by15	
18																		
19	Community Facilities:											y***		S&C				Includes Council Leisure Centre upgrade / reprovision & Museum upgrade / reprovision *** contributions towards green infrastructure from non BL dev ETBC
20	Health sq. m est floorspace provided onsite	394	573	358	299	263	181	139	105	87	549		2948	D; S&C	D; O	£7.6m	by10/by15	Estimated floorspace & cost for onsite GP provision. Assumes NHS does not have existing GP capacity nearby Contributions to offsite HCT & hospital provision TBC Delivery stakeholder NHS
21	Other community provision	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			D; S&C; O	D; O; HCC	£12.3m	by10/by15	Multi function community buildings and land are encouraged which is likely to require multi stakeholder working for delivery & funding. Proposals may consider joint use of education grounds or premises where appropriate
22																		
23	Neighbourhood Centre / Local Centre sq. m est net floorspace at groundfloor	990	1440	900	750	660					1380		6120	D; S&C	D		by10/by15	Estimated net floorspace required at ground floor. Provision of centres may require land at nil value
24																		
25																		
26	SUDS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		D; S&C	D	ETBC	by10/by15	
27																		
28	Energy Strategy / Renewable energy	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y*		D; S&C	D	£61.5m	by10/by15	Y* 50 or more dwellings / 1000 sqm or more non-resi
29																		
30	Digital Infrastructure	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			D	D; O; HCC	ETBC	by10/by15	Delivery stakeholder to include communications providers
31																		
32	NOTES:																	
33	The IDS provides an overview of key infrastructure requirements and does not provide a full list of all schemes. See IDP for more information. Both IDP & IDS are 'live' documents which shall be updated at appropriate intervals as & when further information becomes available.																	
34	The IDS and IDP should be read in conjunction with emerging viability work.																	

List of Key Data Sources

These are general sources referred to in the text and in some cases referenced as specific sources. Web references are provided where relevant.

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- Appendix 87: Green Infrastructure Extract of North St Albans Landowner/Developer Representations Regulation 19 Consultation (November 2018) and Regulation 18 Consultation (February 2018)
- Appendix 88: Green Infrastructure Extract of North East Harpenden Landowner/Developer Representations Regulation 19 Consultation (October 2018)
- Appendix 89: Green Infrastructure Extract of North West Harpenden Landowner/Developer Representations Regulation 19 Consultation (October 2018)
- Appendix 90: Green Infrastructure Extract of West of London Colney Landowner/Developer Representations Regulation 19 Consultation (October 2018)
- Appendix 91: Green Infrastructure Extract of West of Chiswell Green Landowner/Developer Representations Regulation 19 Consultation (October 2018)
- Appendix 92: Green Infrastructure Extract of Park Street Garden Village Landowner/Developer Representations Regulation 19 Consultation (October 2018)

The Appendices above contain the latest information available for particular infrastructure categories. Further information will become available in due course during the Masterplanning process for the Broad Locations.

N.B. The 2018/2019 Infrastructure Delivery Plan Appendices are split into multiple parts due to file size constraints and are categorised as outlined below:

- **Part 1:** Transport – East Hemel Hempstead (North, Central and South) and North Hemel Hempstead (Appendices 1 to 8)
- **Part 2:** Transport – East St Albans (Appendices 9 to 12)
- **Part 3:** Transport – North St Albans and North East Harpenden (Appendices 13 to 17)
- **Part 4:** Transport – North West Harpenden (Appendices 18 to 20)
- **Part 5:** Transport – North West Harpenden (Appendices 21 to 23)
- **Part 6:** Transport – West of London Colney (Appendices 24 to 25)
- **Part 7:** Transport – West of Chiswell Green (Appendices 26 to 28)
- **Part 8:** Transport – Park Street Garden Village (Appendix 29)
- **Part 9A:** Transport – Hertfordshire County Council (Appendix 30, Part A)
- **Part 9B:** Transport – Hertfordshire County Council (Appendix 30, Part B)
- **Part 10:** Transport – Hertfordshire County Council (Appendices 31 to 38)
- **Part 11:** Transport – Hertfordshire County Council (Appendices 39 to 42)
- **Part 12:** Transport – Hertfordshire County Council, Water Infrastructure and Education (Appendices 43 to 52)
- **Part 13:** Education (Appendices 53 to 54)
- **Part 14:** Education (Appendices 55 to 56)
- **Part 15:** Education (Appendices 57 to 59)
- **Part 16:** Education – Hertfordshire County Council (Appendix 60)
- **Part 17:** Education – Hertfordshire County Council (Appendix 61)
- **Part 18:** Education – Hertfordshire County Council (Appendix 62)
- **Part 19:** Education – Hertfordshire County Council (Appendices 63 to 64)
- **Part 20A:** Education – Hertfordshire County Council (Appendix 65, Part A)
- **Part 20B:** Education – Hertfordshire County Council (Appendix 65, Part B)
- **Part 21:** Education – Hertfordshire County Council and Community Infrastructure (Appendices 66 to 77)
- **Part 22:** Community Infrastructure (Appendix 78)
- **Part 23:** Community Infrastructure (Appendices 79 to 82)
- **Part 24:** Green Infrastructure (Appendices 83 to 87)
- **Part 25:** Green Infrastructure (Appendix 88)
- **Part 26:** Green Infrastructure (Appendices 89 to 92)