



Hertfordshire Infrastructure & Investment Strategy Final Technical Report

October 2009

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1. Introduction

Study Context

- 1.1 The Government's Housing Green Paper *Homes for the Future: More Affordable More Sustainable (2007)* recognises the challenge of housing supply not keeping up with demand. The Green Paper sets out the Government's proposals for improving housing which includes plans to deliver three million new homes by 2020. These three million homes include those already planned for in adopted Regional Spatial Strategies (RSS) and those in RSS under review along with new Growth Points.
- 1.2 It is vital that new housing growth is supported through appropriate infrastructure provision, and the Government is in the process of introducing a new method of funding infrastructure provision, through the Community Infrastructure Levy (CIL).
- 1.3 The East of England Plan identifies the Region's contribution to this housing growth agenda and includes proposals for major housing growth in Hertfordshire over the next 20 years. Providing the infrastructure required to support this major growth, such that Hertfordshire develops in a way that creates sustainable liveable communities, is the subject of this study.

Study Overview

- 1.4 The Hertfordshire Local Authorities comprising the ten District Councils and the County Council commissioned Atkins, Roger Tym and Partners and URS to carry out an assessment of Hertfordshire's future infrastructure requirements and the identification of funding mechanisms necessary to secure its provision, in order to support the future growth in homes and jobs in Hertfordshire in the period to 2021, with consideration also given to the period to 2031.
- 1.5 The objectives of the study are as follows:
 - To provide District Councils with the evidence base required in the preparation of Local Development Documents;
 - To inform local authorities and public sector agencies and service providers in their future service planning;
 - To assist utility companies in establishing and articulating their views;
 - To establish an Infrastructure and Investment Funding Model that incorporates a Community Infrastructure Levy (CIL) approach to funding services and infrastructure needs arising from growth in the County to 2021 and proposes a levy for incorporation in Local Development Documents (LDD);
 - To assist in bids for public funding;
 - To provide an evidence base for infrastructure requirements for the Review of the Regional Plan to 2031;
 - To provide an understanding of infrastructure requirements at strategic growth locations;
 - To inform the development of a new Sub-regional Economic Strategy; and
 - To ensure that the strategy is clear, robust and has flexibility to allow for changes in the future.

CIL Consultation (Autumn 2009)

- 1.6 Around the same time that this report was published, the Government published its consultation document on the Community Infrastructure Levy. Given this timing, the report does not represent,

in itself, a solely appropriate response to the consultation. Rather, it will be for the study partners to formulate their own response which will be informed by the HIIS Study and its recommendations.

Report Structure

- 1.7 This Final Technical Report sets out the Consultants' findings and recommendations. When read in conjunction with the Funding Model, prepared as part of this study, it comprises the Hertfordshire Infrastructure and Investment Strategy (HIIS). The Report is structured as follows:
- Section 2** summarises the spatial and planning policy context to the study;
- Section 3** identifies the potential locations for future housing growth that have been used as the basis for HIIS;
- Section 4** sets out the key demographic assumptions underpinning the study;
- Section 5** identifies the infrastructure needs to support growth in Hertfordshire for the period to 2021 and 2031 and estimates the costs of funding the infrastructure;
- Section 6** identifies the funding available to deliver infrastructure needs, including an assessment of mainstream public funding sources and the net cost to be met by the HIIS Funding Model;
- Section 7** provides an assessment of the impact that varying the Community Infrastructure Levy would have on the viability of housing development;
- Section 8** provides an analysis of the structure and recommended level of the CIL charge;
- Section 9** establishes an Infrastructure and Investment Funding Model;
- Section 10** provides an assessment of delivery and management issues;
- Section 11** sets out the study recommendations and the way forward.

Stakeholder Involvement

- 1.8 The Hertfordshire Infrastructure and Investment Strategy (HIIS) has been formulated in partnership with key stakeholders in the County. A specially convened 'Reference Group Review Body' was established to oversee the HIIS with representatives from several local authorities and other stakeholder bodies sitting on the Reference Group at monthly progress meetings. A list of those represented on the Reference Group is provided at Appendix D.
- 1.9 Stakeholder engagement has played an important role in the development of the HIIS. In order to ensure that the strategy was robust and achieved acceptance from key stakeholders, workshops were arranged to explore the following:
- The historic infrastructure deficit; and
 - The funding model
- 1.10 In addition to stakeholder workshops service providers were consulted at various stages during the study. Stakeholders were given the opportunity to provide their views on infrastructure deficit, infrastructure requirements to support future growth and the funding model. For a list of stakeholders that have participated in the study see Appendix D.

Key Findings of the Study

1. Following an intensive analysis of future needs in close conjunction with Hertfordshire's service providers, the total growth-related infrastructure bill to 2031 is estimated at £2.666bn at current prices.
2. Few public service providers know their longer term needs, particularly beyond 2021, so this figure is more likely to be an underestimate than an overestimate.

3. There will be opportunities for some of these costs to be met by mainstream public funding. Contributions might also be obtained from Central Government's special purpose funding programmes such as the Growth Area Fund (GAF) and through the Regional Funding Allocation (RFA). We have taken a measured approach to the latter opportunities and have concluded that service providers could secure in the order of £485m from such funding streams.
4. After deducting public funding which might offset the overall cost, there remains a growth-related infrastructure funding requirement of £2.181bn if growth targets are to be met. This is the figure that we recommend needs to be sought from the Community Infrastructure Levy (CIL) between 2011 (when we propose it is introduced) and 2031.
5. In setting CIL, the Hertfordshire authorities do need to be aware of the critical tensions there are between setting a rate to deliver all the necessary public infrastructure, ensuring that the viability of development sites is not compromised, and maintaining the supply of affordable housing. As we reflect below, CIL charging cannot be considered in isolation and some compromises are inevitable.
6. We estimate that this equates to a CIL charge of approximately £23,000 per dwelling. This comprises £18,000 towards the need for strategic infrastructure (which we recommend should be managed collaboratively by the Hertfordshire local authorities) and a further £5,000 provision for various needs that should be defined locally by individual district councils, such as open space, sports and community facilities. This combination of the £18,000 strategic charge and the (as yet undetermined) local charge will be the overall CIL charge. The assessment of local needs should be done as soon as possible.
7. We have not in our study distinguished between dwelling sizes and types, although there would be the potential to vary charges depending on indices such as floorspace or numbers of bedrooms. The draft CIL Regulations and guidance propose a calculation based on a charge per square metre and the conclusions reached in our study can readily be converted to this unit of charge if confirmed.
8. In the short term it must be accepted that CIL cannot make a significant contribution towards infrastructure needs until the housing market has emerged from its current downturn and house prices have recovered sufficiently. Based on the market research available, our view is that house prices will not recover to the peak levels achieved in 2007, until 2014.
9. However, delays in introducing CIL will have significant consequences in terms of raising finance for growth-related infrastructure. It could be introduced as early as 2011, by which time we are anticipating that house prices might have recovered to 90% of peak levels. However, our analysis suggests that with house prices at that level and a CIL set at £23,000 per dwelling, the viability of development in low and medium value areas would be challenging.
10. During this period we estimate that the maximum amount of CIL that it would be practicable to charge between 2011 and 2014 would be £10,000 per dwelling in middle value areas and no charge could be levied in low value areas. Put another way, an effective public subsidy of infrastructure would be required of £13,000 per dwelling in middle value areas and £23,000 per dwelling in lower value areas, aggregated by the number of houses permitted. Note that this is a generalisation of the economics of development across the entire County. These figures do not represent the effective shortfall in relation to any particular site or indeed any district.
11. We assume that a deficit at this level, even if only experienced for a few years, would result in a critical shortfall of funding for infrastructure. So, the issue then becomes how to deal with viability issues between 2011 and 2014. We have identified three ways of dealing with this:
 - (i) The introduction of a CIL could be deferred until 2014.
 - (ii) It could be accepted that development would only take place, in the short term, on the easiest sites to develop, which in practice means that they would be vacant and not present any physical obstacles to development.
 - (iii) Steps could be taken to enhance viability by modifying the arrangements for procuring affordable housing, either by reverting to the practice of accepting free serviced land to satisfy the obligation or by focusing HCA support on the lower value areas.
12. All three have their drawbacks. Deferring the introduction of a CIL would almost certainly reduce the overall sums available for investment in necessary infrastructure, so we discount that option.
13. In the short term in middle value areas, it is accepted that the level of CIL might deter development of some sites that are marginal in terms of viability. However, we doubt that the number of potential

housing starts affected will be significant. The same approach should also be adopted towards lower value areas and in addition steps should be taken to reduce the net cost to developers of providing affordable housing, perhaps by focusing HCA support in these areas.

14. Viability problems are projected to persist in lower value areas beyond 2014 in which case either:
 - (a) districts will have to reassure themselves that development remains viable in the context of the specific characteristics of the sites allocated for development in their area; or
 - (b) the effort to reduce the net cost of affordable housing to developers will have to continue.
15. Given the above, then in the early years of its introduction, a CIL charge set across the county at the equivalent of £23,000 per dwelling to meet Hertfordshire's infrastructure needs can expect to be challenged unless there is financial support for the provision of affordable housing, or a general increase in the availability of mainstream public funding (or a combination of the two). Moreover there is likely to be a considerable timing mismatch between the need for infrastructure and the collection of funding and we anticipate a particular problem in the latter part of the next decade, when infrastructure need is expected to considerably outstrip likely revenues. We anticipate a 'gap' between projected income and expenditure of perhaps £230m during the period 2016 to 2020, but believe that this can be substantially alleviated with careful financial management, if attention is paid to service planning by the infrastructure providers and if the Government makes supportive changes to mainstream funding streams.
16. In order to manage the implementation of new infrastructure in a rational way, it will be necessary to pool CIL receipts across the County. Our report emphasises the benefits of the Hertfordshire authorities working together collectively to set infrastructure priorities and to oversee infrastructure investment. We believe that the Hertfordshire Funding Model which has been provided as part of this study should help to underpin collaborative working and facilitate good financial planning.
17. We conclude our report with a series of recommendations to the Hertfordshire authorities on how to take the HHS findings forward. In the short term there needs to be discussion with a number of key agencies; the commencement of a process which will see a step change in the way in which infrastructure providers plan for service growth and development (with long term service planning becoming the industry standard); and the exploration of appropriate models to manage, distribute and account for expenditure of CIL revenue on infrastructure projects.
18. In the medium to longer term, infrastructure planning needs and the CIL needs to be embedded in the development plan system. The HHS report provides a starting point for this effort but a lot needs to be done.

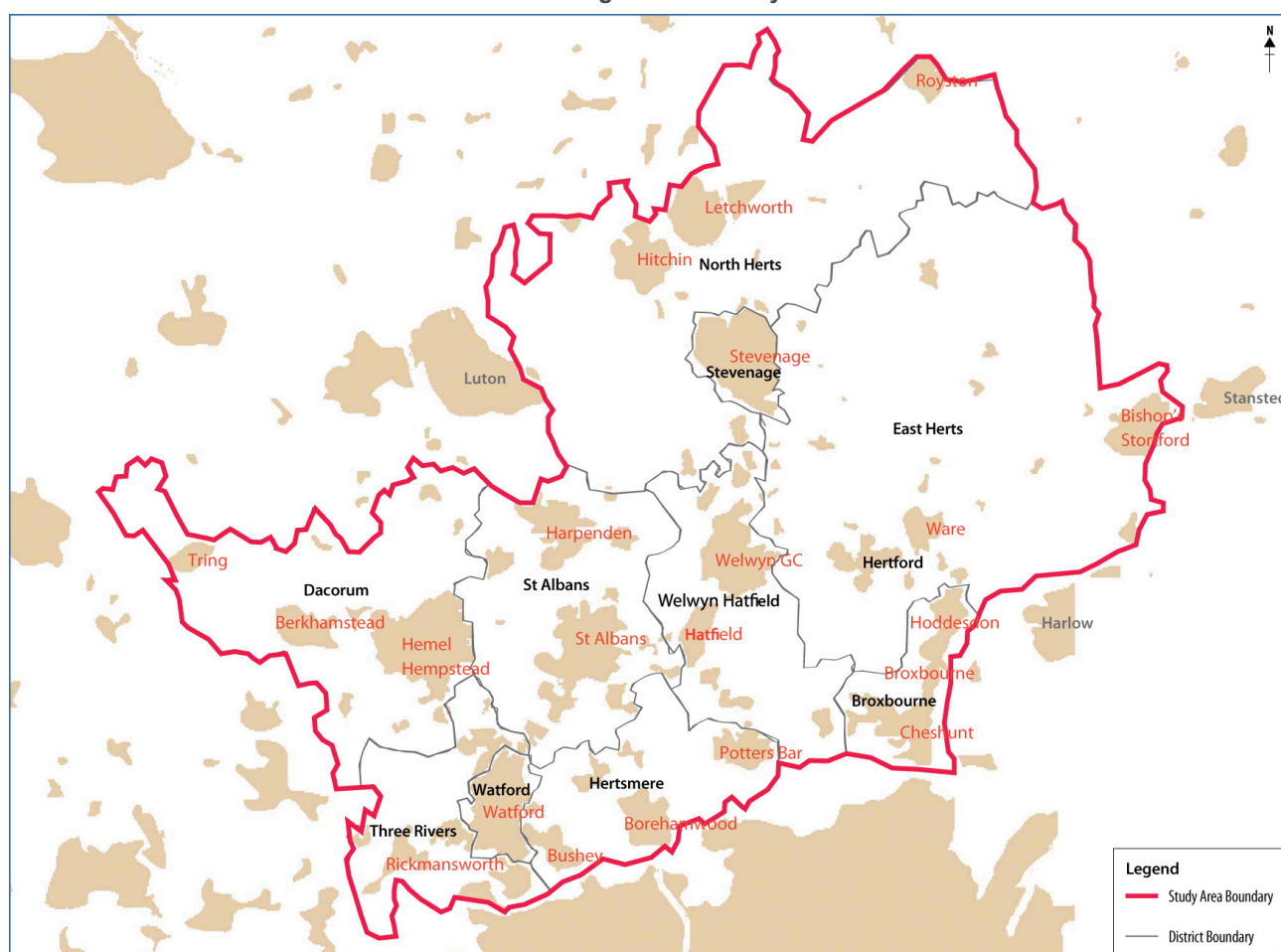
2. Context

- 2.1 This section sets out the spatial and planning policy context for the study. In particular it identifies several key contextual issues, including development to the north of Harlow, a large proportion of which will potentially be in Hertfordshire; the existing infrastructure deficits in the County; and the uncertainty with policy on funding infrastructure provision, in particular, relating to the Government's proposals for a Community Infrastructure Levy (CIL).

Study Area

- 2.2 The study area is defined as the County of Hertfordshire as shown in Figure 2.1. The proximity of Hertfordshire to Greater London means that the County is influenced to a considerable extent by London and, for the purposes of this study, by people commuting into London for work. This is an important consideration in planning the infrastructure requirements of future growth in the County.
- 2.3 The surrounding Counties are also required to accommodate substantial housing growth. In particular settlements in Essex and Bedfordshire on the border with Hertfordshire are expected to grow; in the case of Harlow and Luton/South Beds such growth is likely to be accommodated in Hertfordshire with the exact location of growth to be resolved through the local planning process in the Districts concerned. These cross boundary issues are considered as part of the HIIS.

Figure 2.1 – Study Area



Planning Context

National Policy

- 2.4 The national policy context for this study is set out in the revised Planning Policy Statement 12 (PPS12) June 2008 which details Government guidance on Local Development Frameworks. The guidance is clear that an infrastructure planning process should be carried out to inform the core strategy and form part of a robust evidence base. PPS12 states that core strategies should *'be supported by evidence of what physical, social and green infrastructure is needed to enable the amount of development proposed for the area, taking account of its type and distribution. This evidence should cover who will provide the infrastructure and when it will be provided. The core strategy should draw on and in parallel influence any strategies and investment plans of the local authority and other organisations.'*
- 2.5 PPS12 does not provide detailed guidance on how infrastructure planning assessments should be carried out and, as yet, the Government has not published any good practice guidance alongside the policy statement. However the guidance advises that good infrastructure planning will consider *'the infrastructure required to support development, costs, sources of funding, timescales for delivery and gaps in funding'*.
- 2.6 PPS12 notes that the infrastructure planning process should identify as far as possible:
- Infrastructure needs and costs;
 - Phasing of development;
 - Funding sources; and
 - Responsibilities for delivery.

Community Infrastructure Levy

- 2.7 The Government has made provision for a Community Infrastructure Levy (CIL) in the Planning Act 2008. The CIL will be a charge on new developments which local authorities will be empowered, but not required, to charge to help finance the infrastructure needed to support growth. CIL powers are expected to come into effect by October 2009 (subject to the Parliamentary timetable).
- 2.8 PPS12 advises that local authorities should continue to advance their infrastructure planning in order to ensure that there is clear evidence about planned infrastructure, its cost and timing and other likely sources of funding. In short, good infrastructure planning embedded, within an up-to-date development plan, is the basis for charging CIL.
- 2.9 The policy statement on CIL, published in August 2008, provides more detail about how CIL would work in practice. Where CIL is adopted the proceeds of the levy will be spent on local and sub-regional infrastructure to support the development of the area.
- 2.10 In spending CIL the policy statement is clear that CIL *'may only be spent on infrastructure'* and that it *'should be used to fund the infrastructure needs of development contemplated by the development plan for that, not to remedy existing deficiencies'*. However, the Government favours a wide definition of infrastructure in order to give local communities flexibility in choosing what infrastructure they need to deliver development proposals.
- 2.11 The Planning Act 2008 provides that Regulations may set out what is meant by infrastructure and list examples of infrastructure to which CIL could be applied, which includes transport and flood defences but also expressly covers schools, sporting and recreational facilities and open space. The Government's policy statement notes that, to deliver sustainable development in the widest sense, adequate local facilities, such as parks and green spaces, health and social care facilities, police stations and other community facilities, should be provided. Prior to the publication of the Regulations it is not certain what the definition of infrastructure will include although it does appear

the Government may give local authorities some leeway in defining infrastructure to which CIL would apply.

- 2.12 Although, at this stage, the definition of infrastructure is not certain, it is clear from the policy statement on CIL that affordable housing is included within this definition of infrastructure, although, *'it is not the intention that CIL will be used to deliver affordable housing in the first instance'*. Whilst the Government's preference is that planning obligations should be used to achieve the delivery of affordable housing it could receive CIL funding, if evidence shows this to be necessary.
- 2.13 Before CIL may be charged the Government policy statement requires that an up-to-date development plan for the area in question should be in place. It advises further that the formulation of the CIL should start with an understanding of the development strategy for the area, comprised of the RSS and the DPDs in the LDF.
- 2.14 In undertaking infrastructure planning to underpin the CIL regime the policy statement refers to the requirements in PPS12 that DPDs should be 'sound', that is, founded on a robust and credible evidence base. In addition infrastructure planning should, as a minimum, provide a clear statement of: names, items or classes of infrastructure related to delivery of the development strategy; a broad idea of the quantum of infrastructure needed of each type; and an assessment of the other sources of funding available to deliver infrastructure.
- 2.15 In setting the CIL authorities will be expected to prepare a draft charging schedule that sets out the proposed amount to be raised from CIL for each main class of development envisaged in the development plan. The charging schedule *'will be part of and tested in the same way as, other documents within the Local Development Framework'*.
- 2.16 The Government is clear that setting CIL at an unaffordable level will render development unviable and that this should be avoided. The policy statement advises that the affordability of CIL will depend on the proportion it represents of the uplift in value arising from development. However, it notes that the uplift in value might not be the right measure of viability and that the Government is continuing discussions with the development industry to establish whether measures other than value uplift might be more appropriate.
- 2.17 The CIL policy statement allows for the possibility of setting different rates for each land use to reflect the fact that some types of development have a higher intensity of use and a greater impact on infrastructure. However, there is no clear guidance at this stage as to how this variation in rates might be achieved.
- 2.18 The possibility of differential rates of CIL within a local authority area to reflect local circumstances is discussed in the CIL policy statement. The Government does not provide a firm view on this issue and will continue to seek views until the draft Regulations are published.
- 2.19 The statement also provides guidance on the issues arising where a development proposal straddles local planning authority boundaries. In these circumstances the Government proposes that the relevant CIL charging schedule (if any) would be applied to that part of the development within the relevant authority.
- 2.20 Delivering sub-regional infrastructure (infrastructure that is likely to serve more than one local authority area) will require joint working between local authorities. The statement notes that there are different options for funding sub-regional infrastructure and, where possible, the Government will seek to provide a framework enabling local planning authorities to agree voluntarily to fund sub-regional infrastructure through CIL. Indeed this is the Government's preferred way to finance sub-regional infrastructure.

Circular 05 /2005 Planning Obligations and CIL

- 2.21 Circular 05 / 2005 provides guidance to local authorities on the use of planning obligations or s106 agreements. The Circular sets out a requirement that planning obligations should only be sought

where they meet five tests, which includes the ‘necessity test’ i.e. that the obligations must be necessary to make the proposed development acceptable in planning terms and directly related to the development.

- 2.22 The continued relevance (or otherwise) of the necessity test for CIL is an important issue. CIL guidance makes no express reference to this matter and the issue is one of interpretation. As a result there is a need to seek further clarification on this matter from either CLG or the Government Office for the East of England.

Regional Policy

- 2.23 The Regional Spatial Strategy for the East of England was adopted in May 2008. It sets out proposals for substantial housing and job growth in Hertfordshire within a minimum of 83,200 homes and 68,000 jobs. Four Key Centres for Development and Change (KCDC) in the County are proposed and land in East Hertfordshire to the north of Harlow is also identified as a strategic housing location.
- 2.24 The four KCDCs in the County include: the joint KCDC of Welwyn Garden City and Hatfield; Hemel Hempstead; Stevenage; and Watford. Each of the KCDCs except Watford will see strategic scale housing growth in the period 2001-2021 and all will be key locations for employment growth.
- 2.25 In addition to the anticipated growth within the KCDCs and the strategic growth location north of Harlow, all Hertfordshire Districts have significant levels of growth set out in the RSS that will need to be planned for.
- 2.26 The East of England Plan contains a policy that requires EERA to commence an early focused review of the RSS, to be completed by 2011. This review requires the plan to extend coverage to 2031 which will mean that further housing growth is identified for Hertfordshire. This housing growth to 2031 is addressed in the HIIS, although, in advance of the RSS Review the assumed level of growth has been based on rolling forward the annual rates of housing provision identified in the existing RSS.
- 2.27 Two key concerns with the East of England Plan were highlighted prior to the commissioning of this study. The first is the lack of an implementation plan submitted alongside the East of England Plan meaning that the EIP was ill informed about the scale of resources required to deliver the RSS. Secondly the infrastructure requirements of specific growth locations were not identified in the RSS, which meant that there was a deficit in the evidence base addressing the KCDCs’ capacity to deliver growth.
- 2.28 Following the adoption of the RSS, EERA has been working with the East of England Development Agency (EEDA) and the Government Office for the East of England to develop a joint implementation plan to deliver the shared objectives of the East of England Plan and Regional Economic Strategy. As this implementation plan is not yet complete, there is a lack of information on infrastructure delivery at the regional level which HIIS will address by informing the prioritisation of infrastructure demand and the formulation of the joint implementation plan.

Local

- 2.29 The ten Hertfordshire Districts are in the process of preparing their LDFs, which are at varying stages of completion, as is the evidence base needed to underpin them. In this respect HIIS will form an important part of the evidence base for Districts’ Core strategies.
- 2.30 One of the key issues for HIIS is how the funding model/CIL will be embedded into the preparation of DPDs. There are a number of options as to how this can be achieved which are explored in greater detail in Section 10.

Climate Change, energy planning and developing a national infrastructure strategy

- 2.31 In July 2009 the government announced plans to place climate change at the core of the energy planning process. Measures include the preparation of a single Planning Policy Statement on climate change and a raft of initiatives designed to promote the use of renewables (including small scale projects) through the planning system.
- 2.32 This announcement follows hard on the heels of the publication, by the Council for Science and Technology, of “A National Infrastructure for the 21st Century”, which seeks to promote high quality national infrastructure in order to promote sustainable economic growth and productivity, in contrast to current practices, which the Council believes are currently fragmented and lack vision, with little overall responsibility and accountability, and insufficient evidence of forward planning and investment.
- 2.33 Our researches in relation to utility and communication planning and climate change (as embodied in the energy planning process) - insofar as they are contained in this report – are reflective of the current approach, which has yet to put these initiatives at the forefront of infrastructure planning and delivery. Whilst noting this (and the fact that as a consequence, utility planning tends at present not to lead but to follow the growth agenda) we have incorporated in our Recommendations and Way Forward Chapter some thoughts in respect of investigating possible changes to the infrastructure planning process.

Regional and Sub-Regional Infrastructure

The Regional Funding Allocation Process

- 2.34 The Regional Funding Allocation Process was introduced in 2005 as an attempt to integrate transport, economic and spatial development strategies in each region. Through this process regions provide advice to Government on the priorities for transport schemes and funding is provided for local transport and highway authorities' major schemes under the Local Transport Plan system and major Highways Agency schemes.
- 2.35 Regions were requested to provide information in early 2009 to inform a second round of funding for the period up to 2018/19. For the first time, the RFA also includes all housing and regeneration funding under the control of the new Homes and Communities Agency. EEDA will be working with the HCA in reviewing regional priorities for this element of the RFA.
- 2.36 EERA's papers and the Regional Transport Forum papers will inform the Region's submission to the RFA process. The Transport Economic Evidence Study (TEES) Report is one part of the evidence that has informed the submission. The TEES report considers the effects of transport on the region and how it impacts on the economic wellbeing of the region. The key findings from the study are that there is significant congestion on the strategic highway network, both now and forecast in the future; there is significant overcrowding on all rail routes to London; and existing constraints on rail freight movements will be exacerbated by planned commercial expansion. The study gives an indication of the economic cost of congestion at £658m p.a. at current prices, rising to £1,339m by 2021 despite planned investment. TEES identifies priorities for future investment in transport infrastructure. It suggests that there is a diminishing economic return on major infrastructure schemes and that significant travel demand measures will need to be made.
- 2.37 There are potential linkages between HHS and the RFA process. HHS will provide a focus for the Hertfordshire Authorities to address their infrastructure needs and this is likely to integrate well with the RFA process. It is likely that those public agencies that identify their infrastructure needs and a strategy for delivering them will be more successful in securing funding through the RFA process. That being the case, Hertfordshire will be well placed to secure funding through the RFA process by integrating the findings of HHS on future infrastructure needs and priorities.

Regional Infrastructure Fund (RIF)

- 2.38 EEDA is developing a Regional Infrastructure Fund (RIF), a mechanism designed to raise additional funding for infrastructure in the East of England. RIF will assist the region to deliver the infrastructure that is necessary to facilitate growth. In particular, RIF funding can be used in situations where the anticipated public or private funding for a scheme will not be available in full at the time the infrastructure is needed to support planned growth or development. The costs of the capital investment are then recovered from predetermined public and/or private funding streams as they become available. EEDA has commissioned consultants to develop a workable proposition for a RIF for the East of England and they are exploring with partners, such as HCA and the European Investment Bank, how they can ring fence their own funding for RIF.
- 2.39 The RIF will not be standalone but will feed into the Regional Funding Allocation (RFA) process. In the short term RIF is likely to focus on transport projects using RFA Transport Funding; as new sources of funds are identified, the range of projects is expected to widen. A report submitted to the EEDA Board in September 2008 supported the principle of a forward funding mechanism being incorporated into the East of England's RFA submission.
- 2.40 The Board approved the consultation draft of the Preferred Strategy for the RIF in July (2008), which proposed a three stage development:
- Development of exemplar projects during 2009 -10 using capital investment from the Regional Funding Allocation, repaid from developer contributions, to provide proof of concept and develop confidence in the RIF;
 - Scaling up the RIF using new mechanisms following enabling legislation in 2010 -11 (mainly the CIL and Business Rate Supplements (BRS));
 - Bringing in private sector investment from 2012 onwards.
- 2.41 Since July the RIF steering group and consultants have carried out consultation on RIF. The RFA Guidance on Transport enables the use of RIF and variations on it. Since the consultation exercise the Regional Transport Forum has resolved in principle to reserve an RFA allocation for projects of sub-regional or local significance. As part of the prioritisation process these projects will be evaluated for their 'RIF-ability', i.e. transport schemes that can unlock major development sites which, through developer contributions, can then replenish the fund – with the aim of identifying potential exemplar projects.
- 2.42 RFA Guidance on the housing and regeneration funding allocation is also favourable to its use as upfront investment in infrastructure that brings forward housing investment and there appears to be general support for this approach amongst the Government, the Homes and Community Agency, RSLs and other housing bodies.
- 2.43 One of the key issues for RIF will be whether there is potential for borrowing against future CIL income, however, it appears that there are some concerns with this in the Treasury and the consultants working on the RIF for EEDA consider that the best opportunities lie with Business Rates Supplement (BRS) which is potentially simpler to collect and more predictable than CIL.

Other Studies

Historic Infrastructure Deficit

- 2.44 In simple terms, historic infrastructure deficit (HID) can be defined as a shortage of the infrastructure needed to support the existing population and which needs to be addressed before imposing any additional burden as a result of housing growth.
- 2.45 As part of the HHS study the Consultants were commissioned to carry out an assessment of HID in the County to examine the concern that Hertfordshire has a substantial historic deficit that should, as far as is possible, be addressed through the funding model. The findings of that part of

the study are set out in the Infrastructure Deficit Report (March 2009). This report catalogues the existing infrastructure deficits in the County; in total the estimated cost of addressing the identified deficit items is £2.41bn.

- 2.46 During the course of this work there was some deliberation as to how to define HID, and separate HID from growth related needs. For this purpose infrastructure deficiency was defined as:
- Inadequate in size to serve the needs of the current population as evidenced by excess demand or other than in cases such as open spaces where the scale of provision falls short of widely adopted planning benchmarks;
 - Clearly functionally inadequate when measured against typical current standards or adopted policy.
- 2.47 The identification of HID provides a baseline from which the effects of future growth can be considered. HID could be strengthened by further information from service providers which is likely to increase the overall figure of £2.41bn.
- 2.48 The guidance on CIL is that it should not be used to remedy existing deficiencies. This does not mean that CIL must be spent on entirely new infrastructure, but expenditure on repair or refurbishment of infrastructure, where the development circumstances of the local area do not justify this, would not be acceptable. It is, therefore, important to consider the effect of historic infrastructure deficit on the delivery of new development, but Government advice is that it will be unacceptable to seek to use CIL as a means of meeting deficits. The exception is open space and recreational facilities where, under the provisions of PPG17, it is possible to use planning obligations to remedy existing deficiencies.
- 2.49 The funding for HID, on the whole, will need to come from mainstream public funding, including bids for funding from a range of Government programmes. In seeking to address HID the Hertfordshire Authorities could use the HID Report to:
- Lobby for PFI to directly address deficits;
 - Lobby for PFI for services that currently do not have deficits but where, by supporting investment aimed at meeting the needs of the expanded population, it will take the pressure off s106 funding and release it for other purposes;
 - Prioritising existing mainstream public sector and other funds;
 - Prioritising and lobbying for bids for GAF, CIF, etc;
 - Lobbying to address specific barriers to LA funding for key requirements. Examples might include efforts to modify the impact of floor authority status in growth areas and the threat of capping.
- 2.50 Information on HID will help with the prioritisation of funding sources and bids. Indeed, many of the actions that service providers need to be taking in the future relate to better prioritisation. This will help to broaden the depth and accuracy of the information they have available to inform them of the infrastructure deficits for their service.

Harlow Infrastructure Study

- 2.51 The East of England Plan confirms the role of Harlow as a regionally significant housing and employment growth point and a major sub-regional town centre. The housing growth target for the town for the plan period is 16,000 dwellings by 2021.
- 2.52 The distribution of future growth in and around the town is to be determined by a joint or co-ordinated development plan documents to be prepared by Harlow, Epping Forest and East Hertfordshire Districts. However, it is anticipated that a substantial proportion of the growth is likely to be accommodated north of Harlow in East Hertfordshire District. This raises the issue of identifying the infrastructure requirements of this growth in Hertfordshire and how it will be funded.

The expectation is that housing growth north of Harlow will become subject to the provisions of the HIIS funding model.

- 2.53 Atkins and Roger Tym and Partners are in currently undertaking the Harlow Infrastructure Study the findings of which have been integrated into the HIIS study.

Luton / South Beds

- 2.54 The East of England Plan identifies Luton as part of the Luton/Dunstable/Houghton Regis and Leighton Linlade KCDC, which is part of the wider Milton Keynes South Midlands (MKSM) Growth Area. The East of England Plan identifies significant development in the KCDC up to 2021 including 26,300 new homes, 23,000 new jobs and associated infrastructure.
- 2.55 Luton Borough Council, South Bedfordshire District Council and Bedfordshire County Council are working together to produce a joint LDF covering the whole of South Bedfordshire and Luton. The Luton and South Bedfordshire Core Strategy Preferred Option was published in March 2009 for consultation.
- 2.56 The Preferred Option proposes that the first choice location for growth related development should be within existing urban areas, however, sustainable urban extensions are recognised as key to meeting housing requirements. Two preferred urban extensions are identified, on the northern fringe of Luton and a smaller one east of Leighton Buzzard. A further preferred direction of growth has been identified east of Luton and mostly lies in North Hertfordshire District.
- 2.57 Although Policy 2(b) of the MKSM Sub Regional Strategy incorporates potential growth area housing provision in North Hertfordshire and Aylesbury Vale, it will be for North Hertfordshire District to plan for this growth through its LDF.

3. Growth Locations

Introduction

- 3.1 This section sets out the process which the Consultants followed to identify where future growth is likely to be located in the County, so as to inform the development of HIIS. The masterplanning and growth assignment work has helped to inform several key strands of the study including:
- Phasing and the potential location of development assist future population projections (see Table 4.2);
 - Informing discussions with service providers, in order that the service provision and infrastructure requirements of future growth in the KCDCs can be identified (see section 5); and
 - Enabling the input of dwelling locations and phasing into the EERM transport model zones.
- 3.2 For the purposes of identifying future infrastructure needs it was necessary to establish some options for where growth in Hertfordshire could take place. This work was undertaken with the agreement and co-operation of local planning authorities. In carrying out this exercise it is not the intention of the HIIS study to bypass the processes that Districts will need to go through in planning for future growth as part of their Local Development Framework. The masterplanning and development assignment work that has been completed as part of this study is, therefore, only for the purposes of HIIS and it should not be assumed that the 'selected options' for the modelling of infrastructure needs are the Districts' preferred LDF spatial options. Since this exercise was completed, some Districts have carried out further work on spatial planning, which has moved this process forward.

RSS Housing Growth

- 3.3 The RSS sets out the minimum dwelling provision for Hertfordshire for the period 2001 to 2021; a target of 83,200 dwellings is identified. The housing growth allocation for each District is set out in Table 3.1.

Table 3.1 – RSS Dwelling Provision for Hertfordshire 2001 - 2021

District	Dwelling Target 2001-2021	Completed 2001 - 2006	Minimum to Build 2006 - 2021	Notes

District	Dwelling Target 2001-2021	Completed 2001 - 2006	Minimum to Build 2006 - 2021	Notes
Broxbourne	5,600	1,950 (390)	3,650 (240)	
Dacorum	12,000	1,860 (370)	10,140 (680)	Includes provision that may be accommodated in St Albans
East Hertfordshire	12,000	2,140 (430)	9,860 (660)	Excludes extension of Harlow
Hertsmere	5,000	1,080 (220)	3,920 (260)	
North Hertfordshire	6,200	1,900 (380)	4,300 (290)	Excludes 9,600 around Stevenage and any expansion of Luton that may be accommodated in North Hertfordshire
St Albans	7,200	1,830 (370)	5,370 (360)	Excludes an expansion of Hemel Hempstead (Dacorum)
Stevenage	16,000	1,570 (310)	14,430 (960)	Includes 9,600 outside the Borough in North Hertfordshire
Three Rivers	4,000	1,010 (200)	2,990 (200)	
Watford	5,200	1,410 (280)	3,790 (250)	
Welwyn Hatfield	10,000	2,730 (550)	7,270 (480)	
Hertfordshire	83,200	17,480 (3,500)	65,720 (4,380)	

Source: East of England Plan

Key Centres of Development Change (KCDC)

- 3.4 The spatial strategy in the RSS aims to achieve sustainable development by concentrating growth in or around major urban areas, capitalising on existing drivers of growth. To achieve the aims of sustainable development the RSS proposes Key Centres of Development Change (KCDCs) where new development should be concentrated.
- 3.5 The RSS identifies several KCDCs located entirely in Hertfordshire:
- **Stevenage / North Hertfordshire** – Stevenage has a housing target of 16,000 homes up to 2021. Some of this growth will be accommodated in the town itself whilst 9,600 dwellings will be in North Hertfordshire;
 - **Watford** – 5,200 homes to be accommodated within the town;
 - **Hemel Hempstead** – Dacorum has an RSS housing target of 12,000. The LDF process will determine how much of this growth is within and around Hemel Hempstead. The RSS notes the possibility that some expansion at Hemel Hempstead might fall within St Albans District; and
 - **Hatfield and Welwyn Garden City** – Welwyn Hatfield has an RSS housing target of 10,000. The location of this growth will be determined through the LDF process. However, if expansion west of Hatfield emerges as a preferred option then the RSS indicates that some of that growth could take place in St Albans District.

- 3.6 There are two KCDCs that, although not located entirely in Hertfordshire, will require substantial housing growth to be accommodated within the County, namely:
- **Harlow** – Harlow has an RSS housing target of 16,000 new homes up to 2021. Land to the north of Harlow in East Hertfordshire is likely to be required to accommodate some of this growth;
 - **Luton / South Beds** – This KCDC has a target of 26,300 homes up to 2021, some of which may need to be accommodated in North Hertfordshire District.
- 3.7 As part of the HHS study it has been necessary to make assumptions about where the KCDC growth could be located. The reason for doing this is so that implications about likely infrastructure requirements for large scale housing growth in the KCDCs can be identified and costed for the purposes of calculating the CIL and developing a funding model. To assist in identifying locations for KCDC growth and the infrastructure requirements arising a number of masterplan options have been prepared and evaluated as detailed below.

Purpose of Masterplans

- 3.8 The HHS brief required various masterplans to be developed in order to help assess the infrastructure likely to be required to serve future housing growth at the KCDCs. The KCDC Districts are at different stages in their LDF preparation and in some KCDCs the options for accommodating growth are further advanced than others. As a result the study brief required the preparation and testing of masterplan options for housing growth to 2021 and 2031 as follows:
- One alternative option for Stevenage (alternative to the existing Stevenage West proposals);
 - One alternative option for Luton / South Beds (alternative to the indicative masterplan at Hawley put forward by developers);
 - A series of options for the KCDCs of Hemel Hempstead and Welwyn Garden City/Hatfield, covering the districts of Dacorum, St Albans and Welwyn Hatfield; and
 - One alternative to the existing masterplanning work being undertaken around Harlow (alternative to the existing proposals put forward by developers).
- 3.9 Prior to developing masterplans a review of each Districts existing planning policy documents and an assessment of existing planned developments was carried out and discussions were held with each of the District Councils. This exercise helped to confirm the level of growth that needed to be planned for and potential locations for growth.
- 3.10 Table 3.2 sets out the volume of housing to be accommodated in the masterplan areas. In addition, it should be noted that in each District further housing growth will be required outside the masterplan areas so as to meet the RSS dwelling requirements. The assignment of this growth is described later in this section.

Table 3.2 – Dwellings to be Accommodated in KCDC Masterplanned Areas

KCDC	District	Dwellings 2008-2021	Dwellings 2021-2031	Total Dwellings 2008 - 2031	Comments
Stevenage/North Hertfordshire KCDC	Stevenage / North Hertfordshire	6,800	8,000	14,800	As agreed with Stevenage Borough Council and North Hertfordshire District Council (November 2008) the total excludes 5,000 at Stevenage West which it is assumed will come forward in line with an existing masterplan. For 2031 the figure assumes the same per annum rate of growth 2021 – 2031 as for RSS targets 2001 – 2021.
Welwyn Garden City and Hatfield KCDC	Welwyn	2,737	5,000	7,737	Figures are as provided by Welwyn Hatfield District Council (November 2008) for the purposes of HHS masterplanning.
Hemel Hempstead KCDC	Dacorum	4,000	3,000	7,000	Figures are as provided by Dacorum Borough Council (November 2008) for the purposes of HHS masterplanning.
Luton South Beds KCDC	North Hertfordshire	3,150	2,350	5,500	Figures provided by Luton Borough Council (August 2008) for the purposes of HHS masterplanning.
Harlow KCDC	East Hertfordshire	2,300	8,000	10,300	2021 figure is based on RSS assumptions of what could potentially be delivered in Harlow/Epping Forest/East Herts to achieve 16,000 dwellings for the Harlow KCDC. 2031 figure is based on RSS Policy HA1 that at least 10,000 dwellings should be provided north of Harlow.
Watford	Watford / Three Rivers	0	1,200	1,200	As agreed with Watford Borough Council (November 2008)

Source: Consultants

Approach to Masterplanning

- 3.11 The development of masterplans evolved through a series of logical steps:
- The identification of the housing required in each masterplan area (Table 3.2);
 - An appraisal of the planning and environmental context for growth in terms of the settlement pattern, existing infrastructure, the Green Belt and important environmental designations;
 - For each KCDC a review of existing urban character and infrastructure was undertaken to provide an understanding of the context for new growth;
 - An analysis was undertaken of the key opportunities and constraints presented at each growth location;
 - Consultation with KCDC District Councils to establish their views on key opportunities and constraints and the location and form of growth; and
 - The formulation of initial concept masterplans.
- 3.12 Following this process the initial concept masterplans at a scale of 1:10,000 for each of the KCDCs for the growth to 2021 and 2031 were submitted to the Districts for consideration.

Options Iteration and Testing

- 3.13 In order to select the masterplan options that would be used for HHS purposes meetings were held with the Districts, including a session with East Hertfordshire to discuss options around Harlow; a joint session with Stevenage and North Hertfordshire to discuss options for the Stevenage / North Herts KCDC and the potential Luton / South Beds KCDC growth; and joint sessions with Welwyn Hatfield, Dacorum and St Albans to discuss the options at Hemel Hempstead, Hatfield and Welwyn Garden City and the potential need for growth to be accommodated in St Albans.
- 3.14 The masterplan options presented to each District are set out in Table 3.3. During discussions with the Districts the issues considered in the evaluation of the options included:
- **Planning issues** – the scope to achieve the required housing targets, potential settlement coalescence and the impact on the Green Belt
 - **Environmental considerations** –including flooding, the effect on agricultural land and the proximity to sites covered by environmental designations
 - **Transport and accessibility** – access to main road and public transport networks
 - **Infrastructure** – the capacity of existing infrastructure and need for new infrastructure
- 3.15 Where necessary, following the meetings, further iterations of the options were prepared and re-considered by the Districts concerned prior to the selection of an option to be used for the purposes of the HHS study. These options do not represent a decision by Districts on the location of future development, as this will be for the LDF process to determine.

Table 3.3 – Options Evaluation

KCDC	Options 2021	Options 2031	Evaluation
Stevenage/North Herts KCDC	Option – Land to north of Stevenage and south around Knebworth	Option – Land to north of Stevenage	Land to the south of Stevenage was rejected on grounds of sustainability and coalescence with Knebworth. Further iteration of the option was made to concentrate development north of Stevenage. The selected option up to 2031 includes land to the north of Stevenage plus the existing Stevenage West proposals.
Welwyn Garden City and Hatfield KCDC	Option – North of Hatfield Option – West of Hatfield Option – Brookmans Park Option – Cuffley	Option – North of Hatfield Option – Ellenbrook Option – West of Welham Green Option – South East Welwyn Garden City	The 2021 options at Brookmans Park and Cuffley were not pursued as these were considered to be in locations that are outside the KCDC. The 2031 option at Welham Green was also rejected for this reason. Further iterations of the remaining options were made and it was agreed to include a combination of the sites north and west of Hatfield, Ellenbrook and the site south east of Welwyn Garden City as the selected option to meeting dwelling needs to 2031.
Hemel Hempstead KCDC	Option – Land East of Hemel Hempstead Option – Land North / West of Hemel Hempstead Option – Dispersed combination of sites around Hemel Hempstead	Option – Land East of Hemel Hempstead Option – Land North / West of Hemel Hempstead Option – Dispersed combination of sites around Hemel Hempstead	It was agreed that local transport modelling of the three options was required to make a decision on the selected option. Following this modelling work it was decided that the eastern option plus a site to the west of Hemel Hempstead would go forward as the selected option.
Luton South Beds KCDC	Option – Land east of Luton	Option – Land east of Luton	It was agreed that the selected option would be the existing indicative masterplan for Hawley that has been put forward by developers.
Harlow KCDC	Option – Land south west of Sawbridgeworth	Option – Land south west of Sawbridgeworth	It was agreed that selected option should be based on those proposals put forward by the developer, as this was more in line with the location of development envisaged in the RSS.
Watford	N/A	Option – Land at Leavesden	It is assumed that dwellings will be accommodated within the built up area of Watford.

Source: Consultants

Masterplans 2021 and 2031

Selected Options

- 3.16 The selected masterplan options for the period to 2021 and 2021-2031 are outlined below.

Stevenage / North Herts

- 3.17 The selected option includes land to the north and east of Stevenage as well as the existing masterplan for Stevenage West. The Stevenage West Proposals include capacity for 5,000 dwellings (which is split 3,100 in North Herts and 1,900 in Stevenage). In addition to the 5,000 dwellings at Stevenage West there are 6,800 dwellings shown in the masterplan areas to 2021, and a further 8,000 up to 2031.

Harlow

- 3.18 It was agreed that the existing proposals, put forward by Ropemaker Properties Limited, would be used for the purposes of HHS testing. It is assumed there will be a total of 10,300 dwellings up to 2031 at this location.

Luton / South Beds

- 3.19 It was agreed that the existing masterplan proposals put forward for Hawley would be adopted for HHS purposes. This plan shows a total 3,150 dwellings up to 2031 and a further 2,350 dwellings in the period 2021-2031.

Dacorum

- 3.20 The selected option includes land to the east of Hemel Hempstead (in St Albans District) and land to the west of Hemel. There would be a total of 4,000 dwellings in these areas up to 2021 and a further 3,000 in the period 2021-2031 in the locations indicated in Table 3.4.

Table 3.4 – Dacorum Site Capacity

Period	Eastern Site A	Eastern Site B	West of Hemel
Dwellings to 2021	1,500	1,500	1,000
Dwellings 2021 - 2031	1,585	1,215	200
Total	3,085	2,715	1,200

Source: Consultants

Welwyn Hatfield

- 3.21 The selected option for Welwyn Hatfield assigns growth to three broad locations: north of Hatfield, west of Hatfield (including a small part of St Albans), and south east of Welwyn Garden City. There will be a total of 2,737 dwellings on these locations to 2021 and a further 5,000 dwellings between 2021 and 2031 (refer Table 3.5).

Table 3.5 – Welwyn Hatfield – Capacity of Masterplanned Areas

Period	Location North and West of Hatfield	Location South East of Welwyn Garden City
Dwellings to 2021	2,037	700
Dwellings 2021 - 2031	4,420	580
Total	6,457	1,280

Source: Consultants

Watford

- 3.22 In Watford it was agreed that, for the purposes of HHS modelling, the housing growth during the period to 2031 would be accommodated within the town itself.

Assigning the Remaining RSS Dwelling Growth to 2021

- 3.23 In addition to the masterplanned areas there will also be further housing growth in each of the Districts. It has, therefore, been necessary to carry out a process of assigning the balance of RSS growth to locations in the County for the purposes of both transport modelling and enabling infrastructure service providers to consider the potential implications for their service areas.
- 3.24 The first step in assigning growth was to discount those developments that have already been completed. The East of England Plan identifies dwelling completions for the period 2001-2006. In addition to these completions Hertfordshire County Council (HCC) provided information for the subsequent years since 31 March 2006. Total completions for the period 2001 – 2008 are shown in column b in Table 3.6.
- 3.25 The next step in the growth assignment process was to consider ‘commitments’. HCC provided a list of all committed developments in the County which included those developments that had been started but not completed and those developments with full or outline planning permission. In addition to these commitments HCC provided a list of allocations of future sites that are either allocated in an existing local plan or LDF or may have been identified through other means (urban capacity studies or SHLAAs). It was agreed that these sites should be added to the commitments as they are considered to have a reasonable chance of coming forward for development. The total commitments for each District are set out in column c in Table 3.6.
- 3.26 It is worth noting that, following consultation with the Districts, St Albans and Three Rivers requested that only committed sites be included and North Herts advised that the sites within the SHLAA should be included as commitments/allocated sites rather than those on the list provided by HCC.
- 3.27 After taking account of completions and commitments for each District the balance of dwellings required to meet the RSS requirement has been derived ($a - (b+c) = d$), as shown in Column d Table 3.6.
- 3.28 For Dacorum and Welwyn Hatfield, when the 2021 masterplanned areas are taken into account along with the growth in areas outside the key settlements, further growth will be required to meet RSS requirements (column f). It is assumed that this will be accommodated within/around Hemel Hempstead (on brownfield sites or through small scale greenfield release) and within Welwyn Garden City and Hatfield. Similarly in Stevenage, when completions, commitments and masterplanned areas are taken into account, there will still be an additional balance of 1,275 dwellings which, it is assumed, will be accommodated on sites within the built-up area.
- 3.29 Having identified the remaining dwelling growth to be assigned to 2021 (column d Table 3.6) broad assumptions were made about the location of such growth as shown in Table 3.7. It is important to note that this is for the purposes of testing only and, therefore, the distribution to settlements does not include settlements that are likely to have very small levels of dwelling growth as, for the purposes of modelling, this was not deemed to be useful. Each of the Districts was consulted and the assumptions in Table 3.7 reflect the comments received. As the actual distribution of new dwellings will be decided through LDF allocation and development control processes this growth assignment is purely for the purposes of the HHS study.

Table 3.6 – Identification of the Balance of Dwellings to Assign 2021

District	RSS Requirement (a)	Completions (2001- 2008) (b)	Committed allocated Sites Safeguarded Sites (c)	Dwellings assigned to other settlements (d)	Masterplanned areas (e)	Other non master planned areas KCDC dwellings (f)
Broxbourne	5,600	2,491	1,398	1,711	n/a	n/a
Dacorum	12,000	2,664	2,934	1,548*	4,000	854
East Hertfordshire	12,000	3,474	6,071	2,455	n/a	n/a
Hertsmere	5,000	1,762	1,339	1,899	n/a	n/a
North Hertfordshire	6,200	2,837	4,422	-1,059	Included in Stevenage figures	n/a
St Albans	7,200	2,505	1,971	2,724	n/a	n/a
Three Rivers	4,000	1,605	710	1,685	n/a	n/a
Welwyn Hatfield	10,000	4,162	206	1,399**	2,737	1,498
Watford	5,200	1,947	4,665	-1,412	n/a	n/a
Stevenage	16,000	1,364	1,561	0	11,800	1,275
Total	83,000	24,811	25277	10,950	18,537	3,625

Source: Consultants. Completions and committed development data provided by HCC (04/08/08).

*Remaining dwellings in parts of District outside Hemel Hempstead (provided by Dacorum Borough Council)

** Remaining dwellings in parts of District outside Hatfield and Welwyn Garden City (provided by Welwyn Hatfield District Council)

Table 3.7 - Growth Assignment by District, 2021

District / Settlement	% of dwellings	Total dwellings
Broxbourne	100%	1,711
Broxbourne	10%	171
Cheshunt	25%	428
Waltham Cross	20%	342
Hoddesdon	45%	770
Dacorum	100%	1,548
Tring	25%	387
Berkhamsted	60%	929
Bovingdon	5%	77
Kings Langley (Dacorum)	5%	77
Markyate	5%	77
East Herts	100%	2,455
Bishop's Stortford	50%	1,228
Hertford	25%	614
Sawbridgeworth	5%	123
Ware	15%	368
Buntingford	5%	123
Hertsmere	100%	1,899
Borehamwood	40%	760
Bushey	25%	475
Potters Bar	25%	475
Radlett and smaller communities	10%	190
North Herts	0	0*
Hitchin	0%	0
Letchworth	0%	0
Royston	0%	0
Baldock	0%	0
St Albans	100%	2,724
St Albans City	52%	1416
Harpenden	10%	272
London Colney	27%	735
Bricket Wood/ Chiswell Green/ How Wood/ Park Street and Frogmore	7%	191
Redbourn	3%	82
Wheathampstead	1%	27
Smallford	0%	0
Three Rivers	100%	1,685
South Oxhey	25%	421
Rickmansworth	15%	253
Croxley	10%	169
Chorleywood	5%	84
Abbots Langley	35%	590
Kings Langley	10%	169
Welwyn Hatfield	100%	1,399⁺
Cuffley	30%	420
Brookmans Park	20%	280
Welham Green	5%	70

* North Hertfordshire figure showing 0% left to be assigned as RSS requirement already committed / allocated or planned for in master planned areas.

⁺ Figures estimated before SHLAA completed.

District / Settlement	% of dwellings	Total dwellings
Welwyn	40%	560
Oaklands & Mardley Heath	5%	70

Source: Consultants assumptions agreed with Districts (November 2008)

- 3.30 To calculate the 2031 dwelling targets the RSS provides guidance. It advises that the average rate of provision for the period 2021 to 2031 should be the same as rates in Policy H1 for the period 2006 – 2021 or the rates 2001 – 2021, whichever is higher. Based on this approach the annual average rates of provision by District, as shown in brackets in Table 3.8, have been used to derive dwelling requirements to 2031. Table 3.9 shows the assignment of growth to the main settlements across the County. Watford and Stevenage are excluded from Table 3.9 as they each only include one settlement.

Table 3.8 – Dwelling Requirements to 2031

District	RSS Requirement 2001 - 2021	Dwellings Delivered (2001- 2006)	Minimum to build (up to 2021)	Dwellings 2021 - 2031	Comments
Broxbourne	5600 (280)	1,950	3650 (240)	2800	
Dacorum	12000 (600)	1,860	10140 (680)	1350	Requirement outside Hemel Hempstead
East Hertfordshire	12000 (600)	2,140	9860 (660)	6600	Excludes extension to Harlow
Hertsmere	5000 (250)	1,080	3920 (260)	2600	
North Hertfordshire	6200 (310)	1,900	4300 (290)	3100	
St Albans	7200 (360)	1,835	5365 (360)	3600	
Three Rivers	4000 (200)	1,010	2990 (200)	2000	
Welwyn Hatfield	10000 (500)	2,730	7270 (480)	500*	Requirement outside Hatfield and Welwyn Garden City

Source: Consultants. The figures in brackets show the annual rate of provision.

Table 3.9 - Growth Assignment by District, 2031

District / Settlement	% of dwellings	Total dwellings
Broxbourne	100%	2,800
Broxbourne	10%	280
Cheshunt	25%	700
Waltham Cross	20%	560
Hoddesdon	45%	1,260
Dacorum	100%	1,350
Tring	25%	338
Berkhamsted	60%	810

* Although the requirement for Welwyn Hatfield is 5,000 for the period 2021 - 2031, the figure of 500 is included here as this is the amount of dwellings that will potentially be accommodated outside Hatfield and Welwyn Garden City (and the masterplanned areas)

District / Settlement	% of dwellings	Total dwellings
Bovingdon	5%	68
Kings Langley (Dacorum)	5%	68
Markyate	5%	68
East Herts	100%	6,600
Bishop's Stortford	20%	1,320
Hertford	35%	2,310
Sawbridgeworth	5%	330
Ware	30%	1,980
Buntingford	10%	660
Hertsmere	100%	2,600
Borehamwood	40%	2,640
Bushey	25%	1,650
Potters Bar	25%	1,650
Radlett and smaller communities	10%	660
North Herts	100%	3,100
Hitchin	20%	620
Letchworth	20%	620
Royston	40%	1,240
Baldock	20%	620
St Albans	100%	3,600
St Albans City	60%	2,160
Harpenden	11%	396
London Colney	4%	144
Bricket Wood/ Chiswell Green/ How Wood/ Park Street and Frogmore	12%	432
Redbourn	4%	144
Wheathampstead	1%	36
Smallford	8%	288
Three Rivers	100%	2,000
South Oxhey	25%	500
Rickmansworth	15%	300
Croxley	10%	200
Chorleywood	5%	100
Abbots Langley	35%	700
Kings Langley	10%	200
Welwyn Hatfield	100	500
Cuffley	30%	150
Brookmans Park	20%	100
Welham Green	5%	25
Welwyn	40%	200
Oaklands & Mardley Heath	5%	25

Source: Consultants, assumptions agreed with Districts (November 2008)

4. Demographic Assessment

Introduction

- 4.1 This section addresses the demographic analysis that has been undertaken to inform HHS. The requirements for a range of infrastructure needs, including, amongst other things, community facilities and transport, are driven by changes in population and households. To assess the demand for key facilities it is, therefore, necessary to make use of projections of the future population.
- 4.2 The demographic assessment, coupled with masterplanning, provides the strategic service providers with the tools they require to determine needs at the County level (which they currently plan for) and at KCDC level (which they will also need to plan for in the future). A consistent basis for planning at these scales will provide a sound basis for setting a CIL charge. Without this consistency, the basis of the charge could be subject to challenge. At present, many service providers undertake their own forecasting work in order to determine their future needs. However, these are often not consistent with one another.
- 4.3 The population (and household) projections have to be informed by the dwelling requirements in each District. The first part of the section discusses the dwelling numbers that underpin the demographic assessment. They are slightly different in geographical composition to those that informed the masterplanning, in that they need to provide the dwelling numbers that are to be delivered within the boundaries of each District rather than a breakdown by, commonly, the KCDC area. The projections were required in this format in order to inform the transport modelling, a key part of the study given the substantial requirements for transport investment.
- 4.4 The section then moves on to describe the demographic assessment that was undertaken and how the information was used to inform the transport modelling.

District Dwelling Requirements

- 4.5 It is first necessary to ascertain the levels of housing to be delivered up to 2021 and 2031. As explained in section 3, up to 2021 the District level figures are provided by the adopted RSS for the East of England. These figures are not targets but do represent the minimum levels of housing that are expected to be delivered over the plan period.
- 4.6 Equivalent housing figures up to 2031 are not available. The review of the RSS (which will run up to 2031) has already started but is at a very early stage and is not in a position to advise on appropriate levels of housing development. However, the adopted RSS does provide advice on how to roll forward housing figures beyond 2021. This is in recognition of the fact that many LPAs are producing LDFs to cover a period ending after 2021. At paragraph 5.6 it states that planned annual rates for either 2001 to 2021 or 2006 to 2021 should be rolled forward to 2031, whichever is the higher.
- 4.7 The net additional dwelling requirements between 2008/9 and 2020/21 and 2008/9 and 2030/31 are as shown in Table 4.1.

Table 4.1 - Dwelling Requirements Within District Boundaries, 2008/9-2020/21 and 2008/9-2030/31

District	Requirement 2008/9 – 2020/21	Annual Average to be built, 2021/22 – 2030/31	Total Requirement, 2008/9 – 2030/31
Broxbourne	3,109	280	5,909
Dacorum	6,728	680	13,528
East Hertfordshire	8,526	660	15,126
Hertsmere	3,238	260	5,838
North Hertfordshire	11,530	927	20,800
St Albans	7,303	360	10,903
Stevenage	5,036	320	8,236
Three Rivers	2,395	200	4,395
Watford	3,253	260	5,853
Welwyn Hatfield	5,838	500	10,838
Hertfordshire	56,956	4,447	101,426

Source: East of England RSS and East of England AMR

- 4.8 Coupled with a realistic view of the potential of the housing market to deliver given the current recession, it is important to undertake a 'sense check' of the dwelling delivery requirements for the period 2021/22-2030/31. The figures in the existing RSS are challenging but the roll forward can simply present build figures that have no prospect of being achieved.
- 4.9 The figures for all the Districts have been reviewed and only one (for East Hertfordshire) raises a problem for the period 2021/22-2030/31. Under the guidance provided by the RSS, the roll forward would involve delivering an additional 8,000 dwellings at Harlow North, in East Hertfordshire District. This would be on top of the 'non-Harlow' growth within the District (660dpa, based on the RSS guidance). This being the case a different trajectory is required for East Hertfordshire from the rest of the Hertfordshire Districts. This is because the required delivery rate to achieve these dwelling numbers would be way in excess of that which could be achieved by the trajectory; in fact, it would need to nearly double.
- 4.10 The Consultants consider that the 800dpa that would be required at North Harlow (in East Hertfordshire) between 2021/22 and 2030/31 is not deliverable for three reasons:
- The maximum levels of delivery that have ever been promoted, even in buoyant economic times, are only 600dpa. This was at Swindon Northern Expansion Area; more recently the South Cambridgeshire Core Strategy Inspector accepted a similar delivery rate for Northstowe, but partly because of the involvement of English Partnerships (now part of the Homes and Communities Agency);
 - Other sites making up the Harlow growth area will be developed at the same time, thus further diluting the potential to deliver high rates at Harlow North. There simply would not be the capacity within the construction industry in the region, particularly given the strong growth that is expected in so many other locations;
 - The 8,000 dwellings figure comes from the current Ropemaker scheme. Even if they could theoretically deliver 800dpa, private developers are only keen to complete a certain number of units per week so that they do not flood the market and possibly dilute their returns.
- 4.11 The need, therefore, is to inject a more realistic approach into the delivery of growth in Harlow, post-2021, which the trajectory does. This means delivering a lower number of dwellings in East Hertfordshire between 2021/22 and 2030/31. If all of the Harlow growth

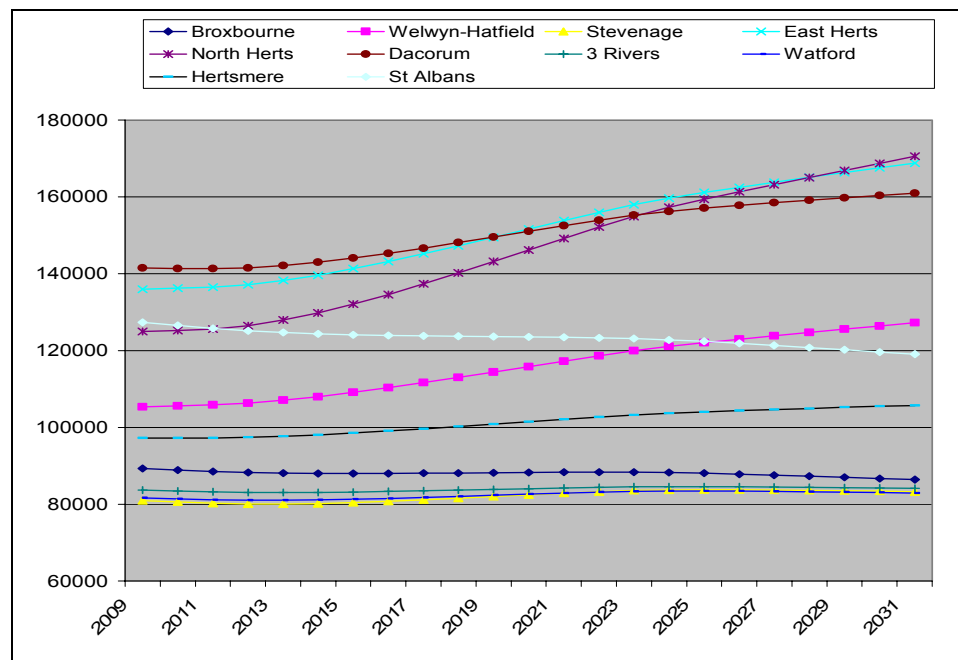
in that period were included, then the total number of dwellings expected to be delivered would be 14,600 (8,000 at Harlow North and 6,600 elsewhere in the District). Using the Hertfordshire-wide trajectory, that is reduced from to 8,200 dwellings (broadly 4,200 at Harlow North and 4,000 in the rest of East Hertfordshire). This is still challenging, but would not be setting a precedent nationally. It would also not call into question the deliverability of any scheme at Harlow North - it would simply be suggesting that the timescale would need to be lengthened beyond 2031.

Deriving the Population and Household Levels

Methodological Considerations

- 4.12 In order to estimate the requirements for additional infrastructure and services that will be generated by the proposed levels of housing, it is necessary to understand the size and profile of the population to which this additional housing relates. The initial belief of many is that total population change is directly related to the level of housing production. Unfortunately this belief is incorrect because population change is influenced by other factors in addition to housing production. Chief amongst these factors is the long-established decline in average household sizes, brought about by changes in age structure and increasing opportunities for people to form separate households. This decline means that in any area a certain amount of new housing is required simply to enable the population to stay constant.
- 4.13 This can be illustrated by the projections of total population prepared under dwelling-led forecasts which matched the RSS housing targets. Figure 4.1 gives the results for individual Districts.

Figure 4.1 - District Populations Following RSS Housing Targets

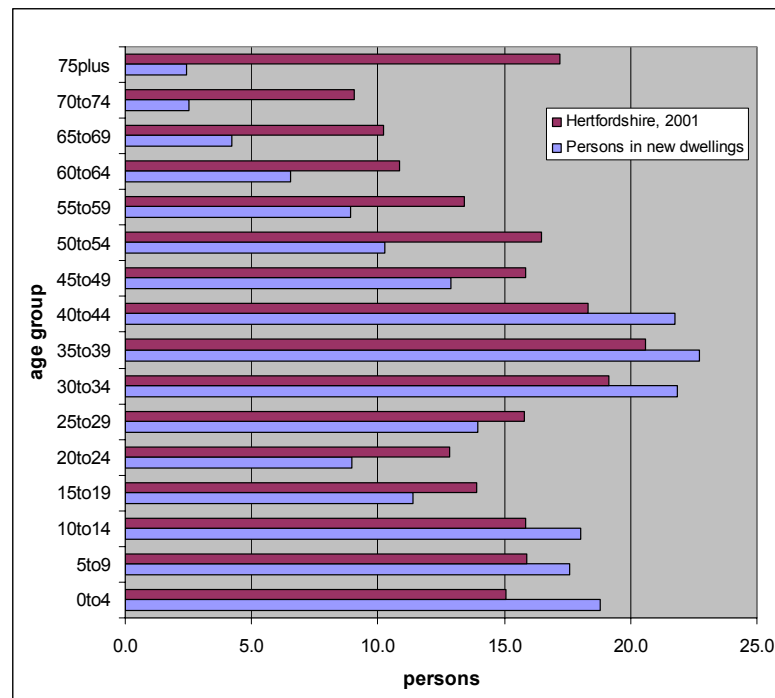


Source: Projections by Hertfordshire Property

- 4.14 For two of the Districts (St Albans and Broxbourne) the population is lower in 2031 than in 2008, despite substantial levels of housing construction: 12,000 units in St Albans and 6,000 in Broxbourne. Since most infrastructure requirements are calculated on a per-capita basis then reference to total population would suggest that these two Districts will require less infrastructure in 2031 than they had in 2008, which is clearly incorrect.

- 4.15 Three other Districts (Stevenage, Three Rivers and Watford) are projected to have broadly stable populations over the 23-year period. So if total population is the guide, the only parts of the County requiring significant amounts of additional infrastructure are Dacorum, Hertsmere, Welwyn Hatfield, North Hertfordshire and East Hertfordshire. This is clearly not a sensible output and the Consultants do not, therefore, regard total population change as a useful measure for use in the HHS Study.
- 4.16 There are also problems with those requirements that depend on particular age groups. For the whole County, the projections by Hertfordshire Property show the number of children of primary school age rising from 81,560 in 2009 to 82,188 in 2021 – an increase of only 628 children. It is well established that many existing primary schools in the County face closure because of the declining number of children. But, as is shown later, children are prominent amongst the migrants who move into new housing. Occupiers of some of this new housing may be able to make use of surplus capacity in nearby primary schools but much new construction is planned to occur in new development areas that are too far away from existing schools. Unless there is to be extensive bussing of primary school children across the County, then continued closures of existing schools will take place alongside construction of new schools in the expansion areas.
- 4.17 To get a realistic measure of requirements for additional services and infrastructure it is, therefore, necessary to focus on the people who will occupy the new housing, whilst making appropriate allowance for the use of spare capacity, where this is feasible. This is the approach that the Consultants have adopted on previous studies of this type.
- 4.18 Profiles of people moving into new housing are often different from those of the entire County. Data are available from the 2001 Census and from population surveys of new housing estates. Figure 4.2 gives a profile of the latter type, submitted by Hertfordshire Property, compared with data for the whole of Hertfordshire. Both parts of the chart give the number of persons by 5-year age group per 100 dwellings.
- 4.19 It is evident that the County has more people in the age groups 45 and over (radically more in the age groups 60 and over) than the standard profile of new housing development. In both the peak ages are between 30 and 44. There is a secondary peak (largely composed of the children of the first group) aged from 0 to 14. The County has rather fewer people in both these peaks.
- 4.20 It should be emphasised that, although the people who move into new housing are termed 'migrants,' they are not all new migrants to the County. Many of them will be migrants from other parts of the County, partly as the 'overspill' from those areas brought about by reducing household sizes.

Figure 4.2 - Standard Profile of New Housing Occupants Compared with Hertfordshire County

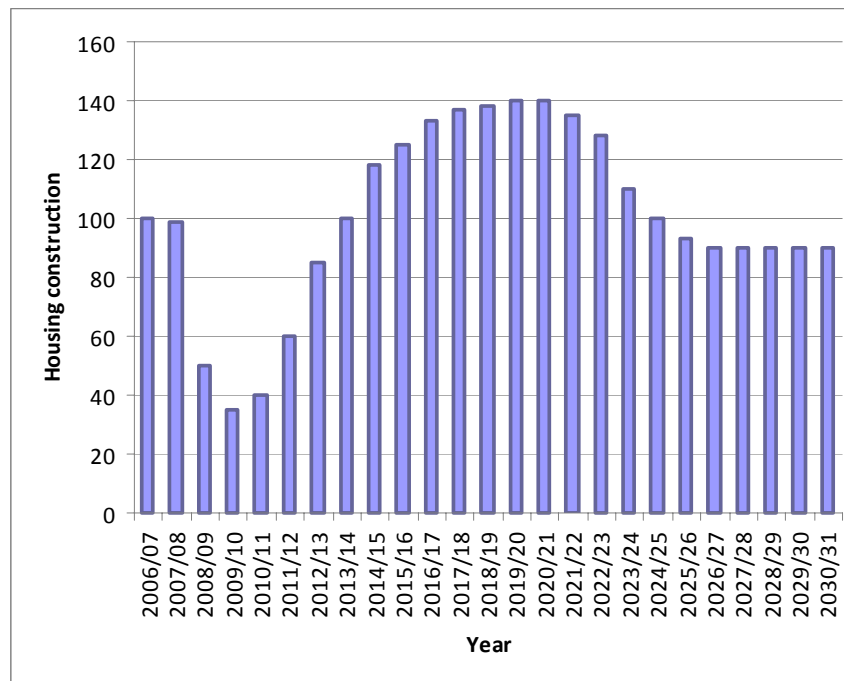


Source: Hertfordshire Property, Census 2001

Trajectory of Housing Production

- 4.21 As shown earlier, the number of new dwellings to be planned for in each District is known for the periods 2008/09 to 2020/21 and 2020/21 to 2030/31. But with the recent collapse in house building it can no longer be assumed that these targets will be met by steady building rates. A likely trajectory of future house building has, therefore, been derived based on the experience of previous recessions. This experience shows that during a recession, housebuilding can decline to around one-third of its pre-recession level and can then take around four years to recover fully. (This is discussed in more detail in Appendix A). The resulting trajectory is shown in Figure 4.3.
- 4.22 Figure 4.3 gives indices of housing construction. The pre-recession years up to 2007/08 are taken as 100. Thereafter, the index falls to a trough of 35 in 2009/10. After recovery to 100 in 2013/14 the index is taken higher in order to catch up with the RSS target by 2020/21. To meet the RSS targets housing production would need to rise to 40% above the pre-recession level, thereafter falling off to meet the 2030/31 target.
- 4.23 It is important to understand that this is a County-wide trajectory that has been created to inform the HHS study. It is a best estimate of what is considered might happen for the County as a whole. It certainly does not override emerging District-specific trajectories that Districts have published in their Annual Monitoring Reports (AMRs). However, the Consultants do not consider that any differences are critical. The approach taken is necessarily broad brush and would not be significantly different when applied similarly to any individual District.

Figure 4.3 - Trajectory of Housing Construction 2006/07 to 2030/31



Source: Consultants' estimates

- 4.24 The index has been constructed using up-to-date information from Nationwide, Halifax and the Council of Mortgage Lenders regarding the fall-off in mortgage lending - about 70% down as of late-2008. It has also been informed by what housebuilders are saying about starts in 2009 (both in public and informally to the Consultants). Whilst figures are produced by District for the purpose of the HHS, the trajectory is trying to take a strategic view and not identify differences in prospects by District. In any event, whilst house prices in one District may be higher than in many other parts of the County, the Consultants would expect the collapse of mortgage lending to impact on purchases and new build housing starts. The anecdotal evidence of early 2009, by which time the country was in a full economic recession, is that this is very much the case.

Population Forecasts

- 4.25 The population forecasts are not only needed to inform the calculation of infrastructure requirements across the service areas, but also specifically to inform the transport modelling undertaken as part of the study. The modelling required information on dwelling, population, household and employment change and absolute levels at 2021 and 2031.
- 4.26 Table 4.2 gives population forecasts for the ten Districts of the County. Each District is divided between the population living in the 'old' – pre-2008 – housing and the new development areas. In some Districts there is more than one development area: thus, for Dacorum, the table distinguishes new development in Hemel Hempstead from new development in the rest of the District. The figures in the table relate to the numbers of dwellings that are planned to be delivered within the administrative boundaries of that District. In other words, it has taken account of where housing figures provided in the adopted RSS for a particular District, are to be delivered in the adjacent District, e.g. Stevenage growth in North Hertfordshire.
- 4.27 An important point to note is that these population and household projections are not appropriate to be used at the District level. The way that the RSS housing figures are

presented in Policy H1 is complex. As has been stated, for the purposes of the transport modelling, the Consultant has had to re-cast these at the District level. The way they were derived in the RSS did not lend itself to doing this easily. Much of the housing requirement in the KCDCs was spread over District boundaries and the policy deliberately did not specify how much growth would fall in each District. So the Consultants have used the best available information (including the masterplanning work) to produce housing requirements at the District level. With this informing the subsequent population and household projections, the same principle has applied.

- 4.28 Therefore, these population projections derived for the HHS may, in some Districts, differ from District level projections used to inform local planning work. By following the spatial breakdown in the RSS, they can only be applied to the KCDC and County level. So for any one KCDC, the overall population projection will tally with the RSS requirements whereas any single component for an individual part-District within that KCDC may or may not tally with an independently derived district projection. Therefore, this potential difference will follow through to the overall total population projection for that particular District. The same applies to any individual constituent part making up the County total, which is the sum of the KCDCs plus the remaining parts of the County.
- 4.29 This approach has not only been taken because of the way the RSS requirements are presented but also because the needs of the strategic service providers are not determined at the local level; they are determined strategically. Therefore, it is important and necessary for the strategic infrastructure providers to plan on the same strategic spatial scale.
- 4.30 This will be used to inform the strategic element of the CIL. All locally determined items, which will represent the local element of CIL, should have their needs derived from their respective District's population projections. For reasons explained above, this will necessarily differ from those projections used in HHS. The demographic assessment has been developed principally for the purpose of deriving the strategic element of CIL and the information within it should not be used for any other purpose, including deriving the local element of CIL.

Table 4.2 - Population and Households by District, 2021 and 2031

District	Settlement Extension	Dwellings 2008/9 - 21	Dwellings 2008/9 – 31	Population by settlement / rest of district 2021	Population by settlement / rest of district 2031	Households by settlement / rest of district 2021	Households by settlement / rest of district 2031
Broxbourne new		3,109	5,909	5,790	11,702	3,047	5,791
Broxbourne old				82,560	74,671	37,372	37,372
Broxbourne Total				88,351	86,373	40,419	43,163
Dacorum new	Hemel Hempstead	5,180	7,830	9,647	15,506	5,076	7,673
	Rest of Dacorum	1,548	3,998	2,883	7,917	1,517	3,918
Dacorum old				139,984	137,557	58,523	58,523
Dacorum Total				152,514	160,980	65,116	70,114
East Hertfordshire new	Harlow	2,300	6,500	4,284	12,872	2,254	6,370
	Rest of East Hertfordshire	6,226	8,600	11,595	17,031	6,101	8,428
East Hertfordshire old				137,949	130,553	55,486	55,486
East Hertfordshire Total				153,828	160,456	63,841	70,284
Hertsmere new		3,238	5,838	6,030	11,561	3,173	5,721
Hertsmere old				96,070	92,562	39,599	39,599
Hertsmere Total				102,100	104,123	42,772	45,320
North Hertfordshire new	Stevenage	7,164	12,164	13,342	24,088	7,021	11,921
	East Luton	2,100	4,000	3,911	7,921	2,058	3,920
	Rest of North Hertfordshire	1,900	3,766	3,539	7,458	1,862	3,691
North Hertfordshire old				128,413	125,633	52,995	52,995

District	Settlement Extension	Dwellings 2008/9 - 21	Dwellings 2008/9 – 31	Population by settlement / rest of district 2021	Population by settlement / rest of district 2031	Households by settlement / rest of district 2021	Households by settlement / rest of district 2031
North Hertfordshire Total				149,205	165,100	63,935	72,526
St Albans new	Hemel Hempstead	2,608	5,408	4,857	10,709	2,556	5,300
	Rest of St Albans	4,695	6,765	8,744	13,397	4,601	6,630
St Albans old				109,860	94,931	55,111	55,111
St Albans Total				123,461	119,037	62,268	67,041
Stevenage new	Stevenage	5,036	8,500	9,379	16,833	4,935	8,330
Stevenage old				73,475	66,450	34,087	34,087
Stevenage Total				82,854	83,282	39,022	42,417
Three Rivers new		2,395	4,395	4,460	8,703	2,347	4,307
Three Rivers old				79,759	75,461	35,011	35,011
Three Rivers Total				84,219	84,164	37,358	39,318
Watford new		3,253	5,853	6,058	11,591	3,188	5,736
Watford old				76,839	71,325	34,251	34,251
Watford Total				82,897	82,916	37,439	39,987
Welwyn Hatfield new	Welwyn Garden City	1,623	2,203	3,023	4,363	1,591	2,159
	Hatfield	2,736	6,320	5,096	12,515	2,681	6,194
	St Albans	80	416	149	824	78	408
	Rest of Welwyn Hatfield	1,399	1,899	2,605	3,761	1,371	1,861
Welwyn Hatfield old				106,393	105,781	43,926	43,926
Welwyn Hatfield Total				117,265	127,244	49,647	54,547

Source: Consultants calculations using population projections from Hertfordshire Property

Deriving the Employment Requirements

- 4.31 Table 4.2 provides the dwelling, population and household numbers for each of the relevant areas. Also needed for the transport modelling were the employment forecasts by District up to 2021 and 2031. In Policy E1 the RSS provides 'indicative' employment growth targets up to 2021 and says that these targets should be used by local authorities as guidance, but may be tested and revised in the process of preparing LDFs. These forecasts, with minor variations, have survived through successive versions of the emerging RSS. Several Hertfordshire London Arc employment land studies undertaken over the past few years have expressed reservations about the E1 figures, but found that there was no convincing alternative and, therefore, used these figures to forecast land demand - except in Broxbourne, where the study suggested that the E1 figures were not credible, and a trend-based scenario has been used as a stop-gap. Therefore, whilst there is a question mark over using the E1 figures and, for the purposes of this study, the figures have simply been rolled forward to 2031.
- 4.32 In the intervening period, an alternative economic forecast has emerged, through the Joint Modelling study commissioned jointly by EERA and EEDA. This study will both feed into the early review of the RSS (which started just weeks after final publication of the current RSS) and inform the review of the Regional Economic Strategy. It was carried out by the consultancy Oxford Economics (OE) and has produced an integrated model that generates consistent forecasts and scenarios for the economy, demography and housing to 2031¹. To provide an alternative to the E1 targets, the consultants used forecasts commissioned from OE for the London Arc Employment Study². Equivalent forecasts were separately commissioned from OE for the remaining three Districts outside the London Arc – East Hertfordshire, Stevenage and North Hertfordshire – in order to provide consistency across the whole County.
- 4.33 The OE forecast has an important advantage over E1 as it 'knows' the actual employment statistics for the period 2001-06. In this period, the region's employment growth was considerably above the E1 scenario, but the Hertfordshire London Arc's growth was considerably below it. The OE scenario partially carries forward this underperformance into the future. Accordingly, it shows considerably slower growth than E1, with 30,600 net new jobs from 2001-21 and 34,200 net new jobs from 2006-21 (therefore reflecting an actual decline in jobs between 2001 and 2006). This compares to a figure in the draft RSS for the London Arc of 50,000 jobs between 2001 and 2021³. It must be remembered that these figures are for the London Arc only and the figures for the other three Districts in Hertfordshire need to be added in as well.
- 4.34 As an attempt to predict the most likely economic future, and hence the potential market demand for land and premises, the OE's scenario is considered to be more credible than E1, because:
- E1's method and assumptions are not transparent, partly because the Experian forecast that underlies E1 was prepared more than five years ago;
 - E1 earlier is based on very old data;
 - It is disproved by actual data for the period 2001-06;
 - In particular, the Consultants do not know the population and housing assumptions on which E1 rests and have no reason to believe that they accord with the housing provision proposed in the RSS;
 - E1 is policy-driven, based on a regional economic target which has since been abandoned;
 - E1 only runs to 2021, whereas the Councils in their LDFs aim to look to 2026 and beyond.

1 Oxford Economics, Arup, East of England: Joint Modelling for the RES and RSS, Final Report, Revised August 2008.

2 Broxbourne, Dacorum, Hertsmere, St Albans, Three Rivers, Watford and Welwyn Hatfield Councils (2009) *Hertfordshire London Arc Jobs Growth and Employment Land*, Roger Tym & Partners

3 The adopted RSS does not provide a figure for the London Arc; rather its requirement of 50,000 jobs is subsumed into the Hertfordshire-wide figure of 68,000 jobs.

- 4.35 As shown in Table 4.3, the forecasts give the following net employment change to 2021 and 2031. This illustrates the slower growth with the OE forecasts as compared to Policy E1. Under E1 there was a requirement for 50,000 jobs across the seven Districts of the London Arc between 2001 and 2021. However, OE, having taken into account what happened between 2001 and 2006, considers that only slightly more than 50,000 jobs can be delivered over the period 2001-2021 by all ten Hertfordshire Districts, i.e. include the three non-London Arc Districts.

Table 4.3 - Net Employment Change, 2006-2021 and 2006-2031

District	Net Employment Change			
	2001-2006	2001-2021	2006-2021	2006-2031
Broxbourne	2,854	4,868	2,014	2,417
Dacorum	-5,475	3,764	9,239	18,148
East Hertfordshire	5,300	8,804	3,504	4,073
Hertsmere	-5,647	174	5,821	11,405
North Hertfordshire	-4,400	2,492	6,892	11,143
St Albans	1,283	2,147	865	-179
Stevenage	-100	8,755	8,855	13,802
Three Rivers	4,406	6,531	2,125	2,662
Watford	-6,935	-2,487	4,448	8,222
Welwyn Hatfield	5,927	15,586	9,659	17,741
Total	-2,787	50,634	53,422	89,434

Source: Oxford Economics

- 4.36 It was not possible to divide this forecast by settlement as it is not clear exactly where the employment will be located in each District. Also, figures for East Hertfordshire take into account additional employment as a result of the growth of Harlow. For Harlow districts, the forecasts show employment change between 2006 and 2021 of 10,500 jobs and between 2006 and 2031 of 24,200 jobs. However, it is not possible to break this down to specifically show what proportion of this would be at Harlow North, i.e. within East Hertfordshire district. This work will only be done as part of a detailed Harlow North masterplanning exercise, outside the scope of this study.

Summary

- 4.37 This necessarily detailed section has explained how the dwelling, population, household and employment forecasts have been derived. It is important to understand the value of these forecasts. They do not directly enable the calculation of infrastructure needs or the funding of those needs. Moreover, many of the infrastructure items that are required in an area are derived simply by dwelling, rather than from the population or household sizes within those dwellings. Examples include waste and utilities.
- 4.38 However, for many of the major contributors to infrastructure need – such as education, health and childrens' services – the future structure of the population and the way they are housed must to form the basis for their future planning. In reality, many of these service providers will already have their own forecasting techniques and will therefore derive their own view on future needs. In such circumstances, the forecasting undertaken within the HHS Study will provide an important 'sense check' on the assumptions made by service providers and therefore, the expected outputs. Where projections are substantially different there will be a reason why and it will be important to consider which projection reflects a more realistic scenario and therefore the changes that may be required in the assessment of overall need. However, the intention must be that ultimately, all service providers use a commonly agreed series of forecasts so that there is consistency in the assessment of needs.
- 4.39 Where the forecasting undertaken here plays an immediate and vital role is by providing the necessary demographic inputs to the masterplanning work discussed in the previous chapter. For the purposes of the HHS Study, this modelling will assist in setting the transport charge, which will

constitute the largest single item within the CIL. Over the long term, the modelling provides the information that should inform service providers' thinking as to future needs, even if they are unable to articulate this within the timescales of the HHS Study. This section has also explained that these projections should be treated with caution in the way they are interpreted outside HHS, as they have been derived for the purpose of this study alone and should not be used for other planning purposes.

5. Infrastructure Needs and Costs

- 5.1 In order to derive the CIL level, it is first necessary to assess the infrastructure needs associated with growth, and their costs.

Historic Infrastructure Deficit

- 5.2 Discussions with stakeholders and service providers as part of the HID assessment helped to define what a historic infrastructure deficit is. This was crucial to establishing a baseline position so that the needs related to growth can be separated from existing deficits. As a result deficiency was defined as infrastructure that is:

- Inadequate in size to serve the needs of the current population as evidenced by excess demand or other than in cases such as open spaces where the scale of provision falls short of widely adopted planning benchmarks;
- Clearly functionally inadequate when measured against typical current standards or adopted policy.

- 5.3 Considerable time was spent with service providers helping them to separate out needs related to growth from those that are historic deficits. The only infrastructure area where it is not possible to separate out historic deficit from future need is transport. Therefore, many of the identified transport needs will also directly be addressing current congestion points. But for all other infrastructure needs, growth items need to be separated from deficits, in order to derive a robust CIL charge. It is evident that there is still work to be done by service providers in this respect.

Masterplanning/Assignment of Growth

- 5.4 The masterplanning exercise (reported in Section 3) provides an indication of where growth in the KCDCs could be accommodated. Housing growth not included in locations for which masterplans were prepared has been assigned to other areas in Hertfordshire. Once existing commitments have been taken into account, assumptions have been made about the location of growth by District. This exercise has focused growth on the existing urban areas.
- 5.5 Both the HID and masterplanning strands of work have informed discussions with service providers so that they can begin to assess the implications of large scale housing growth in the County for the provision of their services and in order that they can identify the likely infrastructure requirements of growth. The masterplanning and growth assignment work has also been used to identify housing inputs for the specific EERM transport model zones.

Generic Issues and Approach to Defining Infrastructure Needs

The Distinction between Capital and Revenue Funding

- 5.6 It is normally accepted that planning contributions should be primarily focused on providing the physical investment needed to mitigate development impact. In reality what is required can take the form of a one-off capital investment in a facility or amenity or recurring expenditure on supporting the new population. The planning contributions system is currently biased towards the former. In financial parlance, the distinction is made between capital and revenue expenditure but in the guidance on both the use of section 106 and CIL there is more reliance on common sense definitions and some distinctions are implied. For instance, Circular 05/2005 on Planning Contributions talks about assets and facilities as legitimate targets for contributions and distinguishes these from maintenance costs which it regards as only recoverable in limited

circumstances⁴. The CIL Guidance refers to a 'wide definition of infrastructure' but the examples given again emphasise facilities and amenities rather than revenue funded services.

- 5.7 This carries through to the provision for commuted sums in Circular 05/2005 which refers to them purely in the context of physical upkeep⁵. The CIL Guidance makes no reference to this at all.
- 5.8 For many service providers this is an artificial distinction. While the marginal cost of maintaining an extra stretch of road or watercourse might primarily be attributable to its physical upkeep, the main part of the burden of running an additional community centre might comprise the cost of managing it and the services it provides. While it can be argued that these can be paid for out of the extra Government funding and community charge revenue arising from an increase in the population, the same argument can be applied to the cost of maintaining the road. Finally there are some revenue costs, such as the employment of community development workers during the formative years of a scheme, that would seem to be squarely addressed at mitigating the social impact of new development but which would probably be irrecoverable on a strict reading of the Guidance.
- 5.9 Where other service providers are concerned, the distinction between capital and revenue costs can be even more unclear. The cost of acquiring a building or a vehicle in the case of the emergency services in particular, can be shouldered as a capital expense through purchase or as a revenue expense by leasing or borrowing.

The HHS Approach

- 5.10 It is difficult to distil a simple and equitable approach in these circumstances. In this analysis the funding requirements incorporated generally reflect the expressed views of the various service providers. In many cases in the past, these views have not taken into account the full range of issues, particularly the viability of development. This raises the risk that the viability of development and the prospects of achieving an optimal mix of supporting infrastructure will be jeopardised by requirements for higher developer contributions towards each element of provision than are reasonably necessary.
- 5.11 What follows is the Consultants' recommended approach to the calculation of the funding needs of key service providers. However, it is beyond the scope of this study to examine every element of every requirement from every service provider, with the requisite knowledge to recommend alternative ways of providing key services. What is possible is to consider some alternative general basis of budgeting, especially in the longer term. It reflects the proposition that the calls on planning contributions are increasing at a time when land values are under pressure.
- 5.12 Assuming that the overall level of planning contributions is maximised within viability constraints, the general aim of sustainability will best be served if mainstream funds are used to provide types of infrastructure that cannot be funded by any other means. This would involve service providers actively manipulating their investment plans to support the growth agenda. That might be inconvenient to some service providers, but if reasonable assumptions are made about the scale of funding that they might reasonably expect to enjoy in the future, it would not be impossible in the medium to longer term. Clearly circumstances can change for better or worse. The review mechanism built into any useful infrastructure plan should provide a way of ensuring that any initially over-optimistic assumptions about future mainstream funding do not impact on the ability to procure the infrastructure required.

Local Authorities

- 5.13 Local authorities are providers of a wide range of services. An analysis of their funding arrangements is beyond the scope of this analysis. Basically, it comprises Central Government

⁴ Section B18 onwards

⁵ Ibid

support based upon population characteristics and community charge contributions which are capped at certain limits. Elements of Government support are ring-fenced, primarily for education and housing. There is a relatively sophisticated system for planning transport investment and that is dealt with separately as part of the transport study.

- 5.14 The level of this support is determined at the margin by the application of the 'floor damping' mechanism to revenue budgets. This means that local authorities in more prosperous areas get more than they might be entitled to on a strict application of the relevant national funding formulae. The Government deems this sum to be adequate to meet their needs and strictly reduced access to any additional funding (this additional entitlement is paid for by reducing the amount that local authorities in other areas might otherwise have expected to get). Capital expenditure is funded by Central Government either through grant or as supported borrowing where the local authority receives an annual sum equivalent to the notional annual cost of financing the capital investment required. The latter is effectively caught by the floor damping mechanism, with the result that local authorities 'on the floor' only benefit if they have been unusually parsimonious while other local authorities are not fully recompensed. The Consultants' understanding is that Hertfordshire County Council is a floor authority and on this basis, the supported borrowing mechanism is effectively of no value to it.
- 5.15 In the analysis that follows, this has particular implications for investment in education mainly because of the costs involved in providing schools. The Government view seems to be that floor authorities which are, by definition, in relatively more affluent areas, should be regarded as adequately funded, having fewer of the needs associated with deprivation. Understandably the local authorities in growth areas, in particular, do not share this view.
- 5.16 While budgets for education and health have risen rapidly over recent years, and there is mainstream support for social services and 'early years' services; the same cannot be said of the funding for the rest of local authority activity. Analysis of District Council accounts usually reveals a comparatively modest capital programme especially when set against the costs of responding to the growth agenda. A recurring pattern is the extent to which capital investment in recent years has been funded by asset sales. This source of finance is, by definition, finite so the medium term outlook for local authority-led capital programmes is not encouraging. This needs to be reflected in the allocation of planning contributions, simply because, in the absence of developer contributions, there is no alternative mainstream means of funding environmental and community facilities.
- 5.17 One area of opportunity is the use of Private Finance Initiatives (PFI) and there are currently budgets for waste and emergency services. In both cases, economies of scale mean that it is only realistic to use these to respond to the pressure of housing growth in the context of a County-wide investment scheme.
- 5.18 There is also continuing pressure to achieve efficiency savings through reductions in revenue budgets. One response to this has been policies aimed at charging developers commuted sums for maintaining and managing new (and in some cases existing) facilities. These could be seen as going beyond the guidance in Circular 05/2005. In the future it might be more appropriate to make a generic allowance for maintenance and attendant management costs where these are solely attributable to the additional development and, following Circular 05/2005, for the period of years up until the point at which the growth in population should be reflected in the capitation-based funding streams.

Defining Strategic and Local CIL Items

- 5.19 The HHS study examines infrastructure needs across a whole range of services. These are either strategic or local in terms of the needs they serve. It will therefore be appropriate for certain items to be dealt with by way of a strategic CIL charge, and for other more local items to be dealt with through a local CIL charge. **It is important to note that there is no hierarchy of charging**

between strategic and local CIL items – both should hold equal weight as part of an overall charge.

- 5.20 Strategic items are those that provide for infrastructure needs that cross a number of Districts. Some of these, such as transport, are self evident, whereas others have required more careful consideration. Individual items may be local but the overall provision of the service considers needs on a strategic scale – this will include health and Children’s Services/Adult Care. Local items are those where needs should most appropriately be determined by the particular local authority. It is this latter consideration that helps to identify which category certain less clear cut items should fall into.
- 5.21 The rationale for a local CIL, rather than local items being addressed by a standard charge, is provided by the draft CIL Regulations. Paragraph 20 of the CLG, Community Infrastructure Levy, August 2008 states that:
- ‘The Government is considering whether restrictions on the use of planning obligations should be made once CIL is introduced. There would be a transitional period before any restriction would take effect.’*
- 5.22 Para 5.10 of the document also states that:
- ‘Other options include reducing the scope of planning obligations through a narrower set of criteria than those set out in Circular 05/05, or preventing planning obligations from being used to secure developer contributions through the use of standard charges.’*
- 5.23 The Districts could, therefore, be in a situation whereby section 106 contributions are significantly reduced and standard charges may no longer be appropriate. A local CIL is, therefore, an appropriate way of taking such needs forward.
- 5.24 Accordingly, it is the view of the Consultants that the infrastructure services considered by HHS should be categorised as set out in Table 5.1. The justification for this is contained in the remainder of the chapter.

Table 5.1 – Categorisation of Infrastructure Types

Infrastructure Service	Strategic CIL	Local CIL	
Adult care	Yes		
Ambulance	Yes		
Children’s Services	Yes		
Community facilities		Yes	
Cultural facilities		Yes	
Education	Yes		
Employment/retail	Insufficient justification at present for charge		
Fire	Yes		
Flood Defences			Site specific charge
Green Infrastructure (strategic)	Yes		
Health	Yes		
Indoor sports facilities		Yes	
Libraries		Yes	

Infrastructure Service	Strategic CIL	Local CIL	
Municipal waste	Yes		
Open space, sport and recreation		Yes	
Police	Yes		
Transport	Yes		
Utilities – electricity			Site specific charge
Utilities – gas			Site specific charge
Utilities – potable water supply			Site specific charge
Utilities – waste water			Site specific charge
Waste collection		Yes	
Youth facilities		Yes	

- 5.25 The following section deals with strategic CIL items first, then items that should be subject to a site specific charge and lastly local CIL items. These are listed alphabetically so as not to place a priority on any individual item over another. For each item there is a brief discussion of the main issues. Further detailed discussion of the wider issues is contained in Appendix B.

Strategic Infrastructure Needs and Costs

Adult Care Services

Anticipated Need

- 5.26 Adult social care covers the following issues:
- Adult Care Services (20-64 years);
 - People with Physical and Sensory Disabilities (18-64);
 - People with Learning Disabilities 18-64;
 - Older Peoples Services (65+ years).
- 5.27 Increasingly, the lines between adults' social care and other services are being intentionally blurred in order to provide a more coherent service to the individual. The Government's White Paper 'Our Health, Our Care, Our Say' promotes multi-agency, integrated community facilities such as Health and Social Care Centres, Community Centres, and extended schools.
- 5.28 In Hertfordshire, as elsewhere, there is a move to a more bespoke, personalised level of support for older people, adults with disabilities and/or mental ill health and carers. New ways are now being developed to support older and disabled people to live independently within their communities.
- 5.29 One of the implications of this change in approach is that the new build programme directly provided by adult social care in Hertfordshire is likely to reduce, with increased working in partnership with the private and voluntary sectors.
- 5.30 The County Council has not been able to indicate whether a significant level of new infrastructure will be required as a result of the proposed growth in dwelling numbers. Either way, ensuring that existing and new buildings are accessible will be a key element of future service provision.

Growth in the numbers of elderly people will lead to a demand for more services, but these will largely be met by services commissioned from the private sector.

- 5.31 As will be shown below, to date there have been no identified requirements or costs. As such, the question of timing does not arise.

Cost

- 5.32 Because of the lack of information, it is not possible to determine whether there are any significant capital costs as a result of the new development.

Priorities

- 5.33 No specific priorities have been identified.

Recommendation

- 5.34 It is recommended that Adult Care Services are included as a CIL item. However, a substantial level of additional work is needed to be able to justify a figure in the CIL. In particular, the service will need to develop a proper forward strategy in order to properly understand needs that will arise from growth. It will then need to use the demographic forecasting and masterplanning work to determine the precise needs by location, across Hertfordshire. Timescale for action: IMMEDIATE

Ambulance

Anticipated Need

- 5.35 The East of England Ambulance Service NHS Trust (EEAST) provides emergency and unscheduled care and patient transport services in Hertfordshire. The Consultants understand that no specific studies or strategies to identify infrastructure needs as a result of growth in Hertfordshire have been completed to date. Indeed, some more detailed physical planning relating to new development has been frozen due to the abrupt slow down in housing development.
- 5.36 At this stage the Consultants have, therefore, taken a high level approach to estimating ambulance service infrastructure requirements in the absence of any firm information from EEAST. Existing staff to population ratios are used to estimate new staff requirements based on population increases, with a corresponding new requirement for ambulance stations and vehicles (i.e. new capital requirements).
- 5.37 The Consultants have used an ambulance staff to population ratio of 1:1,000, based on the experience elsewhere. Based on the population estimated in the new housing growth (200,786), this gives a high level estimation of new staff of approximately 200. Assuming a new station is required every 40-80 new staff (depending on size and location of the station), and a new vehicle (plus equipment) for every 10 new staff, this equates to 2-5 new stations and 20 new vehicles.

Cost

- 5.38 The Consultants' research found that the Scottish Assessors 2005 replacement cost estimation for ambulance stations indicates a cost of £900 per sq m for 'standard' stations and £1,150 per sq m for 'good' stations (including Control Centres). It is understood that a new station for approximately 80 staff and 30 vehicles, costs in the order of £3.5 million.
- 5.39 The Consultants have assumed a station cost of £2 million on the assumption of an average station staff size of 40 and £135,000 per vehicle. Assuming that five stations are needed at £2M per station, this would cost £10M. Some 20 new vehicles at £135,000 per vehicle would cost £2.7M, therefore, the total cost would be £12.7M. A table showing the requirements, costs and funding assumptions is set out in Appendix B. It is recommended these are reviewed in more detail with EEAST in due course. Priorities
- 5.40 In terms of which of the growth locations is a priority, EEAST has given no further views than that set out above.

Recommendation

- 5.41 It is considered that the requirement for ambulance facilities should be met by a strategic CIL charge. However, this must be supported by robust evidence and therefore further work is needed in this area in order to fully justify its inclusion as a CIL item.
- 5.42 Further work is also needed with EEA to determine whether the assumptions made in assessing need are reasonable. Timescale for action: SHORT TERM

Children's Services

Anticipated Need

- 5.43 Since April 2006, education and social care services for children have been brought together under a Director of Children's Services in each local authority. Children's social services have a general duty to safeguard and promote the welfare of children, with specific responsibilities to support:
- Children at risk;
 - Disabled children; and
 - Looked after children.
- 5.44 As part of their general duty towards children, local authorities are also responsible for delivering a nationwide network of Children's Centres, service hubs where children under five years old and their families can receive seamless integrated services and information. Under the Ten Year Strategy for Childcare, every community will be served by a Children's Centre by 2010, with a target of one centre per 800 children under five.
- 5.45 Children's Centres are expected to be local and accessible to parents, so each is only expected to deliver to a relatively small geographic area.
- 5.46 Hertfordshire County Council is in the process of providing child care spaces on the basis of a new building for every 800 children. Each will provide an integrated 'one-stop' facility covering childcare, health and parenting services. The calculations were done based on need as of 2005, with some adjustment since then for new population numbers. The 82 centres that will be operational in Hertfordshire by March 2010 will be sufficient for the existing population of young children. Any new development will mean a requirement to develop a new Children's Centre.
- 5.47 Hertfordshire County Council envisages that, for any new growth location (i.e. East Luton, Harlow North or the KCDCs), they would create a Children's Centre alongside or as part of any new primary school with foundation stage provision that they were creating. They also stated that they would consider the need for any pre-school/daycare places for under fives as it would make sense to build these alongside the Children's Centre and school. However, specific needs have not been identified.

Cost

- 5.48 It has not been possible to attribute any costs to these services.

Priorities

- 5.49 No specific priorities have been identified.

Recommendation

- 5.50 It is recommended that Children's Services should be included as a CIL item. However, a substantial level of additional work is needed to be able to justify a figure in the CIL. In particular, the service will need to develop a proper forward strategy in order to properly understand needs that will arise from growth. It will also need to justify its approach to the use of different types of centre.

- 5.51 Along with this, it will need to work closely with the education, health and local planning authorities to consider the merits of co-locating in more centralised 'one stop' facilities. Timescale for action: IMMEDIATE

Education

Anticipated Need

- 5.52 The Consultants have assessed anticipated needs for Primary, Secondary and Further Education, all of which are primarily delivered by Hertfordshire County Council.
- 5.53 It should be noted that education is now part of a wider approach to children's services. Every Child Matters White Paper and the Children Act 2004 focused on providing a joined up approach to Children's services. There are a large number of changes under way affecting the delivery of children's education service delivery, including greater parental choice, the move to transfer post 16 education funding from Learning and Skills Councils to local authorities in March 2010, the creation of Children's Centres, Sure Start programmes, Extended School provision, the creation of Academies, Voluntary Aided Schools, and delivery and roll out of programmes such as Building Schools for the Future to help rebuild or refurbish existing schools. Anticipated needs could, therefore, be subject to significant change in the future.
- 5.54 To understand the precise education infrastructure requirements resulting from housing growth, an assessment of existing, and projected, surplus capacity is required. This then needs to be compared against the likely location of new growth, which has been assessed as part of the masterplanning exercise (see Section 3), to establish the need, type and location of new schools in the County. It is understood that this is still in the process of being carried out but, in any event, it is not possible to project local demand accurately over a long time period due to variability in local births.
- 5.55 In addition, while this will establish net new education requirements, it does not take account of capital expenditure required on existing schools. Although the current CIL guidance stipulates that CIL should not be used to remedy historic deficit, it is not clear how the reverse situation will be dealt with i.e. to what extent new housing development can take advantage of existing capacity and, thereby, reduce the contribution required from developers under CIL from what would otherwise be required where no existing surplus was available.
- 5.56 As set out in Section 4, total population in the Hertfordshire Districts is either projected to remain broadly stable or decrease up to 2031, despite new housing growth. However, many existing schools in Hertfordshire are not in the right location to meet need. In particular, those in the 'new towns' of Hertfordshire were built in central locations. These new towns are now established towns, with an ageing population and less demand for school places. Most of the school age population is located on the perimeter of these towns in more recent developments. This pattern is likely to continue in the future with additional provision being required for new housing whilst at the same time in other, established locations, demand may be static or in decline.
- 5.57 In the absence of growth, the capital potentially generated by the closure and sale of existing school sites could be reinvested in the current school portfolio. This could be critical to maintaining the desired quality of service, where existing mainstream funding will not be sufficient. An assessment of the condition, and required works, to the existing education stock is also required.
- 5.58 Consequently, the Consultants have assessed requirements on the basis of the estimated number of new school aged pupils generated by new housing growth at this stage rather than actual schools (see Table 5.2). It is recommended that this approach should be reviewed and revised, as necessary, when new, or more detailed, information is available.

Table 5.2 – School Age Population from Housing Growth (to 2031)

Age	School Category	Estimated Population (to 2031)
5-11 years	Primary	19,116
11-16 years	Secondary	20,668
16-18 years	Further Education (inc. Sixth Form)	6,833

Source: Projections carried out by Hertfordshire Property

- 5.59 It should be noted that, in terms of 16-18 year olds, the figure given in Table 5.2 does not represent the actual number of people that will require further education (FE) spaces. The Consultants have been asked to use the target of 80% of pupils staying on to sixth form and understand there are no sixth form colleges in Hertfordshire. This equates to an estimated population requiring FE provision of 5,466.

Cost

- 5.60 The cost for education provision for this study is based on a cost per pupil for new or refurbished/extended school provision. This is summarised in Figure 5.1.

Figure 5.1 – Education Requirements Calculation

Estimated school aged population X Cost per pupil for new/refurbished school provision = Education Infrastructure Cost Requirement

- 5.61 The Consultants have been provided with the estimated standard costs and sizes for new primary and secondary schools (based on the West Stevenage bond schedule) as set out in Table 5.3.

Table 5.3 – Estimated Standard Costs and Sizes (Primary and Secondary Schools)

School Category	Cost (BCIS 1Q2006)	Cost (BCIS 2Q2008)	No. of Pupils	Cost per Pupil (at 2Q2008 cost)
Primary	£6,115,342	£6,531,185	450	£14,514
Secondary	£20,375,472	£21,761,003	1,080	£20,149

Source: HCC

- 5.62 While in reality some schools could be refurbished/extended to accommodate pupils arising from new housing growth, it is assumed, for current purposes, that these costs should be the same as for new build.
- 5.63 Based on the above costs and estimation of pupil numbers generated by new housing growth, the education infrastructure costs are derived (see Table 5.4).

Table 5.4 – Education Infrastructure Costs

School Category	Estimated Population (to 2031)	Cost per Pupil (at 2Q2008 cost)	Estimated Infrastructure Cost
Primary	19,116	£14,514	£277.5M

School Category	Estimated Population (to 2031)	Cost per Pupil (at 2Q2008 cost)	Estimated Infrastructure Cost
Secondary	20,668	£20,149	£416.4M
Further Education (inc. Sixth Form)	5,466*	£20,149	£110.1M
TOTAL	45,250	-	£804.0M

* adjusted to 80% of estimated population

Source: HCC / Consultants

Priorities

- 5.64 No specific education infrastructure priorities have been identified by the County Council.

Recommendation

- 5.65 Education is recommended for inclusion in the strategic CIL. This will allow the County Council (and other education providers in the County) flexibility to utilise existing capacity and make best use of developer contributions to plan and provide new education infrastructure across the County.
- 5.66 The shape of future provision and age ranges is likely to be substantially different to the system that has operated to date. There is an increasing move to merge secondary and post 16 provision in some of the new schools and have through schools from Age 11 to 19 years. This means that education requirements will need to be reviewed on a regular basis. Timescale for action: SHORT TO MEDIUM TERM

Fire

Anticipated Need

- 5.67 Hertfordshire Fire and Rescue Service (HFRS) is part of the Community Service Directorate of the County Council. The Fire Authority is the County Council. Portfolio responsibility for the fire service rests with the executive member for Community Safety.
- 5.68 HFRS is driven by the HCC attendance standards of one fire engine within 10 minutes and the 2nd within 13 minutes and 3rd within 16 minutes.
- 5.69 The Consultants are aware that there is generally less coverage in the north and east of the County. In particular, the northern areas surrounding the A10 corridor have been identified as a particularly difficult area in which to meet attendance standards. In terms of future requirements relating to new housing and jobs growth, detailed requirements are not known at this stage, as more information on the location, size and timing of future development is required before detailed planning will be undertaken. However, the masterplanning work (see Section 3) has been sent to HFRS, and the Consultants recommend that HFRS use this masterplanning as a basis for undertaking such analysis.
- 5.70 For the purposes of this study the Consultants have been provided with the following information by HFRS, although this may be subject to change and should, therefore, be reviewed in due course:
- If Harlow North accommodates 25,000 dwellings then a new fire station to cover the area is highly likely to be required. Should development only total about 10,000 dwellings, there is still the potential need for a retained (part time) station;

- Growth in the north of Stevenage may result in the need for a new station. Stevenage is currently the HFRS' busiest station, so there is limited capacity to deal with new housing growth as a result of workloads as well as attendance times. The identified need is for a new station (either RT or WT) or a relocation of Baldock in conjunction with a new station.

5.71 It is, therefore, assumed for the purposes of this study that two new stations are required.

Cost

5.72 In terms of costs, a new two pump station (such as may be required for Stevenage) is currently being built in Watford for approximately £5M. A new RT station (such as may be required in Harlow North) would be approximately £2M for build.

5.73 It is assumed a total cost for HFRS is approximately £7 million (excluding land acquisition costs).

Priorities

5.74 In terms of which of the growth locations is a priority, the HFRS has given no further views than those set out above.

Recommendation

5.75 It is considered that the requirement for fire and rescue facilities should be met by a strategic CIL charge. However, this must be supported by robust evidence and therefore further work is needed in this area in order to fully justify its inclusion as a CIL item. Timescale for action: SHORT TO MEDIUM TERM

Green Infrastructure (Strategic)

Anticipated Need

5.76 Green infrastructure is the responsibility of the ten District Authorities and the County Council along with numerous other organisations who are involved in the planning, creation, conservation and maintenance of green infrastructure.

5.77 For the purposes of setting the strategic CIL it is important to distinguish the elements of green infrastructure (GI) that are strategic and those that, although they form part of a wider network, are considered to represent locally significant GI. Strategic GI is those parts of the GI network that individually or collectively are of significance for more than one District and, therefore, could potentially be funded by the strategic CIL. Those elements of GI that are not strategically significant could be funded through the local element of CIL or section 106 / standard charges.

5.78 In assessing the GI needs from new development the general approach would be to apply standards of provision to the planned population increase in the County. This approach is possible at the local level where most Districts have completed PPG17 assessments and have adopted open space standards. However, at the County level, there are no adopted green space standards and there is no Green Infrastructure Strategy. In the absence of adopted standards, information has been sought from Hertfordshire County Council to identify the potential needs for GI arising from planned growth.

5.79 The provision of new Strategic GI will, in general, be opportunity led, and, in some cases, the provision of new strategic GI may be difficult to achieve. However, the provision of new GI may not always be the best way of meeting the needs of new growth; often the best option will be to make qualitative improvements to existing GI which could improve the accessibility to the GI network, or make improvements to those spaces that are likely to see an increase in usage as a result of planned growth.

5.80 Hertfordshire County Council prepared a Green Infrastructure Framework (January 2009) to respond to the need for new or enhanced green infrastructure to meet requirements from new housing and other growth. The GI Framework sets out the need to develop a GI strategy for the County that clearly highlights existing GI resources, gaps and deficiencies, sets out a strong vision

for improving and sustaining GI, identifies priorities, and proposes delivery mechanisms. At this stage the need for GI resulting from growth has been derived from information provided by HCC.

- 5.81 HCC advises that the planned growth will place additional pressure on each of the strategic GI assets identified above. However at this stage HCC have not provided evidence in support of this assumption as no detailed assessment of GI needs or a County GI strategy are in place. The County Council has indicated that several projects within the North East London Green Arc initiative would entail improvements to existing GI which they consider to be required to support growth. These projects include:

- Improvements to towpaths on the River Lee Navigation;
- Improvements to towpaths on the Stort Valley; and
- Improvements to Broxbourne Woods.

- 5.82 It should be noted that there are likely to be other GI projects that would be need to support growth but at this stage, they have not be identified.

Cost

- 5.83 The total cost for GI as identified by the County Council is £5.2M. This is based on estimates of costs for the above projects provided by Hertfordshire County Council and are quoted at current day prices (2008) with no allowance for inflation.

Priorities

- 5.84 The priorities for GI are not clear at this stage. The County needs to develop a Hertfordshire GI strategy that clearly sets out the priorities for the enhancement and provision of new GI to support growth.

Recommendation

- 5.85 Strategic GI should be funded by CIL in future; however, there is a need to carry out further work to assess the requirements from growth before the funding in the CIL can be finalised. Timescale for action: SHORT TO MEDIUM TERM.

Health

- 5.86 The prime focus of funding for local health services is the Primary Care Trusts (PCTs). Primary health care services in Hertfordshire are delivered by the West Hertfordshire NHS PCT and the East and North Hertfordshire PCT.

- 5.87 It should be noted that the following areas fall outside the HHS study:

- **Pharmacies and Optometrists** - PCTs do not financially support the initial provision or ongoing costs of pharmaceutical and optometric premises. This is a private sector function;
- **Dental Premises** - PCTs issue a contract to dentists but there are no ongoing capital or revenue issues. Dentists are contracted to provide an agreed level of units of dental activity. For this they receive an income. All running costs are charged against this income.

Anticipated Need

- 5.88 Appendix B discusses how population growth might be translated into demand for primary healthcare services. However, the situation is complex for a variety of reasons, not least the changing way that health services are procured and provided.

- 5.89 The health authorities have been unable to provide a sufficiently clear view on what is needed to support growth. In Section 11 on the way forward an indication is given of what is necessary for the health authorities to do to progress this work.

- 5.90 It is assumed that the infrastructure will be needed over the same build out period as the housing development. In the funding model, infrastructure costs are included pro rata in line with the assumed phasing of development.

Cost

- 5.91 Given the importance of health services to HHS, a figure for possible costs of £72M was agreed with the health authorities as an interim cost. Such a figure is based on typical experience elsewhere and it will be necessary to do work on local needs in order to derive clear costs.

Priorities

- 5.92 In the absence of a definitive view on the capital needs arising from growth, it is not possible to determine priorities. Therefore, a priority action for the health authorities is to define their needs clearly.

Recommendation

- 5.93 Health services are recommended for inclusion in the strategic CIL. This will allow PCTs maximum flexibility for rational planning of health services and to maximise the total developer contribution.
- 5.94 Significant further work is needed by the healthcare authorities to identify their needs and the associated funding that will be available. Timescale for action: IMMEDIATE.

Municipal Waste

Anticipated Need

- 5.95 County and Unitary Authorities are responsible for the treatment and disposal of municipal waste. Hertfordshire's County and District Councils have set up the Hertfordshire Waste Partnership (HWP). The HWP has set a target that, by 2012, 50% of all household waste will be recycled.
- 5.96 New households potentially give rise to the following requirements:
- **Civic Amenity Sites or Recycling and Household Waste Sites (RHWS).** These may need to be extended, redeveloped or relocated to accommodate the increased waste throughput.
 - **Waste Transfer Stations.** Depending on the location of new development, it may be more economical to transfer waste from collection vehicles for onward transport to treatment/disposal facilities.
 - **Waste Treatment Facilities.** These typically have a lifespan of at least 25 years and need to be designed to accommodate housing and waste growth over this period. It is generally not feasible to extend or upgrade waste treatment facilities and the capital costs for providing one large enough to deal with growth over its life a larger facility must be borne at the beginning of the project.
- 5.97 Feasibility work undertaken in 2008 has concluded that waste treatment facilities could be centred on a single site or multiple sites and that further analysis of site availability and planning prospects would be required. This work is progressing and a number of spatial combinations are being considered principally one or two processing sites. Therefore, needs have yet to be fully identified.

Cost

- 5.98 The different types of facility each have their own cost. A new Civic Amenity Sites/RHWS site may cost up to £2.5M, although this would include land costs. A maximum cost of £2M without land costs has been assumed. The cost of a waste transfer station is of the order of £1.5M. The cost of Waste Treatment Facilities depends entirely on the scale and technology adopted.
- 5.99 A figure of £200M for the provision of new waste disposal/treatment facilities has been identified by the HWP.

Priorities

- 5.100 No specific priorities have been identified.

Recommendation

- 5.101 It is recommended that the provision of strategic waste facilities for the disposal of waste should be included in the CIL. It is important to be clear that this does not include the collection of waste, which is a local item that should be dealt with by way of a local CIL charge. Once the details of the PFI scheme are finalised, it will be necessary to determine if any further work is required to assess needs. Timescale for action: SHORT TO MEDIUM TERM.

Police

Anticipated Need

- 5.102 The Hertfordshire Police Authority (HPA) has stated that it will have a deficit in the provision of resources in all of the areas where significant growth is planned. Specifically this relates to North Harlow, East Luton and the KCDCs.
- 5.103 Based on current information, there would be an operational requirement for an Intervention Base (also referred to as a Type 2 facility) in each of the KCDCs. These facilities comprise a standard specification office building with a gross floor area of between 1,100m² and 1,400m², plus 40 car parking spaces. This gives a land requirement of 0.4ha (1 acre).
- 5.104 It should be noted that, whilst the HPA propose a requirement for a facility of this size in all KCDC locations, it is anticipated that once further information is available on the exact location of the proposed development, social mix and associated infrastructure to be incorporated into development, it is likely that the requirement may reduce from an Intervention Base to a Neighbourhood Police Station which has an approximate gross floor area of 170m². Clearly this would provide a corresponding reduction in the associated capital cost.
- 5.105 HPA states it is critical that new or enhanced police facilities are provided early on as local police need to be able to build relationships with expanded or new communities from the outset, and to react to the need for police services, demand for which will typically commence as soon as growth starts. However, as the Consultants have not been provided with detail of this in relation to specific infrastructure requirements, it is assumed that the infrastructure will be needed over the same build out period as the housing development.

Cost

- 5.106 Based on recent projects at Hatfield, Stevenage and Hertford, the development cost (i.e. construction, professional fees, etc, but excluding the cost of land) of an Intervention Base at 2008 prices equates to £1,800/m². Therefore the capital cost of this facility (excluding land) is in the range of £1.98M to £2.52M. A total cost per Intervention Base of £2M is assumed.
- 5.107 The impact of the proposed developments at North Harlow and Luton East are likely to require not only the creation of a new Intervention Base but also custody provision which would be shared by the respective adjoining Forces (Essex and Bedfordshire). This would represent a significant capital investment which, based on recent developments undertaken, is likely to result in a net cost of approximately £20M (to maximise efficiencies, the HPA would close and dispose of existing inadequate cell accommodation in the surrounding area). There is a debate as to how much of this is attributable to these proposed developments and identification of a 'tipping point' associated to these developments. Depending on the exact location and timing of these developments, this 'joint' operational provision could be located in Hertfordshire. HPA are currently engaged with both Essex and Bedfordshire Forces and their respective County Councils to progress this issue.

- 5.108 The HPA considers there is a need for an Intervention Base to serve each of the KCDCs, so this would cost £15M (six centres at £2.5M each). Furthermore, additional custody centres would add a further £20M. Therefore, the total cost would be £35M.

Priorities

- 5.109 In terms of which of the growth locations is a priority, the HPA have given no particular view.

Recommendation

- 5.110 It is considered that the requirement for police facilities should be met by a strategic CIL charge. However, this must be supported by robust evidence, the framework for which is coming forward through the ongoing development of a charging formula. In order to fully justify its inclusion as a CIL item, further work is needed in this area. Timescale for action: SHORT TO MEDIUM TERM.

Transport

Anticipated Need

- 5.111 The Transport Technical Report should be referred to for definitive detail regarding the transport elements of the HIIS study, Sections 10 to 12 discuss interventions, needs, costs, and funding arising from growth. The transport investment is based upon the costs of all interventions required to cater for RSS growth.
- 5.112 Historic transport deficit has been identified and locations where further pressure will occur due to growth have been acknowledged. In many instances, it is impossible to ascribe a particular item of transport infrastructure to a particular housing growth area. The Transport Technical Report reflects a study that is necessarily at a strategic level, and does not seek to assign individual schemes to particular development sites, the multimodal interventions identified create sufficient capacity to enable the overall growth to be delivered. All schemes have an identified lead partner including those that cater solely for historic deficit.
- 5.113 The HIIS study has concentrated on primary infrastructure, which comprises the multimodal transport network outside the development sites, rather than secondary infrastructure which is everything the developer needs to provide within the development site. The specific transport infrastructure requirement for any given development will be influenced by its trip generation potential, which is linked to both land use mix and location relative to the existing network and services.
- 5.114 The Transport Technical Report identifies a full list of schemes that are necessary for growth (see Table 10.1). The list of schemes is based in the first instance on the County's Infrastructure Plans, and those of other providers such as the HA and DfT, and has been supplemented and confirmed by consultation with the various planning authorities following a series of workshops. The final list has been subsequently developed with new interventions to take account of strategic masterplanning (as set out in Section 3), Sustainable transport policy and practice and due considerations related to delivery of an appropriate and functional network. Where appropriate interventions have been tested in the East of England Regional Model.

Cost

- 5.115 The cost of infrastructure relates to the capital cost of transport infrastructure required to support anticipated future growth and demand. Costs identified in the Transport Technical Report (Chapter 11) are total costs.
- 5.116 Where possible, costs already identified for schemes from published sources have been used, such as those available from the inventory of deficit schemes (identified in Transport Technical Report Appendix B). Other cost estimates have been based on similar types of schemes; for example, the cost of a generic park and ride installation. For a number of the schemes it has been necessary to make reasonable estimates.

- 5.117 The HIIS project recognises the need to include soft infrastructure as part of the transport programme to support growth. This includes 'Smarter Choices' schemes; these have been costed and included in the funding model. The costing of Smarter Choices is based on the premise that these measures remove car trips from the road network. This represents a measurable saving, but is offset by the cost of Smarter Choice initiatives. An average cost per trip has been derived, through independent research and case studies, to estimate overall costs.
- 5.118 Costs are summarised in Table 11.3 of the Transport Technical Report by District, type and period (2011-2021 and 2021-2031). Overall costs are £1.1B up to 2031. For the period to 2021 costs are £936M, whilst costs for the 2021 -2031 period are £169M.
- 5.119 Costs in the period 2021-2031 are lower than those of 2011-2021, since the analysis has indicated that the majority of existing and new schemes identified for inclusion in the funding model will be required by 2021.

Priorities

- 5.120 Table 5.5 presents examples of the interventions that should be considered for prioritisation. They are not given in order of priority and should not be considered as the only schemes suitable for prioritisation. Priorities have not been given yet as the actual process will require finalising once plans for growth have been completed as part of the LDF process, and phasing of growth across the county is identified and confirmed in greater detail. Schemes that will be funded at the national level, such as the Thameslink Programme, have not been included in Table 5.5 as the HIIS partners can have little control over their implementation; however, such schemes should be considered essential for growth and lobbying to ensure that they progress is a priority.

Table 5.5 – Potential Priority Interventions

ID	Scheme	Reasons for Prioritisation
N1	Implementation of HCC cycling strategy	Facilitate reduction in car trips and therefore congestion, particularly for shorter journeys
N6	A1000/ B6426 bus priority	Enhancing bus services around Hatfield rail station and between Hatfield and Welwyn Garden City
N13	ATM J6-8	Improving north-south movement through the centre of the county and between Stevenage and Welwyn Hatfield
N18	A4147 corridor Junction improvements	Improved access between Hemel Hempstead and St Albans
N19	St Albans relief road improvements	Improved access around northern St Albans, facilitating local and other east-west movement
N25	A1(M) J8 Capacity enhancement	Improve access to the A1(M) for growth around Stevenage and A1(M) and reduce existing congestion
N27	Smarter Choices	Promotion of sustainable travel across the county will have county and local benefits
R11	Abbey Line passing loop	Improving rail connections between St Albans and Watford
S252	Watford Junction Rail Interchange	Improvement in intermodal connectivity and improvement in road network efficiency within Watford including benefits for the bus network
S31	Breakspear Way junction improvements	Improved access to the M1 from Hemel Hempstead and between Hemel Hempstead and St Albans

Recommendation

- 5.121 It is considered that the requirement for transport infrastructure should be met by a strategic CIL charge. Timescale for action: SHORT TO MEDIUM TERM.

Site Specific Items

- 5.122 All of the following items were considered specifically for whether they should be included in the CIL as strategic items or whether they should be dealt with as site specific items. In all cases, the nature of provision meant that it was deemed to be more appropriate to deal with them as site specific charges.

Utilities – Electricity

Anticipated Need

- 5.123 Electricity is generated from power stations and transmitted through a national network of electricity lines operating at 275kv and 400kv before connecting to local networks owned by distribution companies. EDF is the appointed distribution company for the Hertfordshire area.
- 5.124 Electricity in Hertfordshire is supplied from the National Grid overhead ring main to primary sub-stations which, in turn, supplies the towns and villages within the catchments via smaller sub-stations and a network of underground cables.
- 5.125 EDF has highlighted network supply issues with St Albans, Hatfield/Welwyn, Stevenage and Watford. Some capacity is available for Hitchin, Letchworth, Bishops Stortford, Hertford and Hemel Hempstead. There are some capacity issues which are being rectified at Royston and Watford.
- 5.126 Following preliminary discussions with EDF it is anticipated that the extent of developments planned will require major strategic infrastructure works. The proposed large developments planned to the north and west of Stevenage will need a direct underground feed from Wymondley 400kv system and will require a 132kv primary substation with a number of secondary 33kv substations. The developments planned for Hemel Hempstead will require additional 33kv substations fed from the existing 132kv primary substation. New 33kv substations will be required to serve the developments planned for the southeast of Hemel Hempstead and North Hatfield. As there is little spare capacity in the existing network it is likely that further substations will be required adjacent to the majority of planned developments.

Cost

- 5.127 As a guide the cost of a new sub-station would be in the region of £2M and the off-site network cable works are likely to be between £1-3M dependent on the extent work works and upgrading works needed to serve the developments. EDF were unable to provide clear estimates of total cost for infrastructure that would be required to support new development.

Priorities

- 5.128 The scale of growth planned in Hertfordshire up to 2031 will require new electricity sub-stations to be built. The planning and installation of these sub-stations can take about two years. Planning of the infrastructure needs to commence as soon as possible to ensure that it can be installed in the timescale required for the development

Recommendation

- 5.129 Developers would be expected to pay for the proportion of costs associated with the electricity infrastructure required to support the development. It is, therefore, recommended that electricity supply infrastructure should not be included within a strategic CIL charge.

Utilities – Gas

Anticipated Need

- 5.130 Gas is delivered through seven reception points into the United Kingdom and distributed through a National Transmission System (NTS). National Grid is responsible for the NTS which covers the whole of Great Britain.

- 5.131 A series of off-take points in the NTS supplies gas to twelve Local Distribution Zones. In the Hertfordshire area National Grid Gas is the licensed gas transporter. Three off-takes from the National Grid system supply the whole of the Hertfordshire area.
- 5.132 National Grid Gas Distribution has estimated that there is likely to be a 15% increase in annual gas demand by 2016/17. The capital expenditure to meet this increase in demand together with general infrastructure replacement, is of the order of £160M over a five year period
- 5.133 Large scale growth of the type envisaged in the KCDCs particularly where the development would be in the form of new urban extensions, will generally require a direct connection to a medium or high pressure pipeline.
- 5.134 The masterplanning exercise carried out as part of HHS has identified potential locations for future development. Following preliminary discussions with National Grid and using the masterplanning as the basis for determining the potential locations for connection points to the gas network system, the available infrastructure is set out in Table 5.6.

Table 5.6 - Potential Locations for the Connections to the Gas Network

Location	Pressure	Connection Point
North and West Stevenage	Medium Pressure	Corey's Mill Lane
North East Hemel Hempstead	Medium Pressure	Three Cherrytrees Lane
South East Hemel Hempstead	High Pressure	Breakspear Way
West Hemel Hempstead	High Pressure	Piggots End
South East Welwyn	High Pressure	Crosses the site
North Hatfield	Medium Pressure	Comet Way
North Harlow	High Pressure	Station Road

Source: Consultants

Cost

- 5.135 For each of the main developments the cost of the major infrastructure is likely to be in the region of £2M depending on the extent of the off-site reinforcement required.

Priorities

- 5.136 The installation of major off-site gas mains could take up to two years and will, therefore require forward planning and would be dependent on the phasing of the developments planned. Planning of the infrastructure needs to commence as soon as possible to ensure that it can be installed in the timescales required for the development.

Recommendation

- 5.137 Developers would be expected to pay for the new infrastructure required to support the development. Therefore, it is recommended that gas supply infrastructure should not be included within a strategic CIL charge.

Utilities – Potable Water Supply

Anticipated Need

- 5.138 Potable water supply in the study area is provided by Three Valleys Water. The whole of Hertfordshire County is located in the Three Valleys Water catchment area.
- 5.139 Water is supplied to the catchment from boreholes and surface water abstraction. Some 60% of the supply is from 260 boreholes located in the chalk aquifers in the catchment and the remaining supply is from surface water abstraction from the River Thames in the south.
- 5.140 Three Valleys Water has published a draft Water Resources Plan which sets out the Company's strategy for ensuring that there are sufficient water resources and supply to meet the future demand in the period between 2010 and 2038.

- 5.141 The Government has produced a water strategy 'Future Water' for England which sets out a vision for water use to 2030 and highlights that future water demands can be met by the water companies implementing a 'twin-track' approach by seeking additional water supplies and by demand management using measures that will reduce the average water consumption.
- 5.142 Over the last 20 years Three Valleys Water has invested heavily in creating a strategic network of water mains to ensure that water can be transferred around the water supply zones to meet present demands and to cater for future growth. Therefore there are no particular issues at the strategic level. However, there is little spare capacity in the existing non-strategic water supply infrastructure to serve the proposed major developments. The network infrastructure upgrade needed to serve these developments will require the installation of large diameter water mains and will no doubt require upgrading of the downstream water mains. This is not considered an issue that will not normally stifle growth and is likely to be overcome relatively easily.
- 5.143 Three Valleys Water is actively implementing demand management policies by encouraging the use of water meters. The Government is promoting a policy of water reduction measures through legislation and is moving towards a zero carbon new homes policy which will have the effect of reducing water consumption by 50% by 2016.
- 5.144 The Rye Meads Water Cycle Study has recently been undertaken to understand the long-term implications for potable water and wastewater for the Stevenage, Hertford, Welwyn and Harlow. The study will provide a strategy for investment needed to serve the proposed developments in this part of the County. The study is due to be published for consultation in 2009. Until this study is completed it is not possible to be certain as to what infrastructure would be required to meet the needs of planned developments in this part of the County.

Cost

- 5.145 Three Valleys have been unable to provide an estimate of costs for likely infrastructure to support future growth. With the information currently available it is not possible to identify a potential cost for new potable water infrastructure.

Priorities

- 5.146 The infrastructure upgrades needed to serve the developments could take several years to construct, it will be important that infrastructure required to support the KCDC growth is planned in early and to support the phasing of development.

Recommendation

- 5.147 Funding for potable water infrastructure is through the water company's asset management plan, with those upgrades to the network that are necessary to serve development funded by each developer. Therefore it is recommended that potable water supply infrastructure should not be included within a strategic CIL charge.

Utilities – Wastewater

Anticipated Need

- 5.148 Thames Water is the UK's covers the majority of the Hertfordshire drainage catchment. Anglian Water is responsible for the Stevenage drainage network and surrounding towns to the north.
- 5.149 The Hertfordshire drainage catchment can be split into two main catchments with the east draining to Rye Meads STW and the west draining southwards to Maple Lodge STW.
- 5.150 Rye Meads STW is located east of Hoddesdon and serves Harlow, Stevenage, Welwyn Garden City, Ware and Hertford with the treated flows discharging to the River Lee. Maple Lodge STW is located near Rickmansworth and serves the towns of St Albans, Hemel Hempstead and Watford.
- 5.151 Thames Water aim to have spare capacity at both wastewater treatment works to accommodate future growth subject to consent limitations that the Environment Agency apply to the works.

- 5.152 Thames Water are looking to provide capital investment in the next round of capital funding (2010-2015) to upgrade the Rye Meads STW to provide sufficient treatment capacity for future growth equivalent to 50,000 population which should ensure a design horizon to 2026. Maple Lodge STW has some capacity issues and the consented flows are expected to be reached in 2016 meaning that further capital investment in the STW will be required in the future to allow for growth. The size of developments proposed in the catchment draining to Maple Lodge STW should mean that no major capital works will be required to the sewer system.
- 5.153 It is likely that surface water run-off from masterplanned areas will be restricted by the Environment Agency to greenfield run-off rates. It is anticipated that the developments will be designed to incorporate Sustainable Drainage Systems (SuDS) to ensure that run-off is managed in a sustainable manner.
- 5.154 A Water Cycle Study has recently been undertaken for the Rye Meads catchment to determine the most suitable option for draining the future developments planned in Stevenage, Welwyn and Harlow.
- 5.155 The draft consultation is due to be published in 2009 and until the strategy has been agreed by all stakeholders then the infrastructure requirements cannot be confirmed at this stage. However, preliminary discussions with Thames Water have indicated that the existing sewer network infrastructure is reaching the limit of its available capacity and will need to be upgraded to cater for the large developments planned. In particular the trunk main from Stevenage, which discharges in a south easterly direction towards Rye Meads STW is known to be overloaded.
- 5.156 Thames Water has recently consulted the public and stakeholders on their 25 year Strategic Direction Strategy 'Taking Care of Water'. The strategy highlights the issues with the centres of population growth being close to the sources of rivers, leading to strict standards for discharge of treated effluent. Forthcoming legislation such as the Water Framework Directive, will set even stricter controls on effluent discharged to rivers.

Cost

- 5.157 As the level of infrastructure required to support new development is unclear at this time, it is not possible to provide an estimate of the likely cost of wastewater infrastructure.

Priorities

- 5.158 The water companies have a statutory obligation to provide a drainage connection on request. However, the construction of new infrastructure and upgrading of existing infrastructure is a long time consuming process due to the issues with procurement and land acquisition. Even for relatively small infrastructure reinforcement it can take on average between two and five years before the necessary infrastructure is in place before development can proceed. Large developments that require major trunk sewers or new or extended sewage treatment works could take up to 10 years, the need for early planning is therefore essential.

Recommendation

- 5.159 Developers would be expected to pay for the proportion of costs associated with the infrastructure required to support the development. Therefore it is recommended that waste water supply infrastructure should not be included within a strategic CIL charge.

Local Infrastructure Needs and Costs

- 5.160 Local CIL items are those for which needs are determined and provided at the local level. It is, therefore, appropriate that the individual Districts are the ones that determine these needs.
- 5.161 The needs and costs of the local CIL items will be entered into the Funding Model by the individual Districts themselves. In this respect, each District will have sole ownership of the local CIL element of the Funding Model. They will be able to set their own charges for this element of the CIL.

- 5.162 Each District is most appropriately placed to determine its own needs. Districts are also free to determine costs for local CIL items, provided they are justified. Alternatively, Districts may wish to use a standard menu of costs. In the following assessments for each item, a proposed cost is given. This is based on an extensive assessment of case studies, published guides and interpretations of data from sources including Spons and the Building Cost Information Service (BCIS), provided by the Royal Institute of Chartered Surveyors. In addition, 96 supplementary planning documents (SPDs) have been reviewed and information drawn from 57 of them.
- 5.163 Unlike for strategic items, no advice is given on prioritisation. This is for each individual District to determine. In all cases, the overall recommendation is that these items are considered as part of the local CIL.
- 5.164 It is important to reiterate that there is no hierarchy of importance between the strategic CIL and the local CIL. Both are part of a proposed overall CIL charge for Hertfordshire and should always be given equal weight.

Community Centres and Youth Facilities

Anticipated Need

- 5.165 Community centres and youth facilities (mostly youth centres) are both meeting places used by members of a community for social, cultural, or recreational activities. There is a general consensus on the need to provide community centres/neighbourhood centres and youth facilities as part of the infrastructure requirements.
- 5.166 Community centres or village halls are particularly important in rural communities that are experiencing a decline in rural services such as closure of schools, post office, village shops, churches, etc. However, difficulties can arise over the management and the cost of maintenance of community centres. These are not a statutory service and provision and management of these can vary from public, private to voluntary sector.
- 5.167 Services for young people are delivered through a variety of organisations (including the Youth Service, and the community and voluntary sector) and are based on a range of facilities, of which purpose-built youth facilities are only one but the one requiring significant public sector capital expenditure.
- 5.168 There is no national standard setting out a fixed ratio of level of physical youth provision to population or numbers of dwellings but it is considered that the growth areas/KCDCs will need new purpose-built provision.
- 5.169 As yet, there is no specific need for a new youth facility identified as part of the growth areas/KCDCs. It will be important for further work to be undertaken in order to derive a justifiable level of provision.
- 5.170 In development terms, the facilities for youth and community are both best provided after the 'community is residing' in the area in order to determine the specific requirement of the community and their commitment to support with management of the facility. However, if there are delays in provision then there could be adverse implications on the spare capacity in existing areas which will be needed to serve additional infill development. Also, it could affect the sense of belonging to a community or even whether people choose to use sustainable transport measures or not. So in reality, it is most appropriate that youth and community facilities are provided early in the build programme.

Cost

- 5.171 A youth facility or community centre needs to have an area of at least 250m² in order to provide an adequate range of services. A reasonable basis on which to plan is considered to be 0.4m² per dwelling and a cost budget of £1,700 per m² to cover construction, fees and basic equipment. This should cover, for instance, the facilities specified in Sport England's Design Guidance on dual

purpose 'Village and Community Halls'. This works out at £680 per dwelling (0.4m² per dwelling x £1,700 per m²).

- 5.172 It is anticipated that in many places the preference will be to extend or renovate existing premises. There is no way to generalise accurately about renovation costs although the cost of extension is often the same as the cost of new build, with the value of access to existing shared services offset by negative economies of scale in the construction contract. The Consultants suggest that, where the real intention is to build anew or extend a community centre, the full rate of £1,700/m² is used. Where the aim is renovation, half the rate (£850/m²) should be used.

Cultural Facilities

Anticipated Need

- 5.173 Cultural facilities consists of a wide range of facilities and services including museums, art galleries, creative space, theatres/performing arts space and heritage exploration. The list is wide ranging, depending on local assets and community aspirations. Such facilities can have a special role in helping with 'Place Shaping' and increasingly in creating and developing the creative business sector economy.
- 5.174 The infrastructure requirement for cultural facilities varies considerably depending on type of facility and location. There is not a simple standard requirement. Some local authorities have identified specific requirements in respect of cultural facilities. It is appropriate for each local authority to undertake its own assessment.
- 5.175 There is no particular timing requirement for such facilities. However, it will be desirable for the benefit of the new community to provide some form of cultural facilities early on within a development.

Cost

- 5.176 As the costs vary considerably depending on the type of facilities, it is not possible to estimate a cost at this stage. Each District will have different specific needs, even from the same type of facility, so generic costing could potentially be misleading.

Libraries

- 5.177 Library provision has been included as a local CIL item because, in the view of the Consultants, it operates very much at a local level. This is despite the fact that the service is provided at a County level by Hertfordshire County Council. In some respects, arguments could be made for it being included as either a local or a strategic item. This may therefore be an issue that the study partners will wish to address in advance of finalising a CIL charge.

Anticipated Need

- 5.178 Library provision in Hertfordshire is undertaken by Hertfordshire County Council. In 2005 it embarked on consultation on a new vision and implementation plan entitled, '*Libraries for the 21st Century*'⁶. This had the aim of creating a new direction for the service, accompanied by a substantial programme of investment.
- 5.179 The libraries implementation plan (for consultation purposes) identified that eleven libraries were priorities for replacement. Much of this provision will likely be addressing historic deficits. No view has been given on the additional needs arising from growth and it will be important to clearly define this.
- 5.180 Not only is this service a statutory requirement but most new libraries now provide a hub of other community activities and so it is considered that they are an important requirement for early community infrastructure provision as part of the new development.

⁶ Libraries for 21st Century - Change for Excellence 2005-2015 published Jan 2006

Cost

- 5.181 Library requirements will vary depending on location, size and existing provision elsewhere. The detailed design, components, and form of the final library provision will be developed as part of the detailed design and masterplanning of major growth. Locational factors in getting the most of library usage and throughput will be important considerations for the masterplanning stage. Experience has shown that libraries that are a part of other joint service centres or close to major retail outlets can secure better use.
- 5.182 It is likely that over time, the type of delivery of the library service could change considerably with much greater use of outreach and electronic services, and joint shared multi use centres.
- 5.183 For this study, a national standard requirement has been used based on published information by the Museums and Library Archives (MLA) – ‘A Standard Charge Approach 2008’⁷. The MLA recommends a figure of 30m² per 1,000 population as a benchmark for local authorities. Whilst this is considered to be (in the absence of a view on an appropriate local standard) the most reasonable standard to adopt, the Consultants’ view is that it is quite high. Therefore, it is recommended that further work is done at the County level to determine an appropriate standard.
- 5.184 The MLA standard cost for construction and fit-out has been used to estimate costs. A recommended current benchmark figure here is £3,000 per m².
- 5.185 Using the benchmark figures above gives a cost of £90,000 (30m² x £3,000) per 1,000 people, or £90 per person for new housing. This figure would then need to be related to the estimated occupancy of new dwellings in proposed housing schemes.
- 5.186 Extending an existing library will be at a lower cost than a totally new development. However, for the purpose of this study the Consultants have assumed all provision will be for new provision as most major growth will be focused in new areas away from existing libraries.

Open Space, Sport and Recreation (including Indoor Leisure Facilities)

Anticipated Need

- 5.187 In PPG17, open space is defined as ‘*all open space of public value, including not just land, but also areas of water such as rivers, canals, lakes and reservoirs which offer important opportunities for sport and recreation and can also act as a visual amenity*’⁸. This includes parks, green corridors, outdoor sports facilities, allotments, community gardens, cemeteries, civic spaces, including civic and market squares, and other hard surfaced areas designed for pedestrians. Also, this includes amenity greenspace (most commonly, but not exclusively in housing areas) and informal recreation spaces, greenspace in and around housing, domestic gardens and village greens.
- 5.188 Sport and recreation is not formally defined for the purposes of PPG17. However, for the purposes in this study, the Consultants have followed PPG17 guidance on the definition of this category. This encompasses facilities for sport and recreation, including swimming pools, indoor sports halls and leisure centres, and so on.
- 5.189 The HIIS Study does not cover private, voluntary and specialist sports provision including for instance indoor and outdoor tennis clubs, stadia, and golf courses. Also, whilst included in the assessment, no requirement for cemeteries has been explicitly identified. However, it is recognised that in several areas where there is significant growth, it will be potentially necessary to provide additional burial space. This is picked up in some Districts within their PPG17 assessments. In any event, it is a specific local item that each local authority should identify individually.

⁷ www.mla.gov.uk/website/publications

⁸ PPG17, Annex, para 1

- 5.190 In PPG17, the Government has stated that open space standards are best set locally, stating that national standards cannot cater for local circumstances, such as differing demographic profiles and the extent of existing built development in an area⁹.
- 5.191 In line with this guidance, a number of Districts have performed PPG17-compliant assessments of open space and leisure needs. At the time of writing, those that have not are in the process of undertaking this work. Each district will define its needs in its appropriate PPG17 assessment.

Cost

- 5.192 The proposed standard costs of the individual items that make up open space, sport and recreation are as follows:
- **Urban parks and gardens:** a reasonable budget for mid-2008 and including fees but not land is £180,000 per ha for an urban park and £82,000 per ha for a neighbourhood park.
 - **Natural and semi-natural greenspaces:** there is no single model for the provision of natural and semi-natural greenspaces. These differ from a Country Park because they need less interventionist investment in landscaping and facilities. A reasonable figure for a typical space is £10,000 per ha.
 - **Green corridors:** the concept of a green corridor is not defined well enough such that it is amenable to costing. Specific proposals would be needed. Also, strategic green corridors would be covered under strategic green infrastructure, part of the strategic CIL.
 - **Outdoor sports facilities:** reasonable budget estimates are given in the Sport England 'Kitbag'. These are:

Table 5.7 - Costs of Outdoor Sports Facilities, Q2 2008

Facility Type	Facility Details	Costs
Changing Rooms	4 team changing pavilion	£565,000
Outdoor Tennis Court	2 court, macadam, fenced and floodlit	£135,000
Grandstand	500 seater with no undercroft	£495,000
Synthetic Turf Pitches	Sand based 100 x 64m fenced and floodlit	£600,000
	Rubber crumb 100 x 64m fenced and floodlit	£740,000
	Water based 100 x 64m fenced and floodlit	£925,000
Athletics Track	6 lane floodlit	£1,150,000

Source: Sport England 'Kitbag'

- **Amenity greenspaces:** the costs for amenity greenspaces will depend on their individual specification. In practical terms the creation of amenity greenspace as defined in PPG17 might only involve some earth moving, grass and possibly a footpath, so provision at the lower end of the cost range is considered adequate. The proposed figure is £20,000 per ha.
- **Local Equipped Areas for Play (LEAPs) and Neighbourhood Equipped Areas for play (NEAPs):** The proposed figures are £40,000 per LEAP and £80,000 per NEAP.
- **Multi-Use Games Areas (MUGAs) and Shelters:** The proposed figures are £60,000 for a MUGA and £5,000 for a shelter.

⁹ CLG (2006) PPG 17: *Planning for open space, sport and recreation*, para 6

- **Skateboarding:** The proposed figure is £40,000 for each themed activity facility. In this case, a themed activity facility will typically encompass a broader range of facilities than just skateboarding; it will include BMX courses and artificial snowboarding tracks.
- **Allotments:** the proposed figure for allotments is £100,000 per ha.
- **Community gardens and urban farms:** these are usually 'one offs' and a specific budget is not practical.
- **Churchyards and cemeteries:** It is assumed that in most cases the requirement will be to extend existing cemeteries (although it is recognised that in some locations, new land for burial space will need to be found). In practical terms the extension will need a fence or wall, access paths and possibly equipment storage, with the first of these being the major cost. The proposed figure is £50,000 per ha.
- **Civic space:** these are one-off items that are design-led. It is therefore not possible to provide a single charge figure.
- **Indoor leisure facilities:** This mostly relates to swimming pools and sports halls, as other items are particular one-offs. The most suitable source for deriving the cost of facilities for a given population is the Sport England '*Sports Facilities Calculator*'. The proposed figure for a 4-court sports hall and a 25m, 5-lane swimming pool is £2,717,500 each.

Waste Collection

Anticipated Need

- 5.193 Waste collection relates to the provision of 'wheelie' bins and recycling boxes for individual dwellings. The need will increase directly in line with the increase in the number of new dwellings.

Cost

- 5.194 Typical costs reflected in existing SPDs are around £50 per house and £70 per flat for the provision of wheelie bins. A figure of £150 per dwelling, to include individual bins and recycling boxes, is recommended.

Other items

- 5.195 The HHS study was required to consider employment and retail and also flood defences. At present, neither has sufficient justification for inclusion in the CIL.

Employment and Retail

- 5.196 The need for infrastructure does not arise only from new housing development. It also comes from other major land uses. In this case, it is appropriate to consider the needs arising from employment and retail development. There may be other uses that should accommodate a charge but, in reality, the returns from development would be insufficient to be able to justify it. This would in all likelihood lead to a reduction in development of these uses which could compromise wider goals of the spatial strategy.
- 5.197 For retail and employment development, the approach is to identify the proportion of vehicle movements on the road network that this new development creates, out of all vehicle movements. This is informed by the transport modelling and specifically the East of England Regional Model (EERM). This splits the morning peak hour traffic by type. Approximately 25% of all this traffic is accounted for by commercial trips. These consist of:
- Heavy goods vehicles (HGVs);
 - Light goods vehicles (LGVs); and
 - Executive business (these are people travelling to and from meetings by car)

- 5.198 Information from the transport assessment shows that, based on the cost of the transport requirements, there is a current projected shortfall in funding of approximately £676M. So if this, £169M (i.e. 25%) can be attributed to commercial traffic on the roads so should be funded by the developments that create that traffic, i.e. new commercial premises.
- 5.199 The next stage is to determine the gross additional employment floorspace to be created in Hertfordshire. This can only be done by extrapolating forward past rates of development at the same rate. Data from the Hertfordshire County Council Development Monitoring System shows that, over the period 2001/2 to 2007/8, the annual average gross gain in B-class employment floorspace across Hertfordshire was 202,000m². Extrapolating this forward over the 20-year period 2011-2031 gives a total requirement of 4,040,000m² of floorspace.
- 5.200 Therefore, for every 1m² gross gain in commercial floorspace, there should be a charge of approximately £42 on developers in order to address the shortfall in the funding for the identified transport infrastructure¹⁰. Retail trips should be modelled differently, ideally on a case-by-case basis, reflecting the different profile of traffic. However, as a guide, the same analysis carried out above derives a similar figure. Extrapolating retail development from the past seven years into the future, and adopting the same split of traffic, means that if retail development is added to B-class employment development, the charge decreases slightly to £37.
- 5.201 It is recommended that further work is done in this area to provide sufficient justification for a charge. At present therefore, it cannot be included as part of the CIL. However, if justification were provided, then it could be included as part of a strategic CIL because of the typical impact that employment and major retail development has on the strategic road network.
- 5.202 Part of the reason for further work needing to be undertaken is that such a charge on employment and retail development would be a new phenomenon. Whilst the concept of a CIL is new, charging residential development a form of tariff for its impact most certainly is not. In addition, employment investment in particular is footloose. In other words, it can choose where it locates and so if one area is charging it for new development whereas another one is not, it is more than likely that the decision on where to locate will fall in favour of the area without the charge. Whereas the same could, in theory, be said of residential development, the values make it far more resistant to such charges. Also, residential development typically expects to pay for its impacts; historically, this has been less the case for employment and retail development.
- 5.203 So it will be necessary to undertake further work, particularly on viability, to determine whether such a charge would have a significantly detrimental effect on new investment. If, in consultation with commercial developers and inward investment agencies, this is deemed to be likely, then pursuing a charge could have wider negative impacts. In particular, it could compromise the employment market in the county, which would in turn increase levels of out-commuting as residents have to travel further to access jobs.

Flood Defences

- 5.204 To date the Environment Agency have not given any indication of what might be required to mitigate the impacts of the potential growth locations. Clearly, further work is required to assess this.
- 5.205 It is the Consultants' recommendation that flood defence items are something that should be considered on a site-by-site basis by way of a site-specific charge. Only if a Strategic Flood Risk Assessment identifies significant strategic needs could flood defence be included as part of the strategic CIL.

¹⁰ £169m divided by 4,040,000m² of gross floorspace equals £42/m².

Overall Summary of Need and Costs

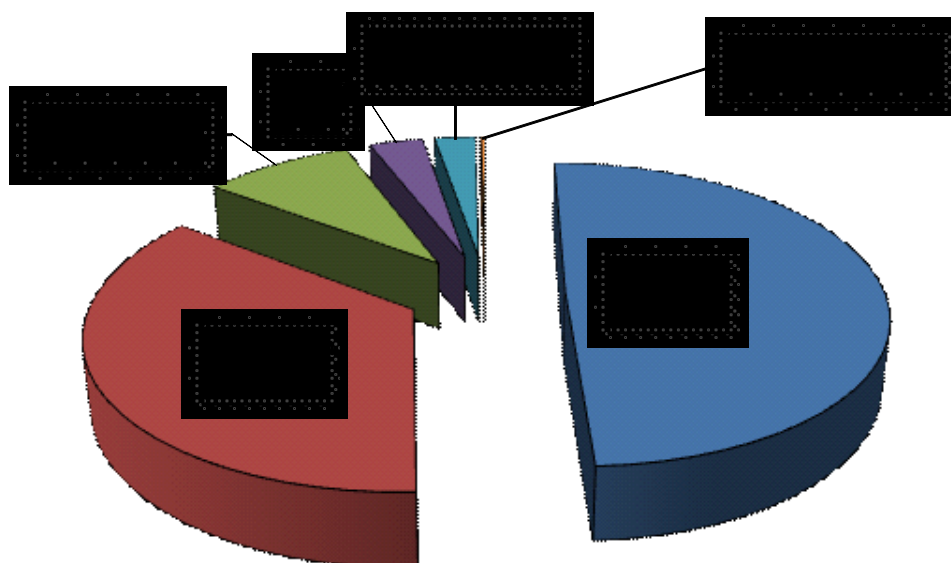
Strategic CIL items

- 5.206 Table 5.8 and Figure 5.2 provide a summary of the current estimated costs for the strategic CIL items. This gives a total cost for strategic infrastructure of £2.24Bn. However, it should be noted that several categories have a zero figure. This means that further work is needed to determine a cost figure. Those categories which do have a figure attached to them will need further work in order to verify these costs.

Table 5.8 - Strategic Infrastructure Costs by Category

Strategic Infrastructure Category	Estimated Cost
Transport	£1,106.0M
Education	£804.0M
Municipal waste	£200.0M
Health	£71.9M
Police	£35.0M
Ambulance	£12.7M
Fire	£7.0M
Green Infrastructure (strategic)	£5.2M
Adult care	£0.0M
Children's Services	£0.0M
Total	£2,241.9M

Figure 5.2 – Strategic Infrastructure Costs (%) by Category



Local CIL items

- 5.207 The needs of individual Districts in respect of local CIL items are most appropriately determined at the local level. Some Districts have provided information on their local needs but many have not. It is therefore not appropriate to consider this information in the HHS.

- 5.208 Where needs are defined locally, then costs will vary from District to District. For the purposes of the HHS it is important to have an understanding of the possible level of charges for local CIL items. Table 5.9 below takes some typical needs and assigns the resultant charges to them, based on the costs recommended above.

Table 5.9 - Example of Likely Scale of Local CIL Charges

Infrastructure Item	Cost Per Required Item	Basis for Deriving Need	Charge Per Dwelling
Urban parks and gardens	£180,000 per ha	PPG17 assessment - 0.53ha/1000 pop	£187
Natural and semi-natural greenspaces	£10,000 per ha	PPG17 assessment - 7.76ha/1000 pop	£152
Sports pitches	£125,000 per ha	PPG17 assessment - 2.30ha/1000 dwgs	£288
Amenity greenspaces	£20,000 per ha	PPG17 assessment - 0.55ha/1000 pop	£22
LEAPs	£40,000 per facility	PPG17 assessment - 0.29ha/1000 dwgs	£773
NEAPs	£80,000 per facility	PPG17 assessment - 0.29ha/1000 dwgs	£232
MUGAs	£40,000 per facility	PPG17 assessment - 0.29ha/1000 dwgs	£870
Shelters	£40,000 per facility	PPG17 assessment - 0.29ha/1000 dwgs	£73
Skateboarding	£40,000 per facility	PPG17 assessment - 0.29ha/1000 dwgs	£232
Allotments	£100,000 per ha	PPG17 assessment - 0.22ha/1000 pop	£43
Churchyards and cemeteries	£50,000 per ha	Assume 3ha of burial space per District	£15
Libraries	£3,000 per m2	National standard of 6m2/1000 pop	£176
Indoor leisure facilities	£2,717,500 per facility	Assume a 4-court sports hall and a 5-lane swimming pool per District	£536
Community and youth centres	£1,700 per m2	Assume requirement of 0.4m2/dwg	£680
Cultural facilities	£5,000,000 per facility	Assume one 500-seat studio theatre	£49
Waste collection	£150 per dwg	For wheelie and recycling bins	£150
Total			£4,477

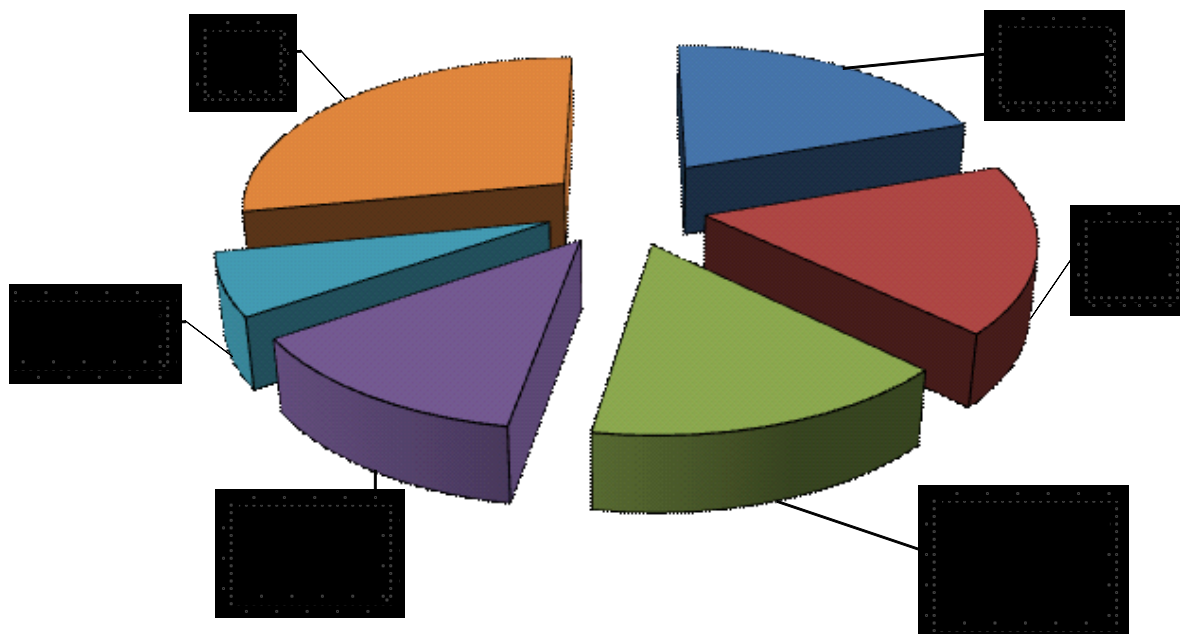
- 5.209 Table 5.9 shows that, if all the items shown are included within a local CIL, then there would be a total charge of £4,477 per dwelling. It is important to make clear that this is just a theoretical example. It does not necessarily represent the standards or costs that a District may adopt. Moreover, it may not include all of the items that a District may wish to include in its local CIL (or indeed it may have far more items than a District may wish to include). Potentially therefore, an assumption of a local CIL charge being no more than £5,000 per dwelling is considered to be reasonable, on the basis that minimal public funding will be available (see Section 6).
- 5.210 If these charges are applied to the dwelling levels required to be built over the period to 2031, then the total cost this would generate would be approximately £423M, split by category as shown in Table 5.10

Table 5.10 - Estimated Cost of Local CIL Items

Local Infrastructure Item	Estimated Cost
MUGAs	£83.5M
LEAPs	£74.2M

Local Infrastructure Item	Estimated Cost
Community and youth centres	£65.2M
Indoor leisure facilities	£54.4M
Sports pitches	£27.6M
Skateboarding	£22.3M
Urban parks and gardens	£18.5M
Libraries	£17.5M
Natural and semi-natural greenspaces	£15.0M
Waste collection	£14.4M
NEAPs	£11.1M
Shelters	£7.0M
Cultural facilities	£5.0M
Allotments	£4.3M
Amenity greenspaces	£2.1M
Churchyards and cemeteries	£1.5M
Total	£423.4M

Figure 5.3 - Estimated Cost (%) of Local CIL Items



5.211 It is important to reiterate that this is not the actual local CIL cost. This is simply a high level assessment of what it could be if the recommended charges are used. It will be for each District to determine their local CIL needs and the associated costs.

Infrastructure Costs by Area

- 5.212 Infrastructure costs by District were assessed and are shown in Table 5.11. Where requirements are considered Countywide, such as some strategic transport infrastructure, or have been established using a high level methodology, such as education, the costs have been pro-rated based on the assumed level of residential development in the District.
- 5.213 There is substantial variation in infrastructure between district on this basis, ranging from approximately £95M in Three Rivers to approximately £440M in East Hertfordshire. The districts include the KCDC (within Hertfordshire) which are set out in Table 5.12.

Table 5.11 – Infrastructure Costs by District

District	Strategic	Local	Estimated Cost
Broxbourne	£79.8M	£23.5M	£103.3M
Dacorum	£305.0M	£49.2M	£35.4M
East Hertfordshire	£374.0M	£63.6M	£437.6M
Hertsmere	£119.7M	£25.3M	£145.0M
North Hertfordshire	£352.8M	£83.1M	£435.8M
St Albans	£295.0M	£50.8M	£345.9M
Stevenage	£151.4M	£37.3M	£188.6M
Three Rivers	£76.2M	£19.3M	£95.5M
Watford	£337.3M	£24.4M	£361.7M
Welwyn Hatfield	£151.7M	£46.9M	£198.5M
Total	£2,242.9M	£423.4M	£2,666.3M

Costs by KCDC

- 5.214 The infrastructure costs by KCDC (within Hertfordshire) are shown in Table 5.12. Approximately 45% of the total infrastructure costs have been assigned to the KCDCs. The costs for individual KCDCs vary substantially, from approximately £90M for the East Luton KCDC to over £275M for the Watford KCDC.

Table 5.12 – Infrastructure costs by KCDC

KCDC	Strategic	Local	Estimated Cost
Stevenage / North Herts	£176.1M	£58.4M	£234.5M
Hemel Hempstead	£202.1M	£26.8M	£228.9M
Welwyn / Hatfield	£137.6M	£31.4M	£169.0M
Watford	£286.1M	£5.3M	£291.4M
Harlow – growth in East Herts	£125.9M	£43.1M	£169.0M
East Luton – growth in North Herts	£68.7M	£21.1M	£89.8M
Total	£996.5M	£186.1M	£1,182.5M

Way Forward

- 5.215 There are significant gaps in the information provided by the service providers. These gaps must be addressed over time. Section 11 identifies the work that key service providers will need to undertake in order to derive a robust idea of their needs.