

Horsham District Infrastructure Study

Main Report

May 2010



Nathaniel Lichfield
and Partners

Planning Design Economics



Horsham
District
Council



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Infrastructure Study
(2010)**

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Executive Summary

Nathaniel Lichfield and Partners (NLP) and Waterman Group were appointed in February 2010 to undertake an Infrastructure Study on behalf of Horsham District Council ('HDC'). The study is intended to provide an evidence base on infrastructure requirements to assist HDC in making decisions on the deliverability of growth in the district to 2026 and beyond. It forms one part of a suite of evidence that will inform the Local Development Framework ('LDF') Core Strategy Review currently under preparation by HDC.

Study Context

The provision of new homes and the infrastructure required to support them is a critical issue in meeting economic challenges and delivering sustainable communities. In setting new housing plans, policy makers will need to reflect on their importance in meeting demand for new housing arising from demographic changes, economic development and a wide range of policy requirements. Recognising new economic realities and recent policy changes, the key challenge is to set the framework for delivering the necessary housing to meet needs within Horsham and to ensure that this is achieved in a manner that addresses the need for an appropriate response to unparalleled environmental and sustainability challenges, including issues associated with climate change, as well as delivering communities appropriately served by physical, social and green infrastructure, in a funding climate that will be more challenging than that of recent years.

Dealing with these considerations will require an understanding of where and how new housing can be delivered in a way that creates viable and sustainable communities, and how infrastructure pressures and needs shape future spatial strategy.

Objectives

- 1 To provide appropriate evidence on infrastructure requirements to help HDC in shaping the quantum, location and form of development within the district up to 2026.
- 2 To support HDC and stakeholders in making the necessary choices and establishing the appropriate priorities for growth in the district by establishing any 'tipping points' as well as the marginal impacts and costs of growth as it relates to infrastructure.
- 3 To provide sufficient clarity to infrastructure providers as to what is needed within the district to support the growth scenarios; and to give all parties the confidence that infrastructure will be delivered and what contributions should be made accordingly.

- 4 To identify an infrastructure delivery plan/programme which will provide an integrated approach to future investment and provide a basis for the potential introduction of a CIL within the district.

Defining Infrastructure

In a policy and delivery landscape where resources are limited, there is a need to focus on the infrastructure that is most needed to support housing growth, and to make choices and trade-offs between the costs and benefits associated with different requirements. This is particularly important at a time when public finances are likely to be constrained and where development values are pressured by a difficult market and by increasing regulatory burdens on housing design and construction.

To take account of this, the study categorises different infrastructure types based on a high level view of its necessity in bringing forward development:-

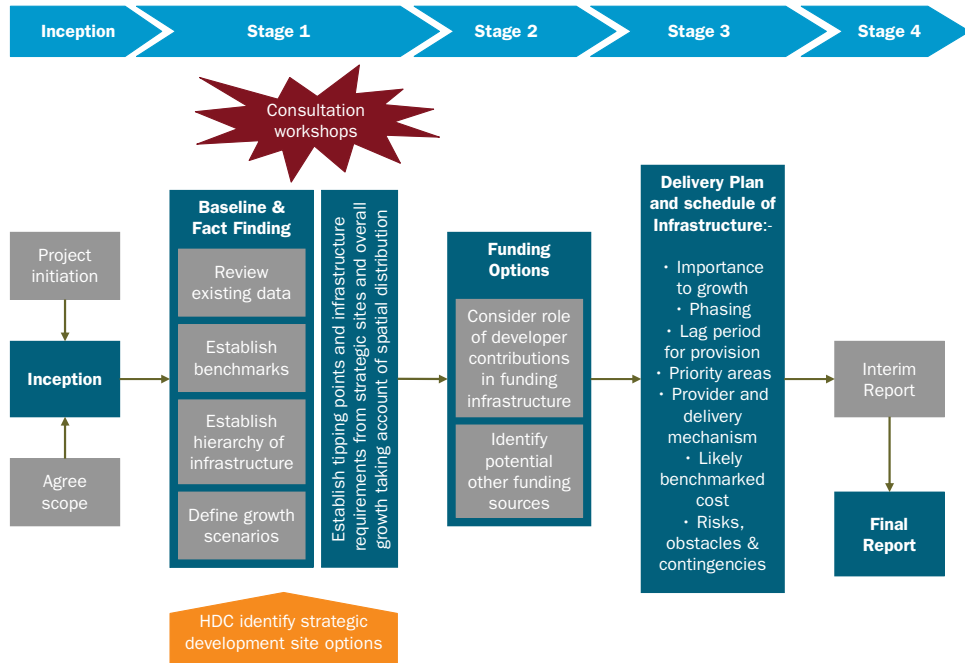
- 1 'Fundamental' infrastructure must be provided up-front to support development;
- 2 'Essential' infrastructure required to ensure development can be implemented with no detrimental impacts on site; and
- 3 'Required' infrastructure to ensure sustainable communities are created.

As work on the Core Strategy Review proceeds, debate on which infrastructure falls into which category will doubtless take place, and it is wholly possible for infrastructure to sit within different categories in different locations/developments. In many cases, the debate will be less about questions over its absolute provision than in judgements over when it should or can be provided, and the ability to provide 'interim' or temporary solutions over different phases of the plan. However, for the purposes of a more strategic perspective of this study, however, infrastructure has been categorised as follows: -

Infrastructure Theme	Infrastructure Type	Position in Hierarchy
Education	Primary and Secondary Schools	Essential
Health	Hospitals, GPs and dentists	Essential
Utilities	Electricity, Gas and Water	Fundamental
	Renewable Energy	Required
Waste	Waste and recycling	Fundamental
Wastewater	Sewers and wastewater treatment	Fundamental
Transport	Road and public transport	Fundamental
Community Infrastructure	Libraries, community centre and built sports facilities	Required
Green Infrastructure	Playing Fields /Outdoor Sports; open space/parks; allotments; playgrounds	Required

Methodology

The methodology for undertaking the study is set out within a series of stages as set out below.



The analysis for the study was carried out between February and April 2010. It therefore reflects upon the data available at that time, and, importantly, the national policy context that existed before the election of the new coalition government in May 2010. However, the study is considered to be robust in terms of the national policy context, and indeed is deliberately focused upon helping support spatial planning processes at a local level. Importantly, the approach is sufficiently flexible to allow updating in the future as the spatial strategy evolves.

The analysis of infrastructure requirements is founded on a benchmarking approach to assess infrastructure provision against adopted standards or ratios where these exist or, where necessary and no standards exist, via a qualitative assessment. The approach has been guided by the availability of existing information and by issues identified during consultation, to ensure a sound, yet pragmatic, approach is taken. The outputs are broad level requirements which can be used as a strategic tool in assessing the total level of infrastructure requirement that would reasonably be required to support different levels of growth and to form the basis of more detailed site or settlement specific analysis.

Growth Scenarios for the Purposes of the Study

The infrastructure study assesses infrastructure requirements at a district wide and on a spatial basis based on a series of growth scenarios as follows: -

District-wide Scenarios

Three growth scenarios have been generated for analysis in the infrastructure study based on the recent study of locally-generated housing needs: -

- A low (based on zero employment growth) growth scenario (11,126 dwellings between 2009- 2031);
- A medium (based on the requirements of the South East Plan) growth scenario (15, 330 dwellings between 2009-2031);
- A high (based on employment growth at 3% of Gross Value Added per annum) growth scenario (16,914 dwellings between 2009-2031)

Spatial Scenario

Infrastructure requirements vary between locations, so a spatial scenario has been developed to reflect the likely spatial distribution of the growth occurring in the district over the period to 2026 and beyond and reflects existing strategic commitments, future strategic site options currently being progressed through the Core Strategy Review and potential growth in existing settlements. Account has also been taken of HDC's decision to narrow the list of potential strategic sites to be subject to further consideration in the Core Strategy Review. The distribution of growth considered is set out below: -

Area	Dwellings (Range)	Other Growth
Strategic Site Options		
West of Ifield	3,000	
North Horsham: Holbrook Park and Chennells Brook	3,500	2ha Employment
West of Southwater	2,750	
East of Billingshurst	1,750	14ha Employment
Existing Strategic Site Commitments		
West of Bewbush	2,500	8,000m ² Employment
West of Horsham	2,000	Employment
Category 1 Settlements		
Horsham	827-992	24.4ha Employment
Broadbridge Heath	52-62	
Southwater	74-89	
Billingshurst	113-136	
Pulborough	114-137	
Storrington & Sullington	138-166	
Henfield	103-124	
Steyning, Bramber & Upper Beeding	39-47	45ha Employment

Area	Dwellings (Range)	Other Growth
Category 2 Settlements		
All Category 2 Settlements	213-255	
Total District-wide		
Gatwick Sub-Region sub-total	8,556	n/a
Rest of District sub-total	3,524	n/a
Total to 2026	12,080 (8,720 – 13,350)	n/a
Total to 2031	15,330 (11,130 – 16,920)	n/a

The study assumes that the phasing of strategic sites and site options is in place to ensure all growth to meet the housing requirements takes place within the current core strategy period and the time horizons of this study.

Other Long Term Growth and Potential New Settlement

The study has also taken account of longer term growth (beyond 2026) based on a potential new settlement assumed to be within the A23 corridor and of a 'market town' scale of 10,000 plus new dwellings. Without the necessary details of exact location and settlement type, this analysis is undertaken at a high level, to identify likely key infrastructure issues and the potential for 'showstoppers' associated with such a new settlement.

Baseline Infrastructure Position

District-Wide Infrastructure Capacity

The district wide analysis of existing infrastructure and how 'fit for purpose' it is to serve the existing population is summarised below.

Infrastructure	Key Issues
Education	<p>Two tier system of primary and secondary schools in the district.</p> <p>Total of 45 primary tier schools (soon to be reduced to 44 with the amalgamation of Billingshurst infant and junior schools in 2010) and (as at January 2009) approximately 11% spare capacity; although this masks large local variations with six over subscribed schools and a further 10 below natural capacity targets. Particular capacity pressures in Horsham and the southern central areas of the district.</p> <p>Currently 6 secondary tier schools with (as at January 2009) just 4% spare capacity. Particular pressures are in the south of the district.</p> <p>Information on post-16 education suggests sufficient capacity is available to meet needs.</p>

Infrastructure	Key Issues
Health	<p>Primarily delivered by the West Sussex Primary Care Trust.</p> <p>The district has only one hospital - a community hospital with a minor injuries unit, X-ray department and outpatient services. The district has no Accident and Emergency facility.</p> <p>There are currently a total of 82 GPs currently practicing in a total of 16 surgeries with current capacity (against benchmark standards) of about 6,160 patients although some areas are more constrained than others – notably in Horsham, Southwater and Broadbridge Heath.</p> <p>Horsham District has a 70 dental practitioners within 23 surgeries delivering a dentist to population ratio (1 per 1,867) better than the benchmark standard of 1 per 2,000.</p>
Energy	<p>Electricity - generally served by EDF Energy (excluding Billingshurst which is served Scottish & Southern Energy). No current problems with existing supply quality have been identified by EDF and measures are in place to 'off set' the load during times of heavy demand. Growth would however, be likely to give to a need for additional network reinforcement and improvement.</p> <p>Gas - Scotia Gas Networks currently has no constraints on the networks in the Horsham Area in supplying existing areas.</p> <p>Renewable Energy - no major renewable energy schemes in the district, but there are micro-generation schemes within several existing developments.</p>
Waste	<p>West Sussex County Council is the waste disposal authority and currently disposes of waste at The Brookhurst Wood landfill site to the north of Horsham. The site has existing capacity for 1.8m tonnes of refuse. West Sussex currently produces approximately 400,000 tonnes of refuse per year, of which 78% is landfilled. At this rate, Brookhurst Wood Landfill has capacity for approximately 5.7 years.</p> <p>The county is also served by a network of 11 Household Waste Recycling Sites and a number of 'mobile' recycling centres – providing 2.75 HWRS per 100,000 population. This is significantly higher than the average provision in England (1.45 sites per 100,000 population).</p>
Water & Wastewater	<p>Southern Water is the provider for the majority of the district with the major settlements served by Horsham Wastewater Treatment Works ('WwTW') and Billingshurst WwTW. Some of the smaller settlements also have their own WwTWs such as Rudgwick, Henfield, Storrington, Steyning and Faygate. There are potential constraints to wastewater treatment capacity within Horsham District and additional sewerage and water distribution infrastructure will be required to serve development post 2018. Environmental constraints may limit where the discharge of additional volumes of treated wastewater effluent are permitted by the Environment Agency.</p>

Infrastructure	Key Issues
Transport	<p>The Highways Agency has a number of concerns about the current operation of the M23/A23 corridor as traffic flows are already heavy and increasing leading to capacity and safety issues; particularly at junctions J10 and J11.</p> <p>WSCC report that there are several areas where there are capacity issues, these include junctions along the A24 from Buck Barn to the County Boundary, along the A29 (notably at Pulborough) and the A264 Crawley Road. The characteristics of a number of other roads also have highway safety issues and there are capacity issues within Horsham, particularly on the main approaches to the town.</p> <p>Bus patronage in West Sussex has increased since 2002 from 13 million passengers pa to 24 million ppa recently and passenger flows are expected to continue to grow with additional services planned on this basis. The bus operator has noted improvements to bus routes in Horsham may improve efficiency in the town.</p> <p>The district is served by 7 railway stations and is located on the line between London and the South Coast. The current focus is on improvements to services for longer distance commuting.</p>
Community Infrastructure	<p>Wide range of community centres which vary in function with data indicating a total of 119 centres complemented by 67 sports clubs or sports pavilions. The district appears well served for such facilities.</p> <p>Seven libraries and a mobile service to smaller communities.</p> <p>Facilities are adequate for current needs but improvements would be needed to support new communities.</p> <p>Also a range of cultural, art and other educational facilities and destinations in the District; a range of historic attractions; and theatres in Horsham (the Capitol) and at Christ's Hospital. Current facilities appear adequate to meet demand.</p> <p>The district has 13 separate swimming pools (both public and private provision) and 19 sports halls of varying sizes. Overall provision is assessed as good.</p> <p>All Category 1 settlements have designated retail centres, with Horsham the main town centre. There are a range of large and smaller format supermarkets and local convenience shops throughout the district.</p>

Infrastructure	Key Issues
Green Infrastructure	<p>2005 data shows a total of just over 29ha of amenity greenspace and approximately 411ha of accessible natural green space; this is generally above standards although does mask local variances. Horsham and the south are particularly well served with accessibility to the South Downs National Park and St. Leonards Forest/High Weald AONB.</p> <p>There are also a range of formal green infrastructure types and wide provision of allotments; although all allotment plots are currently full to capacity with demand far outstripping supply.</p> <p>The district has (including school provision that has an element of community use) 49 cricket pitches, 71 adult football pitches, 63 junior football pitches, 11 hockey pitches and 28 rugby pitches. This equates to 217ha of open access sports pitches plus a significant amount in schools. This is around 65% of the quantity standard, suggesting that further provision needs to be made.</p> <p>In terms of other outdoor sports provision the district is well served with a total of 8 bowling greens, 110 outdoor tennis/multi-use courts and six artificial turf pitches (5 on school sites).</p>

Infrastructure Pressures by Settlement

The table below identifies where in the District there are current infrastructure pinch points.

	Horsham	Broadbridge Heath	Southwater	Billingshurst	Pulborough	Storrington & Sullington	Henfield	Steypner, Bramber & Upper Beeding
Fundamental Infrastructure Types								
Transport – Are there particular capacity issues with the Highway Trunk Roads ?	R	R	n/a	O	n/a	n/a	n/a	n/a
Transport – Is the Local Road network capacity constrained?	O	O	O	O	O	O	G	G
Transport – Are there particular issues for the provision of Bus Public Transport ?	O	O	O	O	O	G	G	G
Transport – Is the existing Rail Public Transport network suitable for short distance travel?	G	n/a	n/a	G	G	n/a	n/a	n/a
Utilities – Is the settlement affected by any Electricity supply constraints?	G	R	G	O	R	O	O	G
Utilities – Are there particular capacity issues with the Gas network?	G	O	G	O	O	O	O	O
Waste – Are there capacity issues with the Household Waste Recycling Site serving the settlement?	R	R	R	G	n/a	n/a	n/a	n/a
Water and Wastewater – Are there particular capacity issues with the Sewer network?	O	O	R	O	O	O	O	O
Water and Wastewater – Is there capacity in existing Wastewater Treatment Works ?	G	G	R	O	O	G	R	G

	Horsham	Broadbridge Heath	Southwater	Billingshurst	Pulborough	Storrington & Sullington	Henfield	Steyning, Bramber & Upper Beeding
Red (R): Current Identified Capacity Constraint (Tipping Point Reached) Orange (O): Potential Capacity Constraint (Tipping Point Nearing limited capacity to accommodate growth) Green (G): Adequate capacity currently (Can accommodate some growth) Grey (n/a): Infrastructure not provided in settlement and/or not applicable								
Essential Infrastructure Types								
Health – Is the settlement well served for GP Surgeries?	R	R	O	G	G	G	G	G
Health – Is the settlement well served for Dental Surgeries?	G	G	O	G	G	G	G	G
Education – Are there current capacity issues for Primary Schools which serve the settlement?	O	G	G	G	G	G	G	G
Education – Are there current capacity issues for Secondary Schools which serve the settlement?	O	O	O	O	O	O	R	R
Required Infrastructure Types								
Community Facilities – Is the settlement well served for Libraries?	G	O	G	G	G	G	G	G
Community Facilities – Is the settlement well served for Community Centres?	G	G	G	G	G	G	G	G
Community Facilities – Is the settlement well served for Swimming Pools?	G	G	G	G	O	O	O	G
Community Facilities – Is the settlement well served for Sports Halls?	G	G	G	G	O	G	G	G
Green Infrastructure – Is the settlement well served for outdoor sports facilities and pitches?	R	G	O	G	O	O	R	R
Green Infrastructure – Is the settlement well served for amenity green space and recreation?	G	O	G	G	G	G	O	G

Infrastructure to Support Growth

Growth will create demands and pressures on infrastructure to support development by either taking-up existing capacity or creating a requirement for investment in upgraded or additional infrastructure. The study has reviewed two aspects in estimating infrastructure requirements:-

- 1 The infrastructure required district-wide to deal with overall growth levels to 2026 and 2031 (providing overall headline requirements and cost estimates only).
- 2 The infrastructure required within each settlement and strategic site/site option area to reflect potential levels of growth (spatially focused and with regard to impacts from all identified growth options – noting that this could produce an output greater than current housing requirements).

Care should be taken when applying either estimate - they will not necessarily tally due to the nuances of infrastructure capacity within localised catchments.

District-wide Infrastructure Requirements

The overall headline infrastructure requirements relate to those infrastructure types needed to support the district-wide growth identified within the growth scenarios. This includes consideration of the need for a range of social infrastructure types, such as schools, health facilities and community facilities, and also a wide range of physical infrastructure schemes. It does not take account of the spatial dimension of infrastructure provision.

Social Infrastructure

Applying benchmark standards to the overall growth, and taking account of the baseline requirements, the cost of requirements for social infrastructure between 2009 and 2026 can be summarised as follows: -

Infrastructure		Benchmark Cost (£m)		
		Low (8,716 new homes)	RSS (12,080 new homes)	High (13,349 new homes)
Education	Total	£39.0m	£61.5m	£69.9m
	Per dwg	£4,474	£5,091	£5,236
Health	Total	£29.0m	£42.3m	£47.3m
	Per dwg	£3,327	£3,501	£3,543
Community	Total	£10.1m	£14.1	£15.5m
	Per dwg	£1,158	£1,167	£1,161
Green Infrastructure	Total	£13.1m	£17.5m	£19.2m
	Per dwg	£1,502	£1,448	£1,438

Physical Infrastructure

The physical infrastructure to support overall levels of growth will depend greatly on the spatial distribution of development (and are therefore difficult to quantify at a strategic level), but there are a number of overarching infrastructure principles that will need to be taken into account.

- 1 Transport Infrastructure - one of the key requirements to enable mobility. Requirements will arise in order to address capacity issues as well as measures to promote an alternative mode of transport to the private car.
- 2 Utilities - this will need to be assessed by providers to identify the need for provision of reinforcement/upgrading of existing off site services where necessary and the provision of new services to serve sites.
- 3 Renewable Energy Infrastructure – an assessment of the potential for increasing the proportion of electricity generated from renewable sources in Horsham should take place (e.g. wind, sun, water, biomass).
- 4 Soft Infrastructure – these encompass a range of supporting functions or community services which improve the economic, social and environmental wellbeing of communities such as local business support;

opportunities for skills and training; community development facilities; and sports development and sports clubs. Not all will require a physical infrastructure to operate and are therefore more difficult to quantify but can be important and should be taken into account and encouraged.

Infrastructure Requirements by Settlement/Site

The analysis below relates to the housing development estimates identified in the spatial scenarios outlined above.

Settlement/Site	Key Issues
Horsham	Growth can broadly be supported within existing infrastructure, provided certain pressures on existing services can be mitigated. A key strategic requirement is an upgrade to Horsham waste water treatment works (WwTW). Other requirements include transport improvements, additional capacity in GP surgeries, dentist provision and primary schools and new provision of community and green infrastructure.
<i>North Horsham Potential Strategic Site Option</i>	Due to the physical separation of the site from Horsham by the A264 trunk road, much social infrastructure will need to be provided on-site and there are also requirements for new/improved physical infrastructure (roads and utilities). A key consideration is secondary school provision but these needs to be addressed in the context of overall cumulative growth in Horsham.
Broadbridge Heath	The modest scale of new development and the settlement's close proximity to Horsham mean it is important that requirements are addressed cumulatively with Horsham as a whole. There are otherwise generally limited infrastructure risks to this small level of growth in Broadbridge Heath.
<i>West of Horsham Strategic Site (Commitment)</i>	Identified in the adopted Core Strategy, and with an adopted masterplan, this site has a clear strategy for the delivery of infrastructure including new roads, public transport provision, education and community facilities and green infrastructure. The site also has the potential to serve a wider sub-district role, particularly within Broadbridge Heath.
West of Crawley Sites	Although outside of the District, growth within Horsham will have significant cross boundary infrastructure pressures on Crawley with particular regard to the west of Bewbush strategic site commitment and the west of Ifield strategic development option (considered further below). Overall these will have cumulative impacts, particularly on the transport network where the need to improve Junction 11 of the M23 and also the potential need to provide a west of Crawley relief road are particularly pertinent infrastructure issues.
<i>West of Bewbush (Commitment)</i>	A joint Area Action Plan sets out a comprehensive infrastructure delivery plan for this scheme including transport improvements, health, school and community facilities and green infrastructure.

Settlement/Site	Key Issues
<i>West of Ifield Potential Strategic Site Option</i>	This option will contribute to infrastructure pressures and transport solutions to address peak hour congestion on the A23 and A2220 will need to be addressed and development would also need to have regard to upgrades to the Crawley WwTW, primary and secondary school provision and community and sports facilities.
Southwater	No major infrastructure constraints are identified although improvements to existing provision could be sought through planning obligations.
<i>West of Southwater Potential Strategic Site Option</i>	Potential to deliver up to 2,750 new units but with a number of potential infrastructure constraints specifically relating to transport (including the signalisation of the Hop Oast junction), upgrades to the local water and wastewater networks and new school provision. Improvements to health and dental facilities, community and sport facilities and other green infrastructure would also be required as part of this development.
Billingshurst	Would create additional pressures on The Weald Secondary School and potentially reach its tipping point. New health facilities and allotments will also be required in the future.
<i>East of Billingshurst Potential Strategic Site Option</i>	Delivery here would need to address the existing constrained school capacity, secure upgrades to wastewater and electricity networks as well as providing a north-south relief road. Improvements in a neighbourhood centre and new sports and green infrastructure.
Pulborough	Would need to address capacity issues in the existing primary school provision. Other requirements could include additional dentist provision and additional allotments provision and minor improvements to utilities.
Storrington and Sullington	The main constraint to growth relates to secondary school capacity at Steyning Grammar, which is oversubscribed. Enhancements to the provision of sports provision and allotments would assist in addressing an existing deficit.
Henfield	As with Storrington/Sullington, growth is also constrained by capacity within Steyning Grammar School. There are no other identified infrastructure constraints but improvements to sports facilities and additional allotments would address existing deficits.
Steyning, Bramber and Upper Beeding	Modest growth but is similarly constrained by capacity within Steyning Grammar School. There are no other identified infrastructure constraints to this level of development but improvements to sports facilities and additional allotments would address existing deficits.

Settlement/Site	Key Issues
Infrastructure Impacts of a New Settlement	A new 10,000+ dwelling market town within the A23 corridor in the east of the district would create major pressures over and above the baseline infrastructure position. In general terms, a scheme would need to address transport impacts on the A23, and provide new public transport and utilities services. A settlement could also give rise to a need for five additional primary schools, secondary and post-16 education provision, health, sports and leisure facilities, a new town centre and a network of green infrastructure. These requirements are based on a high level scoping of the main issues.

Cumulative Growth Effects

In addition to the above settlement or site specific requirements, the study has also identified infrastructure needed regardless of site specific issues which is largely a function of generally increased pressure across the district/sub-region. These include effects on the M23/A23 corridor and associated junctions (J11 and J10), on secondary health care services, to address the demand in post-16 and adult education opportunities and also to address the need for district-wide facilities such as a swimming pool and nature reserves.

Funding Options and Delivery Mechanisms

The study provides an analysis of the challenges associated with funding and delivering the infrastructure required to support the growth. For the purposes of analysis only this has been based on aggregated infrastructure requirements from all identified growth options, which would far exceed the dwellings required under growth scenarios to 2026. The funding options and delivery mechanisms must therefore be viewed in the context that not all growth will necessarily come forward.

Costs of Infrastructure

Based upon the delivery plan, which provides a schedule of infrastructure requirements to support potential growth in the different locations within the Borough, the costs for infrastructure are summarised below: -

Infrastructure Type	Cost of Infrastructure to Support Aggregated Levels of Development (up to 17,233 dwellings)	£ per dwelling
Transport	£90,000,000 - £137,500,000 ¹	£5,222 - £7,979
Utilities ²	£750,000 +	£44 +
Health	£81,850,000	£4,750
Education	£117,500,000	£6,818
Community	£8,750,000	£508
Green Infrastructure & Sport	£38,700,000	£2,246
Other Identified Infrastructure ³	£3,680,000	£214
Total	£341,230,000 - £388,730,000	£19,802 - £22,558

¹ Highest number includes schemes outside district but may be part funded by growth within Horsham

² Insufficient information on requirements for energy, water and wastewater utilities so these are not costed

³ i.e. infrastructure outside scope of study but identified in consultation so included for completeness

The costs identified will fall upon a range of sources (not just the public purse) but provide an estimate of the overarching scale of costs to meet the infrastructure requirements identified. They should be regarded as a starting point on the implications of housing growth as there are a number of uncertainties which could affect the exact cost of providing infrastructure and the level of required investment.

As a general point, however, the analysis does show that costs associated with 'fundamental' and 'essential' infrastructure types are generally much higher than those associated with the 'required' infrastructure types and these are also the types of infrastructure that are necessary up front or early on within development. This highlights the relative risks associated with funding infrastructure as generally a high proportion of the costs will be required early on, before value uplift from the development is captured.

Prioritisation and Phasing

A flexible framework needs to be developed to assist in making decisions on the necessary trade-offs and choices about how these issues shape the scale, form and location of development, and what is provided and when, whilst also taking account of emerging issues on viability, phasing and funding. In advance of this, this study is not in a position to determine the approach to phasing. The next step is to shape a more detailed phasing programme for the delivery of growth in the district as proposed. However, sufficient information on tipping points has been provided to enable the framework to be developed at a later stage in the development of the Core Strategy Review, when a clearer picture on the delivery of sites across the district emerges.

Funding, Delivery Mechanisms and Partners

The infrastructure associated with and required to support growth, alongside other underlying investment, may have access to various funding streams. However, there are a number of political, economic and organisational uncertainties in place at the time of writing which means that there is also considerable uncertainty on the precise nature of resources available, and the mechanisms by which they will be channelled. The study therefore recognises that:-

- Resources will be tight for at least the first phase of the plan period.
- A more flexible approach to infrastructure requirements (either in terms of absolute provision or their phasing) may be necessary (particularly if development with higher infrastructure costs is prioritised).
- ‘Early wins’ may be necessary by prioritising development in more ‘infrastructure efficient’ locations in the early phase of the plan.
- Judgements about viability, affordable housing provision, infrastructure and spatial priorities need to secure the right balance of deliverability and achievement of planning objectives.
- There is scope for securing cross-boundary/sub-regional approaches to funding certain infrastructure (notably transport).
- Clear governance of funding mechanisms is needed to make the above work given the spatial priorities and phasing issues to be considered.

Taking all of this into account, the wide range of sources that may be available to HDC can be summarised as follows: -

Developer Contributions

To be secured via options such as Community Infrastructure Levy, s106 Agreements or rolling/fund options, there are clearly a number of practical issues to resolve in shaping the approach to securing contributions and then managing receipts in such a way as to deliver infrastructure at the right time. These relates to factors that go beyond the immediate ambit of the infrastructure study but require concerted effort to address as a priority workstream so that a sound charging schedule and intra vires fund management arrangements are in place as soon as is practicable.

Other Funding Sources

This may include funding from public funding streams, from private investment and from other/voluntary sector. In relation to each infrastructure type considered in this study, sources may include: -

	Lead Agencies	Funding Sources
Transport	County Council DfT Network Rail Highways Agency	Significant unknowns post-2011 but could include:- Local Transport Plan DfT Major Schemes Network Rail Developer Contributions Revenue from parking
Utilities including waste	County Council National Grid All major utility providers (e.g EDF, Scotia Gas Networks)	Developer Contributions Private Sector / Utility Providers PFI Credits Customers
Health	PCT's Strategic Health Authority Hospital Trusts Specialist services and ambulance trusts) West Sussex County Council (Social Care)	PFI PCT Private sector - GP Practices Third Sector Restructuring of property assets Developer contributions
Education	WS County Council	BSF Primary Capital Programme DCSF funding Skills Funding Agency Private Sector sponsorship Developer Contributions Third Sector
Community	WS County Council HDC Parish Councils Other agencies (for shared / community hubs)	Developer Contributions Third Sector DCMS Lottery Sponsorship Prudential Borrowing
Green Infrastructure and Sport	Sport England HDC Parish Councils WS County Council	Developer Contributions Prudential Borrowing PPP Joint Venture Asset Disposal Sport England WS Council Lottery Department for Culture, Media and Sport initiatives

New Funding Models

A number of new models are being considered in the light of the public and private sector funding squeeze; some of which are capable of implementation under current frameworks, whilst others will await new legislation. These include:-

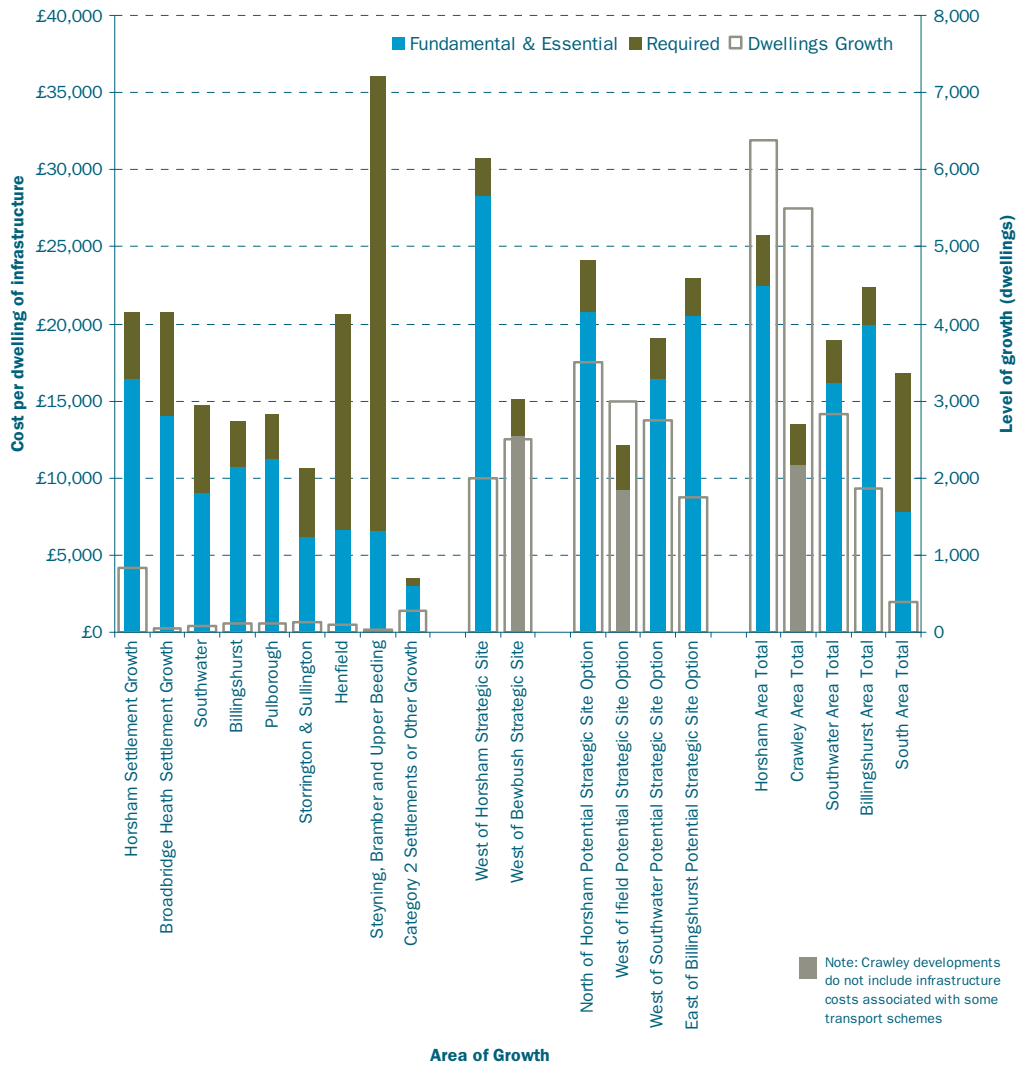
- Expanded Prudential Borrowing and other loans (e.g. via the European Investment Bank)
- Expanded PPP ventures
- User charges (revenue streams)
- Tax Increment Financing

What is common to all is that they are neither straightforward or panaceas, and those seeking to adopt them need to adopt a rigorous feasibility and due diligence process before embarking upon them.

Implications of Infrastructure Requirements

In addition to identifying the infrastructure requirements to support potential growth within different parts of the district, the delivery plan also seeks to identify the variations in infrastructure costs to support growth in the District. This may be a material consideration in identifying optimum locations for growth where funding is restricted.

The study has split infrastructure costs by area, settlement and/or strategic scheme to allow an analysis of the infrastructure efficiency of different areas and to highlight where it may be more affordable to develop (in infrastructure terms) and conversely where growth may be relatively expensive. The marginal cost differences associated with the infrastructure required to support potential levels of growth in different areas are illustrated below.



The analysis identifies that whilst there are significant infrastructure costs in delivering growth in certain areas, there are also areas where low levels of growth may be delivered relatively efficiently in infrastructure terms.

Whilst the costs associated with delivering strategic sites is relatively high, particularly for the ‘fundamental’ and ‘essential’ infrastructure which is more likely to be required up front, lower levels of growth in the main settlements have lower infrastructure costs associated with delivery. The latter may provide the opportunity for the Council to achieve some faster and relatively cheaper – solely in infrastructure terms – development in the short term. However decisions will also need to be balanced with assessments of the viability of potential schemes to deliver additional infrastructure; to the level of existing infrastructure and how it can support growth; and a recognition that further work needs to be undertaken to underpin the transport requirements to support housing growth in the context of wider sub-regional factors and to ensure the development of sustainable communities.

Overall Implications of the Study & Key Recommendations

The Study shows that the growth options to be considered in the Core Strategy Review do give rise to infrastructure requirements but there are generally minimal barriers to its provision, provided issues such as funding and proactive planning are addressed in a timely fashion. In particular, the study has shown that a relatively small, but still significant, level of growth could occur within existing infrastructure capacities, which is particularly the case with small amounts of development in existing settlements.

Due to the different scales and locations for growth considered in the study, significant variance in the cost of infrastructure delivery has been identified and also significant levels of potential delivery costs. Against the background of challenges in funding and delivery over the coming years, these factors should be a material factor to HDC as choices are made on the level and distribution of development to be identified in the Core Strategy Review.

The study makes a number of key recommendations for action:-

- 1 To establish a critical path for establishing a CIL charging schedule as quickly as possible to capture value from development;
- 2 To define spatial priorities and critically appraise both the strategic sites and other forms of development in both infrastructure and other terms (including taking account of other forms of development);
- 3 To carry out a focused exercise to integrate viability with the approach to affordable housing provision, to sustainability (e.g. Code for Sustainable Homes levels) and infrastructure costs to identify potential funding/deliverability issues, including the implications for phasing;
- 4 To review Value for Money and the efficacy of certain types of infrastructure investment in locations where choices will need to be made about provision given funding shortfalls and/or viability difficulties;
- 5 To embark on analysis around impact, solutions, timing and funding for key cross-boundary/sub-regional infrastructure requirements;
- 6 To prepare a spatial strategy and linked delivery plan that ties into a CIL charging schedule and framework for s.106, and helps support decisions on phasing and presents a cohesive investment prospectus for development in the district; and
- 7 To test and then establish appropriate delivery and governance arrangements to overcome implementation barriers, address sub-regional infrastructure issues, and secure a mechanism for managing and distributing CIL resources

Importantly, the status of the study as just one consideration in the development of the Core Strategy Review should be taken into account and its findings must be viewed alongside all other material factors in defining the level and spatial distribution of growth to be promoted, including locally generated need for housing, the Council's development aspirations, the viability of development and environmental constraints or sensitivities.

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Glossary

Infrastructure

The network of communications and utility services including roads, drains, electricity, water, gas and telecommunication, required to enable the development of land. The term is also used in relation to community, social and environmental services such as schools, shops, libraries, public transport and open space.

Sustainable Communities

“...Places where people want to live and work, now and in the future. They meet the diverse needs of existing and future residents, are sensitive to their environment, and contribute to a high quality of life. They are safe and inclusive, well planned, built and run, and offer equality of opportunity and good services for all.”¹

‘Fundamental’ infrastructure

Infrastructure so fundamental that without its development (or occupancy of development) could not occur (e.g. supply of water, utilities or access). Must be provided up-front to support development.

‘Essential’ infrastructure

Required to ensure development can be implemented without detrimental effects on site, to a settlement and beyond. Must be delivered at least in the medium to long term but a short term alternative may be possible.

‘Required’ infrastructure

Ensures that sustainable communities are created and is deemed necessary by virtue of legitimate policy objectives (e.g. around access to amenities) and the desire to achieve high quality and sustainable development.

Tipping Points

Based on existing levels of infrastructure, the point at which no more growth can be accommodated without investment in new or improved infrastructure.

‘Showstoppers’

Infrastructure (usually fundamental infrastructure) that is effectively halting development or growth until it has been provided, particularly where there may

¹ ODPM (now CLG)'s 'Sustainable Communities: Building for the future' (5 February 2003)

be barriers to providing the infrastructure, preventing development from occurring.

Benchmarking

Measuring infrastructure provision against an identified standard of provision to assess how well communities are served by infrastructure.

Category 1 and Category 2 Settlements

As identified in the Horsham Core Strategy Review, types of settlement considered appropriate to have a defined built up area and defined into two categories as a reflection of their relative position in a 'settlement sustainability hierarchy' by virtue of their ability to accommodate differing levels of development.

Strategic Development Commitment

One of the two sites for strategic development and growth identified by Horsham District Council in their adopted Core Strategy (2007).

Strategic Development Site Option

One of the strategic locations for additional development and growth identified by Horsham District Council in February 2010 as those to be subject to further investigation as part of the review of the Horsham Core Strategy Review.

Growth Scenario

A series of purely indicative scenarios developed to allow a consideration of likely future infrastructure requirements based on different levels and spa scenarios upon which to assess future infrastructure requirements were agreed. These scenarios reflect likely growth over the Core Strategy Review period to 2026 and potential options for growth beyond, taking into consideration the different spatial scales at which infrastructure requirements are analysed.

Community Infrastructure Levy ('CIL')

A charge on new development that local authorities are able to impose to fund local and sub-regional infrastructure required to support development of an area.

s106 Agreement

Agreements between local planning authorities and those with land interests which establishes contributions, arrangements and restrictions intended to offset the costs associated with the external effects of development.

Rolling Infrastructure Fund ('RIF')

A RIF provides upfront funding for a piece of infrastructure required to unlock development with subsequent s106/CIL receipts going back into the RIF. These receipts are then recycled and used to fund the next piece of infrastructure.

Spending Review Period

Period during which firm and fixed department expenditure limits across a range of public service departments are set and define key improvements that can be expected from the available resources. The time period varies according to infrastructure type.

Tax Increment Financing ('TIF')

A tool to use future gains in taxes within a defined geographical area to finance current improvements (which theoretically will create the conditions for those future gains). Future increased tax revenues in an area (arising for example from increased site values) are dedicated back to finance the debt which arose from funding current improvements.

Building Schools for the Future programme ('BSF')

A Government investment programme into building and improving secondary school buildings in England overseen by Partnerships for Schools (PFS).

Primary Capital Programme ('PCP')

Similar to the BSF programme but aimed at the refurbishment of primary schools and schools for primary age special needs pupils.

Abbreviations

AMR	Annual Monitoring Report
ANGSt	Accessible Natural Greenspace Standard
BCIS	Building Cost Information Service
BSF	Building Schools for the Future
CIL	Community Infrastructure Levy
CLG	Communities and Local Government
CWRR	Crawley Western Relief Road
DPD	Development Plan Document
GVA	Gross Value Added
HDC	Horsham District Council
HWRS	Household Waste Recycling Site
LDF	Local Development Framework
NLP	Nathaniel Lichfield and Partners
NR	Network Rail
PCP	Primary Capital Programme
PCT	Primary Care Trust
PPG	Planning Policy Guidance
PPS	Planning Policy Statement
RIF	Rolling Infrastructure Fund
RSS	Regional Spatial Strategy
SHLAA	Strategic Housing Land Availability Assessment
SHMA	Strategic Housing Market Assessment
SPD	Supplementary Planning Document
TIF	Tax Increment Funding
TOC	Train Operating Company
WwTW	Wastewater Treatment Works
WSCC	West Sussex County Council

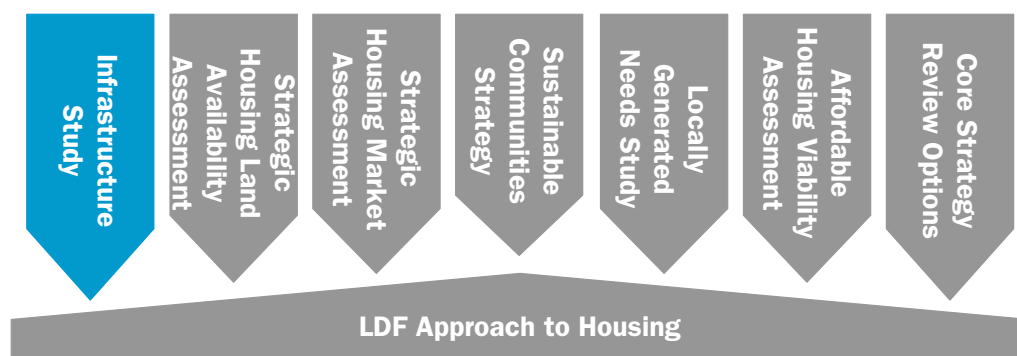
1.0 Introduction & Context

1.1 Nathaniel Lichfield and Partners (NLP) and Waterman Group were appointed in February 2010 to undertake an Infrastructure Study on behalf of Horsham District Council ('HDC').

1.2 The Infrastructure Study is one of the key components to assist HDC in its review of the Local Development Framework ('LDF') Core Strategy ('the Core Strategy Review'). It provides an evidence base on infrastructure requirements to assist HDC in making decisions on the deliverability of growth and the development of the preferred strategy for the district to 2026 and beyond.

1.3 It should be noted that this report must not be considered in isolation and forms just one input into a wider suite of evidence and documentation feeding into the LDF Core Strategy Review. It should therefore be considered alongside the other inputs into the LDF as illustrated in figure 1.1 below.

Figure 1.1 Role of the Study in Shaping HDC's Approach to Housing Growth



Source: NLP

1.4 Planning Policy Statement 12 ('PPS12') "Local Spatial Planning" (2008) sets the context of preparation of such studies. Paragraph 4.8 states: -

"The core strategy 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."

1.5 This study seeks to provide this evidence and primarily comprises an audit of existing infrastructure and an analysis of what is required to accommodate development needs up to 2026; with some limited review of potential needs in the longer term beyond the current plan period.

Study Context

- 1.6 The provision of new homes and the establishment of the infrastructure required to support them is a critical issue in meeting economic challenges and delivering sustainable communities. The role of housing targets and their importance in meeting demand for new housing has been repeatedly underlined by government, even in a climate where the pressure to deliver the targets is tempered by the impact of the recession and other factors.
- 1.7 The achievement of housing targets has represented a challenge to all those involved in the development process and at a time when house building is reportedly at one of its lowest levels for half a century, the magnitude of this challenge is even more apparent. The undermining of consumer and investor confidence and the inability of homeowners and house builders to secure necessary funding has resulted in a fundamental contraction in development activity.
- 1.8 Despite these shifts in the housing market, the pressure for new development over the longer term remains and arises from demographic changes, economic development and a wide range of policy requirements. As market conditions improve over the coming months, the key challenge in the medium to long term will be to deliver the necessary housing to meet the needs within the district of Horsham. At the current time, this requirement is established by the housing numbers in the South East Plan published in May 2009 ('the RSS'), although it is recognised that this may change due to shifts in the political landscape over the coming months. It is also recognised that the delivery of growth needs to be achieved in a manner that reflects and respects the need for an appropriate response to unparalleled environmental and sustainability challenges that exist at this time, including issues associated with climate change.
- 1.9 Dealing with these considerations will require an understanding of where and how new housing can be delivered in a way that creates viable and sustainable communities and, importantly, that this new housing can be adequately served by the necessary new infrastructure. It is this latter point that this study seeks to address.
- 1.10 The analysis has been based on potential growth scenarios which have been generated against the background of the LDF Core Strategy Review. The Core Strategy Review identifies how HDC is planning for the increase in housing provision identified in the RSS and to help meet anticipated need and demand both at a strategic level and also other forms of growth associated with existing towns/settlements, in rural areas and through new strategic housing developments.
- 1.11 Mirroring this approach, the infrastructure study has regard to both strategic district wide issues and also more localised matters associated with individual settlements and strategic development sites as follows:

Table 1.1 Spatial Hierarchy of Assessment

Scale	Areas	Types of Assessment
Sub-Regional and District-wide	Horsham District and surrounding areas of adjoining districts.	District-wide review of strategic infrastructure and overarching issues
Category 1 Settlements	Horsham, Southwater, Billingshurst, Pulborough, Storrington & Sullington, Steyning, Bramber & Upper Beeding and Henfield.	Identification of existing issues, infrastructure tipping points and future requirements for each main settlement or area
Category 2 Settlements	Network of smaller villages	Identification of specific infrastructure issues within settlements
Strategic Sites	Two strategic development commitments identified in the adopted Core Strategy (2007) and four strategic site options identified for further consideration as part of the Core Strategy Review	Impact on existing infrastructure and required infrastructure to support development

- 1.12 The study reviews associated delivery mechanisms and overarching cost and funding implications including developer contributions and the possible introduction of a Community Infrastructure Levy ('CIL'). It also reviews the organisations responsible for infrastructure provision, the capital cost and potential funding sources, the potential phasing of infrastructure required and the risks or potential obstacles to delivery.

Objectives

- 1.13 The objectives of the study are:-
- 1 To provide appropriate evidence on infrastructure requirements to help HDC in shaping the quantum, location and form of development within the district up to 2026.
 - 2 To enable HDC and stakeholders in making the necessary choices and establishing the appropriate priorities for growth in the district by establishing any 'tipping points' and the marginal impacts and costs of growth as it relates to infrastructure.
 - 3 To provide sufficient clarity to infrastructure providers as to what is needed within the district to support the growth scenarios and to give all parties the confidence that the infrastructure will be delivered and what contributions should be made by them accordingly.
 - 4 To identify an infrastructure delivery plan/programme which will provide an integrated approach to future investment and provide a basis for the potential introduction of a CIL within the district.

Defining Infrastructure

- 1.14 In a policy and delivery landscape where resources are limited, there is a need to focus on the infrastructure that is most needed to support housing growth, and to make choices and trade-offs between the costs and benefits associated with different requirements. This is particularly important at a time when public finances are likely to be constrained and where development values are pressured by a difficult market and by increasing regulatory burdens on housing design and construction.
- 1.15 For this reason, this study therefore seeks to categorise different infrastructure types based on a high level view of its necessity in bringing forward development. It seeks to distinguish between:-
- 1 **'Fundamental'** infrastructure required to overcome development 'showstoppers'. This category includes infrastructure that is so fundamental to growth taking place that without it development (or occupancy of development) could not occur (e.g. supply of water, utilities or access). These are infrastructure types that generally must be provided up-front to support development;
 - 2 **'Essential'** infrastructure required to ensure development can be implemented with no detrimental effects on site, to the settlement and beyond. Infrastructure in this category will be essential to achieving growth in a timely and sustainable manner, and which must be delivered at least in the medium to long term or to allow later phases to proceed, but where (subject to location) a short term alternative might be possible (e.g. school provision, where the possibility exists to bus children to a nearby town)'; and
 - 3 **'Required'** infrastructure to ensure sustainable communities are created. This category includes infrastructure which is deemed necessary by virtue of legitimate policy objectives (e.g. around access to amenities) and the desire to achieve high quality and sustainable development. It is legitimate to seek provision of such infrastructure through s.106 agreements in accordance with the relevant guidance/SPD.
- 1.16 By definition, and at this stage, the exercise of defining the above is one that is strategic, non location specific and is best related to the policy weight attributed to different types of infrastructure before a formal pattern of growth is established. As work on the Core Strategy Review proceeds there will, undoubtedly, be legitimate debate around which infrastructure falls into which category, and it is wholly possible for infrastructure to sit within different categories in different locations/developments.
- 1.17 Table 1.2 below establishes the broad spectrum of infrastructure classes and how these have been categorised into the three guiding principles 'fundamental', 'essential' and 'required' for the purposes of this study.

Table 1.2 Hierarchy of Infrastructure

Infrastructure Theme	Infrastructure Type	Position in Hierarchy	Spatial Scale for Assessment
Education	Primary Schools	Essential	District, Settlement and Strategic Site
	Secondary Schools	Essential	District, Settlement and Strategic Site
Health	Hospitals	Essential	Sub-Regional and District
	GPs	Essential	District, Settlement and Strategic Site
	Dentists	Essential	District, Settlement
Utilities	Energy	Fundamental	District and Settlement
	Renewable Energy	Required	Settlement and Strategic Site
	Gas	Fundamental	District and Settlement
	Potable Water	Fundamental	District and Settlement
Waste	Waste	Fundamental	District
	Recycling	Fundamental	District and Settlement
Water and Wastewater	Sewers	Fundamental	District, Settlement and Strategic Site
	Wastewater Treatment	Fundamental	District, Settlement and Strategic Site
Transport	Road	Fundamental	District, Settlement and Strategic Site
	Public Transport	Fundamental	District, Settlement and Strategic Site
Community Infrastructure	Libraries	Required	District, Settlement and Strategic Site
	Community Centres	Required	Settlement and Strategic Site
	Built Sports Facilities	Required	District, Settlement and Strategic Site
Green Infrastructure	Playing Fields /Outdoor Sports	Required	District, Settlement and Strategic Site
	Open Space/ Parks	Required	District, Settlement and Strategic Site
	Allotments	Required	District and Settlement
	Playgrounds	Required	District, Settlement and Strategic Site

Outputs and Report Structure

- 1.18 The outputs of the study, presented in this document and accompanying appendices, are aligned with the objectives of the study and provide information:
- 1 on deficiencies in existing and future infrastructure requirements estimated against benchmarked standards (where available);
 - 2 on existing funding commitments and future funding resources that may be available if forecast population growth is achieved;
 - 3 on whether the identified infrastructure is fundamental, essential or required using a proportionate and pragmatic approach to infrastructure requirements over the plan period;
 - 4 to allow HDC to determine whether certain infrastructure should be required and how required infrastructure should be phased;
 - 5 to allow an understanding of the marginal costs and benefits of investment for growth in different locations to support the spatial planning choices in the district;
 - 6 which identifies the trigger points for key infrastructure in each location to support phasing judgements;
 - 7 to take account of the potential for infrastructure provision opportunities to extend over administrative boundaries through joint working or linking into existing projects outside the district's boundaries;
 - 8 on the infrastructure delivery plan to support the preferred strategy of the Core Strategy Review with costs and funding identified for different elements of infrastructure; responsibilities for delivery; any new structures for funding and governance; and appropriate monitoring and review arrangements.
- 1.19 The report is structured as follows:-
- Section 2.0 explains the methodology and how it relates to the overall study objectives;
 - Section 3.0 provides a summary of the growth scenario context that has formed the basis for the study;
 - Section 4.0 summarises the baseline infrastructure position;
 - Section 5.0 sets out the assessment of overall infrastructure requirements at a strategic level, by settlement/site and cumulatively;
 - Section 6.0 identifies appropriate funding and delivery mechanisms;
 - Section 7.0 establishes the proposed delivery plan and identifies any marginal impacts arising; and
 - Section 8.0 sets out the overall conclusions and recommendations.

Appendix Schedule

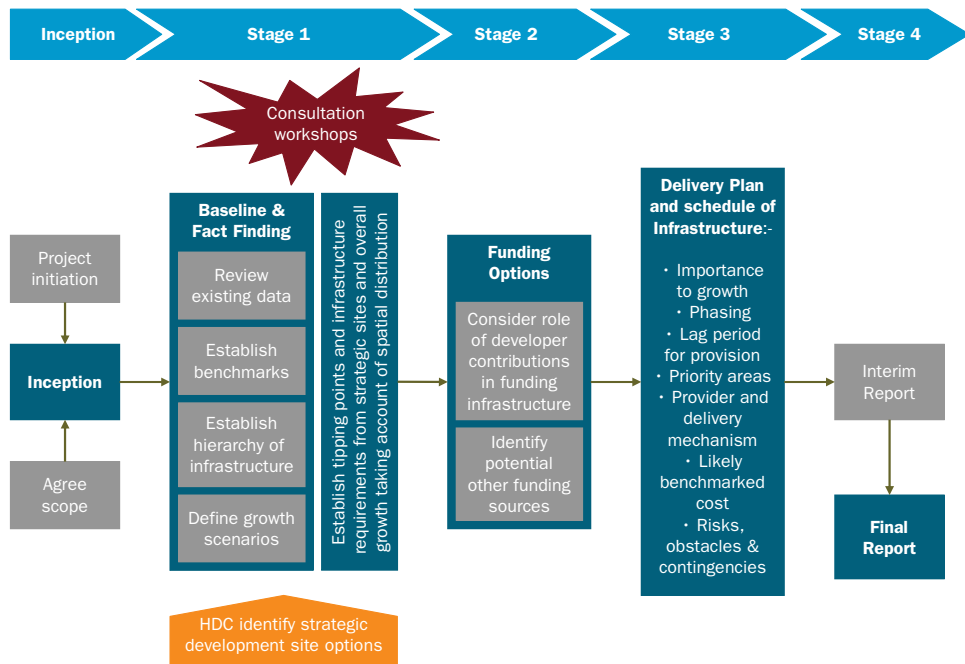
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2.0 Methodology

Overall Approach

2.1 The methodology for undertaking the study is set out within a series of stages as set out on Figure 3.1 below.

Figure 2.1 Overall Approach to Infrastructure Study



2.2 The study has been carried out between February and April 2010. Whilst sufficiently flexible to allow updating in the future, it is the nature of infrastructure studies that they represent a snapshot in time against the context of existing information. Notwithstanding, the robust methodology set out below will generate guidance on infrastructure provision which will allow HDC to make spatial planning choices as part the Core Strategy Review.

Approach to Assessing Infrastructure Provision

Range of Provision

2.3 Infrastructure is an important enabler of development and encompasses a range of types of provision which can be provided at a regional, sub-regional, local and neighbourhood level as appropriate. The approach to assessing the different types of infrastructure considered in this study can be summarised as follows: -

Education

- 2.4 Including primary and secondary schools as well as other skills and education facilities such as further education or skills training opportunities, the study estimates the likely pupil generation from the different growth options and compares this with existing capacity to identify where new infrastructure may be required. The assessment has drawn on information from West Sussex County Council and the Learning and Skills Council on the extent to which future education requirements are known, the implications in terms of capital and revenue costs and the programme for delivery in relation to the growth identified in the district. In carrying out the assessment, it is noted that funding for schools linked to demographic change is substantially addressed through the Government's Primary Capital Programme ('PCP') and Building Skills for the Future programme ('BSF') as well as through Basic Need formula funding. Against this background, the study has taken account of CLG's stance that infrastructure studies do not 'under-count' the way in which existing funding streams will support growth, and therefore over-estimate the financial costs of growth on development.

Health

- 2.5 Growth will require a range of healthcare services including primary, secondary and community care. Against a background of whether existing health services (hospitals, GPs and dentists) are likely to be stretched or where coverage may be poor, consideration has been given to the extent to which the West Sussex Primary Care Trust ('PCT') has modelled future requirements based on housing projections and demographic change (particularly amongst the elderly population) and whether capital costs have been identified. In the long term, regard has been given to the extent to which potential future changes in the delivery of healthcare have been factored in.

Utilities

- 2.6 Primarily delivered by the private sector, a key issue nonetheless relates to the extent to which private sector companies can plan for long term change based on their regulated business planning cycles and funding. The study has identified whether fundamental barriers exist to delivering the utility infrastructure required to support the planned level of growth and how capacity issues may be mitigated; including consideration of renewable energy. Based on existing data (where available) and enquiries of the utility company providers (electricity, gas, water), the appraisal confirms the costs, timetable and constraints relevant to the provision of new supplies to the proposed growth.

Waste

- 2.7 Services are commissioned by local authorities but are delivered by a range of providers with a particular focus on recycling and other environmental standards. Using the baseline identified in the emerging West Sussex Waste and Minerals LDF Background Papers, consideration has been given to likely

future waste management requirements, taking account of the level, type and scope of provision, facilities and services.

Water and Wastewater

- 2.8 In consultation with providers and the Environment Agency, an assessment of whether local public sewer capacity may not accommodate flows generated by new strategic development site or development site option (and other growth) as well as existing waste water treatment plant capacity has been carried out. Strategically, the issue of the effect of growth on the network for potable water has been addressed. The potential to utilise infrastructure provision/providers outside of the administrative boundary of HDC has also been explored where necessary and appropriate.

Transport

- 2.9 Given the potential for modal shifts in transport infrastructure provision, major growth necessitates a strategic review of transport infrastructure to be undertaken. This has had regard to an understanding of the extent of which strategic transport requirements, linked to long term growth, have already been taken forward or into account by transport providers and the local highways authority. It also appraises particular strategic road and public transportation issues (including those relating to Junction 11 of the M23) in the light of growth in the district. Particular regard has been given to how different combinations of growth in different locations gives rise to different transportation effects with a view to identifying potential showstoppers (combinations of sites) and any changes required to mitigate these effects.

Community Infrastructure

- 2.10 The study assesses what community infrastructure could be required to support growth, such as libraries, community centres and built leisure facilities. An important element of the assessment is the effect that additional housing has on existing communities. The study has considered where growth could underpin the continued provision or introduction of community facilities to support the local population.

Green Infrastructure

- 2.11 New development will have an effect on access to green infrastructure types including open space and outdoor sports facilities which have an important role to play in creating settlements that are sustainable and neighbourhoods that improve quality of life. The study has identified existing and required provision using a combination of the Fields in Trust's *'Planning and Design for Outdoor Sport and Play'* (formerly the 'six acre standard'), the Horsham PPG17 Assessment (2005) and Natural England's Accessible Natural Green Space Standards (ANGSt) to estimate the level of green infrastructure that is currently and could be expected to be provided. The study has sought to identify 'priority

areas' to link into a wider green network in the district, potential also linking to the South Downs National Park (e.g. walking and cycling trails).

Benchmarking Provision

- 2.12 Our approach to identifying the need for additional infrastructure has been guided in part by the availability of existing information and also to the issues identified during consultation, to ensure a sound, yet pragmatic, approach is taken.
- 2.13 A key component, as indicated in the consideration of individual infrastructure types above, is establishment at the outset of the extent to which the existing infrastructure satisfies needs both in respect of the existing situation and also over the plan period. To carry out this analysis, individual infrastructure types will be benchmarked to establish the extent to which needs are met now or where there is current under provision. This will be taken into account in identification of the extent to which future development will give rise to the need for additional or improvements to infrastructure types.
- 2.14 Our approach uses adopted standards or ratios (some of which are identified above), where these exist or, where necessary, a qualitative assessment has been carried out based on information available. The qualitative assessment, where used, has been based on the experience and knowledge of those undertaking this study.

Limitations of a Benchmarking Approach

- 2.15 There are numerous limitations to using a benchmarking approach, although such an approach is very useful in providing an overview of current provision and future requirements as a starting point for more in-depth analysis. In this context a benchmarking approach should not be used as a substitute for site-specific analysis that can provide a much more in-depth assessment of the quantitative and qualitative provision.
- 2.16 The outputs from a benchmarking approach are broad level requirements based on either identified standards, the ratio of existing provision or average levels of provision across varying spatial scales. In each case the standards used are based on a sound rationale and also rely on information obtained from stakeholder consultation on specific infrastructure characteristics and issues within the District. However, the identified requirements are not to be taken as a definitive level of requirement, recognising that location specific issues may present themselves, and that certain infrastructure classes are undergoing reviews of provision and operational models that will have an impact. However, it can be used as a strategic tool in assessing the total level of infrastructure requirement that would reasonably be required to support such levels of growth. Similarly, any costings for buildings and works are estimates based either on comparable schemes or identified build costs and should not be used as a definitive level of capital cost in advance of a precise specification, merely an indicative amount to give an estimate of the likely level of costs.

- 2.17 A benchmarking approach has not been suitable for all infrastructure themes due to the complexities of certain infrastructure types and where there are gaps in baseline data. Where a benchmarking approach has not been suitable, a fully qualitative approach is taken, using information obtained from our background review and stakeholder consultation to identify key future requirements.

Methodology

Stage 1 – Baseline and Fact Finding

- 2.18 Following an inception meeting, at which key data sources and contacts were agreed, a policy review was undertaken to establish the strategic context and parameters of the study and the platform upon which subsequent analysis was development. This sought to understand the key strategic drivers for growth and set the strategic parameters of the study.

Existing Position

- 2.19 A review of information currently available in respect of the district was conducted to gather the evidence needed to support the demand for and feasibility of growth. This included primary and secondary data and analysis of policy objectives to establish if and where there are existing infrastructure deficits or surpluses. The objective was to establish a clear baseline infrastructure position for the study area including an audit of existing infrastructure against current benchmarks and/or qualitative assessment to establish current provision and the extent to which this is ‘fit for purpose’.
- 2.20 The baseline infrastructure review also sought to identify existing levels of ‘under provision’ that will need to be considered or ‘surplus provision’ which may meet some future demand for additional infrastructure. From this the ‘tipping point’ for infrastructure has been identified i.e. how much more growth can be accommodated before investment is likely to be required.
- 2.21 Undertaking new primary technical work was not identified within the scope of this study but sufficient data has been sourced to enable the existing position to be established.
- 2.22 The evidence identified formed the basis of consultation with key stakeholders in the district to supplement and agree data on provision and future requirements. This included a day of stakeholder workshops as well as follow up letters and telephone conversations.

Growth Scenarios

- 2.23 The scale and location of future growth identified in the Core Strategy Review has been analysed to present a series of growth scenarios that have formed the basis of future infrastructure requirements within the district. Based on the identified housing requirements for the district in the RSS, three growth scenarios (high, medium and low) have been developed and agreed with HDC to

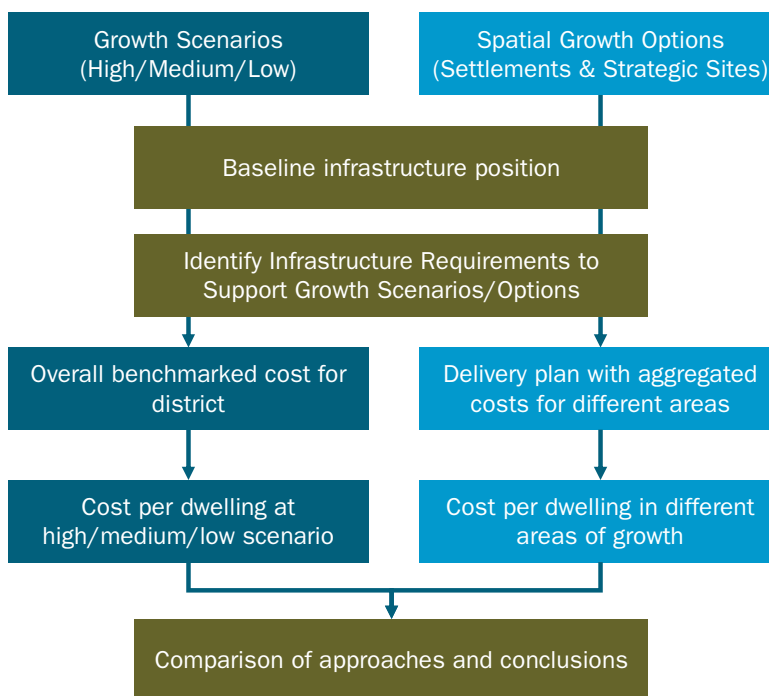
allow consideration at a strategic level of overall infrastructure requirements to 2026 (and beyond where necessary).

2.24 In addition, consideration has been given to more location specific requirements within the district based on identified growth in the Core Strategy Review for Category 1 and 2 settlements and for a series of strategic sites or strategic site options.

2.25 The strategic sites fall into two categories. First, the two sites identified in the adopted Horsham Core Strategy (2007) and second, those four locations identified by HDC in February 2010 as those which should be subject to further investigation as the Core Strategy Review progresses. It is not the purpose of this study to endorse any or all of these options or to justify their selection over others identified at earlier stages of the LDF process; rather to consider the infrastructure requirements should these sites be taken forward within the Core Strategy Review.

2.26 These two levels of analysis, district-wide growth and spatially specific growth, will provide both an overview of the total quantum of infrastructure required to support growth over the core strategy period, as well as an analysis of the spatially specific infrastructure requirements arising out of growth in particular parts of the district.

Figure 2.2 Approach to applying different growth scenarios



2.27 As shown in Figure 2.2 the two approaches provide a comprehensive assessment at both the district and settlement level, acknowledging that potentially outputs from each differ due to the need to match infrastructure provision spatially to requirements at the local level at a point in time.

Stage 2 – Funding Options

- 2.28 Once the existing and future requirements for the district had been benchmarked, funding options available to deliver the required infrastructure was explored with a particular focus on providing information on how gaps in funding can be met. This included identification of a number of recommended mechanisms on how future funding could be implemented including consideration of traditional s106 approaches for capturing value from development as well as emergent systems such as CIL and other funding mechanisms.

Stage 3 – Delivery Plan

- 2.29 A strategy for delivery has been determined, highlighting any particular risks and to ensure that infrastructure is capable of delivery on the ground. As set out above, the plan has identified (in respect of each infrastructure type):-

- 1 Whether the infrastructure is critical, essential or desirable to enable development to go ahead;
- 2 The time it will take to provide infrastructure;
- 3 The delivery partners who will provide the infrastructure;
- 4 The mechanism, potential overall cost and funding sources for delivery;
- 5 The phasing of delivery of infrastructure to enable growth, linking to the necessity of the infrastructure including whether it is required up front or could be linked to recapturing future value uplift; and
- 6 Potential obstacles and risks to delivery.

- 2.30 A delivery schedule and accompanying Gantt style chart has been prepared for each infrastructure type. Where available, industry accepted standards, such as the BCIS, have been used for build cost information.

Stage 4 – Reporting

- 2.31 The findings from the assessment have been brought together in this report along with accompanying appendices, using appropriate maps, charts and schedules as necessary. The report has been structured to navigate the reader through the logical sequence of outputs required to develop the delivery plan for the district. It also includes an executive summary providing a summary of the infrastructure requirements

3.0 Growth in the District

Context for Growth

- 3.1 The South East Plan (2009) currently provides the overarching policy framework for planning housing growth in Horsham. The Plan identifies the northeast of the district within the Gatwick sub-region and specifies separate housing targets for areas within and those outside the sub-region. In total, the RSS sets a housing requirement of 13,000 new dwellings to be provided in Horsham between 2006 and 2026 of which 9,200 are to be delivered in the Gatwick sub-region and the remainder elsewhere in the district.
- 3.2 Section 2.0 introduced the critical role which housing targets play in meeting economic challenges and delivering sustainable communities.
- 3.3 HDC's current Core Strategy (February 2007) was adopted ('the adopted Core Strategy') prior to the publication of the South East Plan and identifies provision for 10,575 new homes over the period 2001 to 2018. The current Core Strategy review (consultation draft published in September 2009) is being progressed to identify provision for 13,000 new dwellings for the period 2006 to 2026.

Scenarios for Growth

- 3.4 This infrastructure study seeks to assess infrastructure requirements at both a district wide scale as well as on a spatial basis. To enable the assessment of the future infrastructure to support growth it is necessary to identify the likely growth that will occur and its spatial distribution. In consideration of the existing planning policy context, emerging planning policy within Horsham and in consideration of the parameters for the infrastructure study set by Horsham District Council, a small number of growth scenarios upon which to assess future infrastructure requirements were agreed. These scenarios reflect likely growth over the Core Strategy Review period to 2026 and potential options for growth beyond, taking into consideration the different spatial scales at which infrastructure requirements are analysed.

District-wide Scenarios

- 3.5 The starting point for growth within the District is the housing requirements set out in the South East Plan RSS. The RSS sets a requirement of 13,000 new homes in Horsham District between 2006 and 2026. This requirement is split between the Gatwick Sub-Region part of the district, with 9,200, and the rest the district, with 3,800. The 2008/09 AMR, identified that 920 dwellings had been completed since the start of the South East Plan period at March 2009. This leaves a residual requirement of 12,080 new dwellings to 2026, equivalent to 711 dwellings per annum. Beyond this, for long term planning purposes, it is assumed that completions will continue at the same level as the RSS for the period to 2031.

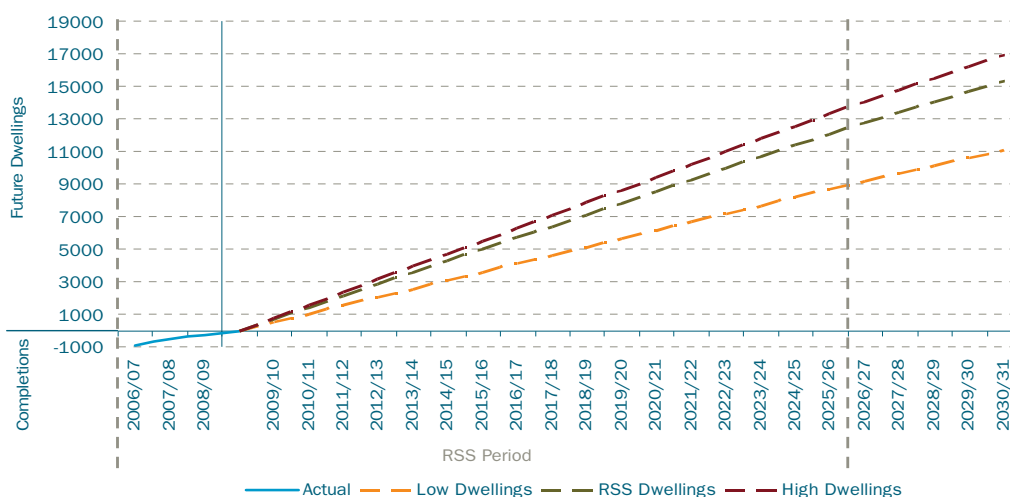
3.6 To build in an element of sensitivity analysis NLP has also looked at a low and a high scenario. These have been informed by work undertaken separately to this infrastructure study on locally generated housing need. This work identifies that a low growth scenario generated by zero employment growth would generate a local requirement for 9,639 new homes over the period 2006-2026, equivalent to 26% below RSS levels. A higher growth scenario is also presented based on employment growth at 3% of Gross Value Added (per annum) which would generate a local requirement for 14,269 new homes over the period 2006-2026, equivalent to 10% higher than RSS levels. These have been rolled forward to 2031 as an estimate of growth beyond 2026.

Table 3.1 Growth Scenarios

	Low (RSS -26%)		Medium (RSS)		High (RSS +10%)	
	Overall	Per Annum	Overall	Per Annum	Overall	Per Annum
Requirement 2006-2026	9,639	482	13,000	650	14,269	713
Completions 2006-2009	920 (307 per annum)					
Residual Requirement 2009-2026	8,716	512	12,080	711	13,349	785
Requirement 2026-2031	2,410	482	3,250	650	3,565	713
Total 2009-2031	11,126	n/a	15,330	n/a	16,914	n/a

3.7 These scenarios are illustrated in Figure 3.1.

Figure 3.1 Growth Scenarios



3.8 These provide the starting point at a district scale for assessing infrastructure requirements. However, these will also need to be considered in the context of the assumed spatial distribution of growth within the District, including the strategic sites or site options. To enable this, a base scenario for growth in each area of the District was developed and agreed.

Base Scenario

3.9

The base scenario reflects the likely spatial distribution of the growth which will occur in Horsham over the period to 2026 and beyond. The growth reflects existing strategic commitments, future strategic site options currently being progressed through the Core Strategy Review and potential growth in existing settlements, which have been identified from published adopted DPDs and consultation documents. NLP has also taken account of HDC's decision to narrow the list of potential strategic sites to be subject to further consideration to a short-list of four (the two sites to the north of Horsham being considered as one site). Table 3.2 outlines the number, or where applicable the range, of dwellings likely to be completed in each part of the District.

Table 3.2 Areas of Likely Growth 2010-2031

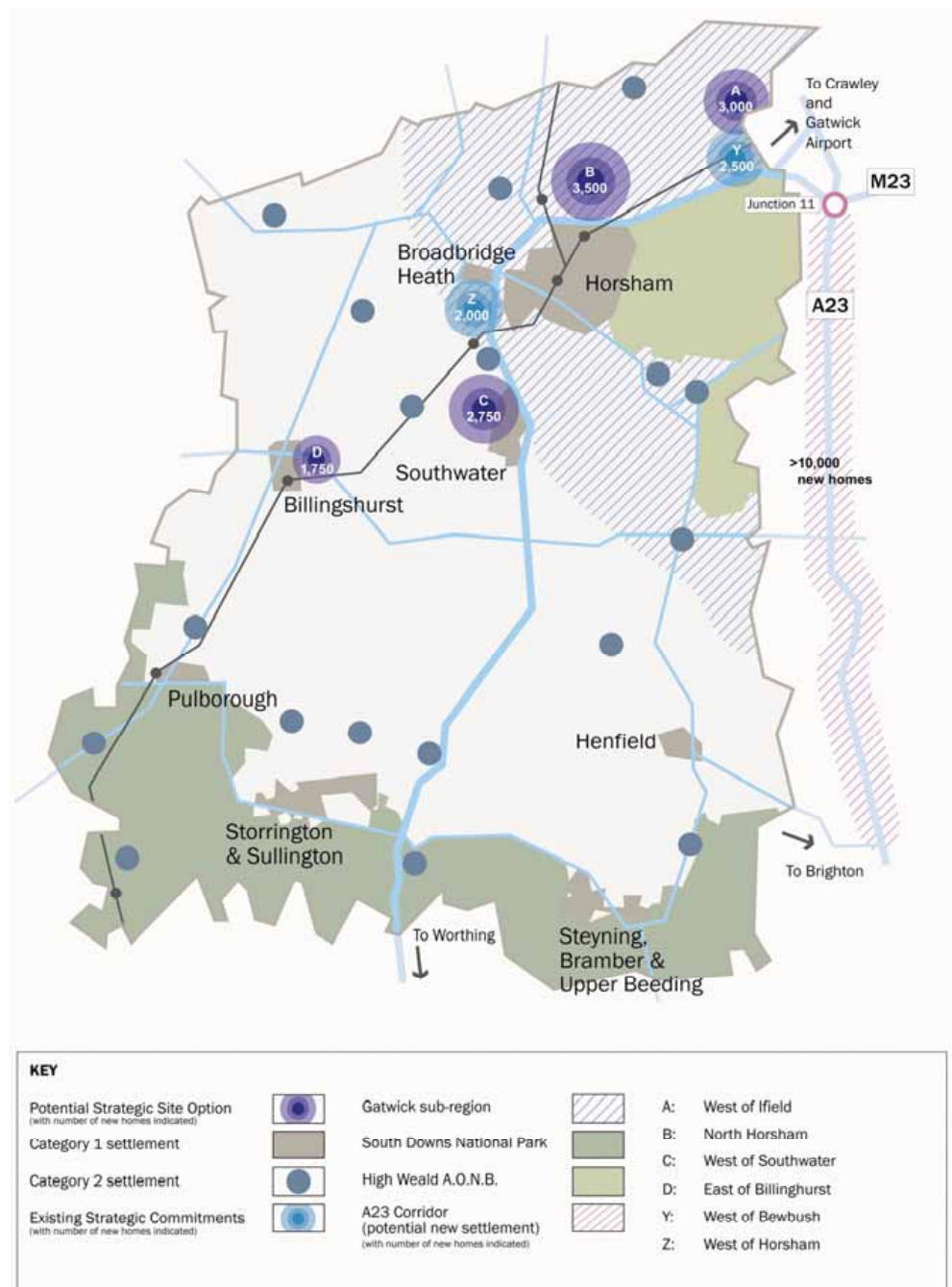
Area	Dwellings (Range)	Other Growth	Source/Assumptions
Strategic Site Options			
West of Ifield	3,000		Core Strategy Review, individual site masterplans as available and stakeholder consultation with site promoters.
North Horsham: Holbrook Park and Chennells Brook	3,500	2ha Employment	
West of Southwater	2,750		
East of Billingshurst	1,750	14ha Employment	
Existing Strategic Site Commitments			
West of Bewbush	2,500	8,000m ² Employment	Joint Area Action Plan
West of Horsham	2,000	Employment	Masterplan
Category 1 Settlements			
Horsham	827-992	24.4ha Employment at Brickworks Site	Estimates based upon committed sites and identified land supply in each settlement as per the Horsham AMR (2008/09) which provides a comprehensive list of all future developments with planning permission in each settlement. Range identified to reflect potential for windfalls and future growth estimated at 20% increase on existing commitments.
Broadbridge Heath	52-62		
Southwater	74-89		
Billingshurst	113-136		
Pulborough	114-137		
Storrington & Sullington	138-166		
Henfield	103-124		
Steyning, Bramber & Upper Beeding	39-47	Employment at Shoreham Cement Works (45ha)	

Area	Dwellings (Range)	Other Growth	Source/Assumptions
Category 2 Settlements			
All Category 2 Settlements	213-255		Also based upon committed supply in Category 2 settlements based upon Horsham AMR.
Total District-wide			
Gatwick Sub-Region sub-total	8,556	n/a	Regional Spatial Strategy less (apportioned 70:30) completions from 08/09 AMR. Range reflects district-wide scenarios and beyond 2026 potential.
Rest of District sub-total	3,524	n/a	
Total to 2026	12,080 (8,720 – 13,350)	n/a	This total district-wide growth is to be made up from the above identified potential development opportunities meaning in some scenarios (e.g. the low scenario) not all potential growth will need to come forward.
Total to 2031	15,330 (11,130 – 16,920)	n/a	

3.10

In terms of the spatial distribution of this growth, the majority of housing, as required by the RSS in light of the location of part of the district within the Gatwick Sub-Region, is set to be built in the north-eastern part of the District. This spatial distribution is illustrated in the map shown in Figure 4.2, which shows the location of the strategic sites and site options and the Category 1 and Category 2 settlements.

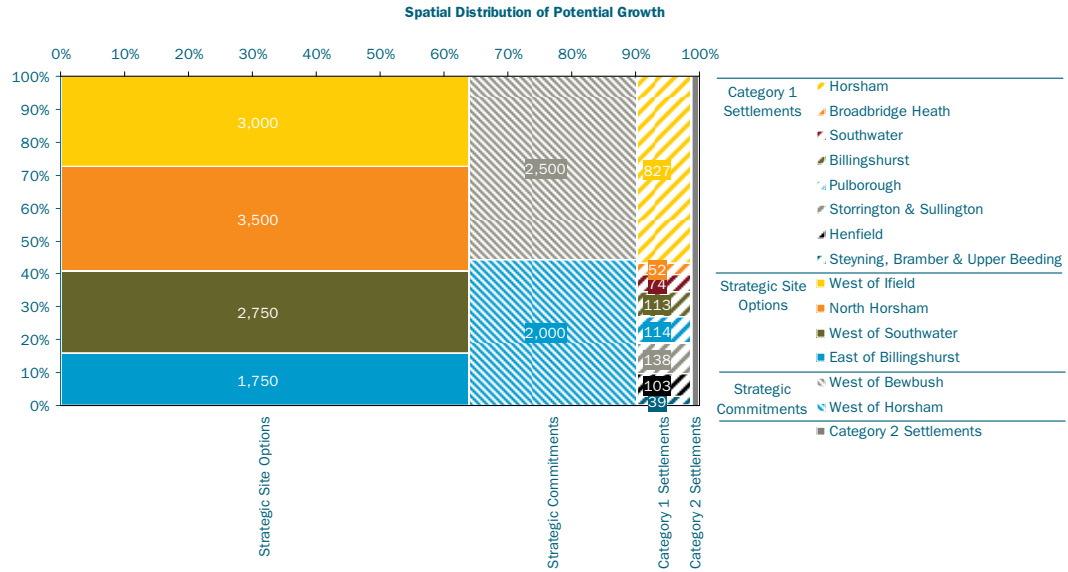
Figure 3.2 Potential Distribution of Growth



3.11

The majority of potential planned future growth is to be delivered on strategic sites and site options, with almost 90% of future housing currently identified coming from the potential strategic sites or existing strategic site commitments, as shown in Figure 3.3. It should be noted that the phasing of strategic sites and site options is assumed to meet the requirements within current core strategy period and certainly within the time horizons of this study, however, the total capacity identified may outstrip the required growth within the scenarios identified, meaning some development/growth opportunities may occur beyond the horizons of this study.

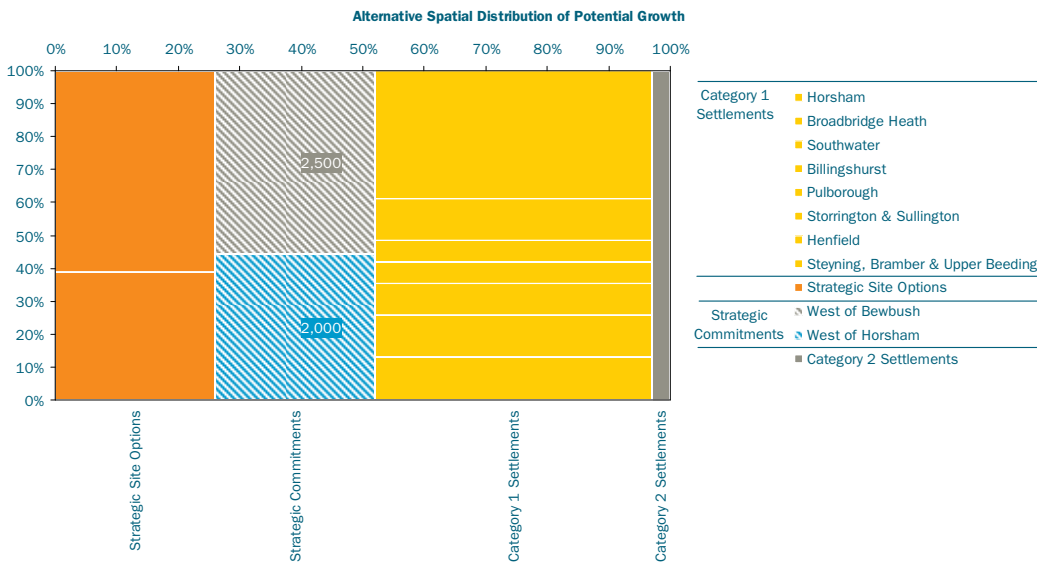
Figure 3.3 Spatial Distribution of Potential Growth



3.12

This base scenario will form the basis for assessing localised infrastructure impacts for growth in particular settlements or on particular strategic sites or site options. However, the study will also need to consider the potential for an alternative spatial distribution of sites, if, for example, one or more of the strategic sites or site options were not to be carried forward or built out during the Core Strategy Review period. This may necessitate more growth coming forward on sites in the existing Category 1 and Category 2 settlements, which would be identified through the SHLAA process. This alternative is illustrated in Figure 3.4.

Figure 3.4 Alternative Spatial Distribution of Growth



Long Term Growth and Potential New Settlement

- 3.13 Although based on the above growth scenarios, the current committed housing sites, potential strategic site options being promoted through the Core Strategy Review and settlement growth could potentially meet the full housing requirement to 2031, subject to phasing, it is still necessary to consider the implications of longer term growth, albeit given inherent uncertainties around how this may come forward this is undertaken in more overarching terms.
- 3.14 The Core Strategy Review identifies that development of a potential new market town settlement to deliver sub-regional growth jointly with neighbouring authorities is one potential strategy for investigation. Whilst the above scenarios provide scope to assess infrastructure requirements to 2031, NLP has also assessed the potential infrastructure issues associated with a potential new settlement assumed to be within the A23 corridor and of a 'market town' scale of 10,000 plus new dwellings. Without the necessary details of exact location and settlement type, this analysis is undertaken at a high level, to identify likely key infrastructure issues and the potential for 'showstoppers' associated with such a new settlement.

4.0 **Baseline Infrastructure Position**

District-Wide Infrastructure Capacity

- 4.1 To establish the future requirements for infrastructure to support growth, it is first necessary to establish what existing infrastructure is currently in places, and how 'fit for purpose' it is to serve the existing population. This baseline helps to identify where there are existing pressures on infrastructure, even without the added implications of growth, and where there is existing capacity within infrastructure to support growth without the need to invest in new infrastructure.
- 4.2 NLP has undertaken a comprehensive baseline analysis for each infrastructure theme, overall and by each main settlement, in Appendix 3. A summary of the overall existing position and the pressures and key issues are identified below. Mapped baseline data for all infrastructure types is included in Appendix 1 and provides a visual representation of the existing spatial distribution of infrastructure provision. These maps are particularly useful as reference tool to accompany the description of the baseline position and have been used in conjunction with the quantitative analysis to provide an analysis of infrastructure accessibility (e.g. how far from a school or a GP a household may be).

Education

- 4.3 West Sussex County Council are the local education authority for Horsham District, and operate a two tier system of primary and secondary schools, albeit with some primary schools split into infant and junior tiers and also a number of intermediate schools replacing early secondary provision.
- 4.4 There are currently a total of 45 primary tier schools within Horsham District, soon to be reduced to 44 with the amalgamation of Billingshurst infant and junior schools in 2010. As at January 2009, the most recent information currently available from the schools census, there were 9,163 primary school pupils in the District, with a total capacity within the primary school system in the district of 10,298, equivalent to an 11% spare existing capacity. Whilst overall there is extra capacity within primary schools, this masks a large variation at local spatial levels. Six primary schools in the District are oversubscribed, with a further 10 falling below the audit commissions suggested natural capacity target of 7-10%. Particular pressures are evident on primary school provision in Horsham, where the Kingslea and Greenway schools are oversubscribed, and the southern central area of the District where the schools in the settlements of Washington, Ashington, Ashurst and Steyning are all currently at or over capacity.
- 4.5 There are currently six secondary tier schools within the District, five full secondary schools and Rydon Community College, an intermediate school for 10-13 year olds. As at January 2009 there were 7,175 secondary pupils within

the District with a total capacity of 7,462, equivalent to just a 4% existing spare capacity. There are particular capacity issues across the South of the District with Steyning Grammar currently oversubscribed, and only 2% capacity within The Weald school in Billingshurst. Rydon Community School has spare capacity, but only up until age 13 when pupils tend to transfer to Steyning Grammar School. This will have implications for growth across the South of the District, In particular as it has been identified that there are issues around the physical capacity of The Weald school site to accommodate an extension. Within Horsham, which serves the North of the district, secondary schools are less constrained, with some capacity identified in the Tanbridge House School and Forest Boys School. However, the Mallais Girls School has restricted capacity (1%) and there are problems caused for capacity by the single sex nature of much of the secondary school provision in Horsham.

- 4.6 There are sixth forms within both the Weald School and Steyning Grammar, offering Post-16 qualifications, however, the main provision of Post-16 education within the District is The College of Richard Collyer in Horsham, which offers both sixth form facilities, apprenticeships and adult education. The admissions policy identifies that usually all applicants from the Horsham area will be accepted for entry, suggesting sufficient capacity to meet needs. Chichester College also has a campus within the District, the Brinsbury College campus near Adversane, which specialises in land based courses including agriculture and horticulture related qualifications.

Health

- 4.7 Healthcare in Horsham District is delivered primarily by the West Sussex Primary Care Trust (PCT). This is delivered both at the primary level, within existing communities through GP Surgeries and Dentists, and the secondary (acute) care level, through Hospitals and in/out patient facilities.
- 4.8 Horsham District has only one hospital, The Horsham Hospital, a community hospital with a minor injuries unit, X-ray department and numerous outpatient services. This hospital has recently undergone significant investment and provides an important base for a number of acute care areas. A gap in provision within the district is the lack of an Accident and Emergency facility with the nearest major hospitals with A&E facilities being the Princes Royal Hospital in Haywards Heath (230 beds), the East Surrey and Crawley Hospital in Redhill (493 beds) and the Worthing Hospital (443 beds). This has been identified as a key issue but needs to be viewed in a sub-regional context and a move towards greater provision of secondary healthcare at a local level (e.g. through walk-in centres and PCT 'mini-hubs').
- 4.9 There are currently a total of 82 GPs currently practicing within Horsham District in a total of 16 surgeries. There are 133,420 patients on list in the District with a benchmark capacity for 139,400 people (at 1 GP per 1,700 population), suggesting a capacity of 6,160 patients overall in the district. There are, however, some areas which appear more constrained for GP access than others. The main concentration of GPs within the District is within Horsham,

where there are 5 GP surgeries and 32 GPs with a patient list of 61,688, which is above benchmark capacity of 54,400, suggesting that there are current capacity constraints within the existing GP provision. The West Sussex PCT Strategic Service Delivery Plan identifies that all but one GP Surgery in Horsham may need expansion to meet needs. Other areas of potential capacity issues include Southwater Village Surgery, which has 7,093 patients on list for 4 GPs, and Broadbridge Heath, which is the only Category 1 settlement without its own GP surgery, relying on those nearby in Horsham. Surgeries in the other main settlements are sufficient to meet current needs and have some spare capacity to support growth, although this varies as shows in Table 4.1.

Table 4.1 GP Lists and Benchmark Capacity in the District

Settlement	GPs	List	Benchmark Capacity	Surplus	%
Horsham	32	61,668	54,400	-7,268	-13%
Broadbridge Heath	0	0	0	0	0%
Southwater	4	7,093	6,800	-293	-4%
Billingshurst	9	11,757	15,300	3,543	23%
Pulborough	9	12,119	15,300	3,181	21%
Storrington & Sullington	8	12,269	13,600	1,331	10%
Henfield	6	9,250	10,200	950	9%
Steyning, Bramber & Upper Beeding	7	11,191	11,900	709	6%
Rest of District	7	7,893	11,900	4,007	34%
District Total	82	133,240	139,400	6,160	

Source: NHS, West Sussex PCT and NLP Analysis

- 4.10 There are also a number of GP surgeries nearby in Crawley which may serve developments to the west of Crawley within Horsham District, however, these are also facing some capacity constraints, with both the West of Bewbush and Ifield Medical Practice surgeries oversubscribed against their benchmark capacity.
- 4.11 Horsham District has a 70 dental practitioners currently practicing within 23 surgeries, equivalent to 1 dentist per 1,867 population, below the benchmark standard of 1 per 2,000 population. The dental surgeries are distributed evenly throughout the District with all of the main settlements, except Broadbridge Heath, containing at least one dental surgery, ensuring reasonably good access throughout the District. Particularly there is a concentration of dentists in Horsham town centre. Overall provision of dental services appears good.

Utilities

Electricity

- 4.12 In general terms the EDF Energy high voltage infrastructure relates to the Horsham District Council area (excluding Billingshurst which is Scottish & Southern Energy infrastructure). EDF are not aware of any problems with the

existing supply quality in any area. During times of heavy demand EDF have various ways of 'off setting' the load by transferring it to other substations.

- 4.13 It is anticipated that the current infrastructure is adequate to meet the levels of forecasted development although there are some areas that do require additional network reinforcement (Pulborough being one such example).
- 4.14 Further infrastructure reinforcement may be required at Cowfold substation in order to meet future expansion in that area but the main shortfall is associated with Broadbridge Heath where there is no spare capacity and all new high voltage supplies must come from Horsham Grid which is centrally located close to Horsham rail station. A number of 11,000 Volt cables may be required at this location which would probably produce considerable disruption to road traffic flows to allow installation.
- 4.15 In the Crawley area, whilst the existing major sub-station at Southgate is significantly overloaded, EDF Energy have a proposal to deliver an additional transformer and other improvements. EDF Energy also has a reserve site at Crosskeys which together with the improved facilities at Southgate could supply the proposed strategic site options at West of Bewbush and West of Ifield.

Gas

- 4.16 Scotia Gas Networks currently has no constraints on the networks in the Horsham Area in supplying existing areas. In general terms the local network supplier, Scotia Gas Networks can provide gas at any of the proposed settlement locations in Horsham District. This would be by either reinforcing the existing network or by creating a new network by extending medium/intermediate pressure pipelines. The connection of additional dwellings to the existing network causes a reduction in gas pressure, the magnitude of which will depend on the size of the additional demand.

Renewable Energy

- 4.17 There are no major renewable energy schemes in the District, however, there are a range of micro-generation within existing developments. Horsham does have an emerging knowledge base for renewable energy with several firms located in Horsham within the industry, particularly for Combined Heat and Power (CHP).
- 4.18 It is difficult to quantify existing renewable energy infrastructure in the study area, however there are a number of options for integrating renewable energy infrastructure into proposed new development.

Waste

- 4.19 West Sussex County Council are the Waste Disposal Authority and are responsible for disposal of waste across the county.
- 4.20 WSCC currently dispose of waste at The Brookhurst Wood landfill site to the north of Horsham. The site has existing remaining capacity for 1.8m tonnes of

refuse. West Sussex currently produce approximately 400,000 tonnes of refuse per year, of which 78% is landfilled. At this rate, Brookhurst Wood Landfill has capacity for approximately 5.7 years. The development of infrastructure within the MRM contract will provide an alternative disposal route in the near future. The county is served by a network of 11 Household Waste Recycling Sites and a number of 'mobile' recycling centres – providing 2.75 HWRS per 100,000 population. Based on data from the National Assessment of Civic Amenity Sites this is significantly higher than the average provision in England (1.45 sites per 100,000 population). Household waste site arisings per inhabitant in the UK are approximately 131kg/inh/yr.

- 4.21 Existing infrastructure capacity at the Crawley HWRS is affected by proposed development in both Crawley borough and the northeast of Horsham district; some works will be required to accommodate scale of growth being considered. The Hop Oast HWRS (located in Horsham) is at operating capacity and works will be required to increase site capacity.
- 4.22 New waste infrastructure is to be developed on a district wide basis as part of a long-term Materials Resource Management Contract (MRM) which will divert waste from landfill. Biffa have been appointed as preferred bidder for the contract and negotiations are underway. Biffa have already received planning permission for a Mechanical Biological Treatment/Anaerobic Digestion facility (granted on 1st December 2009). If Biffa is successful in meeting all planning policies and guidelines and regulatory requirements of the Local Planning Authority and Environment Agency, then the facility could be operational by late 2012. The districts within West Sussex act as Waste Collection Authorities and are only responsible for the collection of waste from households.

Water & Wastewater

- 4.23 Southern Water is the provider for the majority of the Horsham District area. The major settlements have treatment undertaken at Horsham Wastewater Treatment Works ('WwTW') and Billingshurst WwTW although some of the smaller settlements have their own WwTWs such as Rudgwick, Henfield, Storrington, Steyning and Faygate.
- 4.24 There are potential constraints to wastewater treatment capacity within Horsham District, depending on the location of development. Horsham WwTW has some existing capacity which should be sufficient for the sites identified in the current adopted Core Strategy however further significant growth in the town will need to have regard to the headroom and available capacity at the works. It should be noted that environmental constraints could limit growth beyond the consented headroom as phosphorous is already an issue despite use of best available techniques ('BAT') to reduce its effect at the works.
- 4.25 Crawley WwTW (Thames Water) is also constrained and it is likely that future development in Crawley itself will use the remaining headroom. It should be noted that the capacity issues of Horsham and Crawley WwTW will be considered through the Gatwick Sub-region Water Cycle Study. As part of this

process the EA would wish to have tri-partite discussions between HDC, SWS and EA to understand the capacity issues fully.

- 4.26 Billingshurst WwTW has limited volumetric capacity and would need to be upgraded if significant future development were to take place in this area. The EA would need to consider the environmental constraints of the receiving waters prior to understanding the potential consent parameters and therefore the headroom.
- 4.27 Existing infrastructure capacity will be taken up by development allocated in Horsham District Council's (HDC) adopted Core Strategy to 2018. Additional sewerage and water distribution infrastructure will be required to serve development post 2018. Environmental constraints may limit where the discharge of additional volumes of treated wastewater effluent are permitted by the Environment Agency. Tri-partite discussions between SWS, the EA and HDC are ongoing to progress this issue.

Transport

M23/A 23 Corridor and Associated Junctions (J10/J11)

- 4.28 The Highways Agency has a number of concerns about the current operation of the M23/A23 corridor as traffic flows are already heavy and increasing leading to capacity and safety issues. This is also leading to significant delays at junctions J10 and J11. The concerns are also that the requirements for additional housing within the district will further exacerbate these issues indicating that the tipping point has been reached. The HA has undertaken a route strategy for this corridor and impacts of new schemes, especially in combination would be major.
- 4.29 The HA has concerns about the impact on the A23 from development, which would need to be tested in an area-wide transport model, and if found to be material a proportional contribution would be expected from developments that would conceivably have an impact on this corridor, including the strategic sites, as appropriate.

Transport Highway Local Network

- 4.30 WSCC report that there are several areas where there are capacity issues, these include junctions along the A24 from Buck Barn to the County Boundary and along the A29, particularly at Pulborough. Additionally, the A264 Crawley Road and the M23 junctions also have capacity issues (although the problems manifest themselves across the HDC boundary). A number of other roads also have highway safety issues due to their particular characteristics. There are also capacity issues within Horsham itself, particularly on the main approaches to the town from nearly all directions.

Public Transport - Bus

- 4.31 West Sussex has been particularly successful in growing bus patronage across the county as patronage has increased since 2002 from 13 million passengers pa to 24 million ppa recently. Many services are currently subsidised but there are also a number of commercially operated services, especially during the week. Passenger flows are expected to grow, matched by increases in services with the increased usage expected to come from both the existing population and the additional patronage as population increases. In general the locations for the additional housing are considered to be in locations where additional service frequencies and extensions to existing services will be able to provide the additional capacity.
- 4.32 The existing relationship between the bus operator (Metrobus) in the Horsham area and WSCC is good. The bus operator is considered to be pro-active with Real Time Information systems already being implemented part funded by WSCC and the operator.
- 4.33 However, it is expected that subsidies will continue to be required for many services although it is also hoped that increasing population and hence patronage will allow increased service frequencies within existing subsidies or a reducing subsidy. The main bus operator is positive about the future.
- 4.34 The operator considers that some efficiencies could be gained if the impacts of the Horsham one-way system could be reduced as currently also it can lead to delays and excessive mileage for buses with some bus routes passing around part of the town twice.

Public Transport – Rail

- 4.35 In contrast to the bus operations within the county, West Sussex County Council has less influence on local rail operations. The rail focus is set out in the Sussex Route Utilisation Strategy and Route Plans. Whilst Network Rail (NR) and the Train Operating Company ('TOC') (Southern) are sympathetic to enhanced rail services their current focus appears to be on longer distance commuting. This may be at odds with the local needs for some improvements to shorter distance commuting, particularly from the new developments, to Crawley and Horsham.
- 4.36 Whilst sympathetic towards developing new rail stations, Network Rail route planners have concerns that the time taken to slow, stop and accelerate may provide a poorer service for existing and new passengers. However, NR may consider more favourably relocating existing stations although they are in no position to provide funding. Currently the NR and TOC focus is on increases in capacity through longer trains and platform lengths, with any new/relocated station required to provide for 12 carriages.
- 4.37 The conclusion may be that in some cases public transport movements from new developments may be better served by improvements to bus services and bus priority measures focussed to existing stations. Additionally connectivity

with the rail stations will need to be considered in the routing and frequency of new bus services to provide onward journey connectivity.

Community Infrastructure

- 4.38 Community infrastructure is identified to include a wide range of built facilities which serve a community function. These include, but not exclusively, such facilities as libraries, community centres, museums, cultural destinations and built leisure facilities, including built sports facilities such as sports halls and swimming pools.
- 4.39 There is a very wide range of community centres which vary in function from small Scout Huts, to Village Halls, through to large Parish Council complexes which include numerous halls and a range of other services. Data supplied by Horsham DC identifies that in total there are 119 community centres within the District. These are complemented by 67 identified sports clubs or sports pavilions which also provide community facilities and other provision of built community space such as youth centres and leisure centres, where space may be used for general community activities. Due to the nature of community space, which encompasses a wide range of uses, users and disparate owners, the community centres identified is unlikely to be a comprehensive list, and also information on the size and quality of such spaces is not available. However, NLP has sought to identify overall accessibility to such facilities, and generally the District appears well served for such provision with even the smaller Category 2 settlements mostly containing a building which can be used for community functions. Notwithstanding any future detail that may come from a comprehensive audit of facilities, it appears that at the baseline the District is well served for community centres.
- 4.40 There are seven libraries within Horsham District, Billingshurst, Henfield, Horsham, Pulborough, Southwater, Steyning and Storrington, as well as a mobile service to the smaller communities. In consultation WSCC Library Service identified that all existing library facilities are adequate for current needs and that whilst they plan to maintain the current network of static libraries, they envisage that new libraries to support new communities will be sought as part of a community development rather than developed as a stand alone library. The level of provision of new library facilities will depend on the size and dynamics of the community and could be a small staffed library with a range of stock, a collection of books or simply a pickup point. WSCC Library Service is currently undertaking a major review of its services. This work is still progressing and will provide more detail on current services and future needs, notwithstanding the potential requirements identified as part of this Infrastructure Study.
- 4.41 As well as libraries there are a range of cultural, art and other educational facilities and destinations in the District. There are several museums such as Steyning Museum, Horsham Museum, Bramber Museum and Amberley Chalk Pits Museum. There are also a number of historic attractions including Parham House and Bramber Castle. The Capitol in Horsham is a main theatre venue

and there is also a theatre at Christ's Hospital. It is inherently difficult to assess provision of arts and cultural facilities. Horsham appears to have a range of opportunities and further localised arts events can be held in community spaces, without necessitating new physical infrastructure. In our stakeholder consultation there were no specific identified issues with this area. It therefore appears that current facilities provision is adequate to meet demand.

- 4.42 There are 13 separate swimming pools (comprising both public and private provision) within Horsham District totalling 2,132 sq m of accessible swimming pool area. Only 1,591 sqm of this is indoors with 542 sqm accounted by Lido pools. The main swimming pools in the District are Pavilions in the Park (with main, learner and lido pools), Billingshurst and Steyning, all three within Local Authority leisure centres. There are additional swimming pools as part of health and fitness suites and a number at school sites. Overall provision for the District is good, with a number of main indoor swimming pools providing swimming lanes for more formal activity and also several Lidos serving recreational needs in the summer.
- 4.43 The Horsham PPG17 Assessment (2005) identified 19 sports halls in the District of varying sizes. It also stated that sports halls serve a sub-district role, meaning whilst many areas do not have access to a sports hall, this is not necessarily a realistic aspiration. The PPG17 assessment suggests a demand for approximately ten 4-badminton court size halls within the District and identifies that current provision is almost exactly in line with this. Overall access to sports halls is also good, with most settlements within a reasonable driving distance of some form of provision.
- 4.44 All of the Category 1 settlements have designated retail centres, with Horsham the main town centre within the District, providing the comparison shopping destination for the area. Settlements in the south of the District are also close to Shoreham and Brighton for main town centre shopping and leisure trips. There are two major large format supermarkets in the District, J Sainsbury and Tesco Extra, both in or on the edge of Horsham. There are further main supermarkets in Horsham (Waitrose) and Pulborough (J Sainsbury and Tesco) and also smaller format supermarkets and local convenience shops throughout the District. All of the Category 1 settlements have access to a convenience shop, the majority with a large format supermarket, although Steyning has two small format convenience stores (Welcome and Somerfield). This ensures that for top-up shopping needs, most of the main residential areas are within walking distance of suitable convenience shop.

Green Infrastructure

- 4.45 The Horsham PPG17 Assessment (2005) identifies that there is a total of just over 29ha of amenity greenspace throughout the district. This is complemented with approximately 411ha of accessible natural green space. This space is distributed throughout the District and has been mapped with accessibility catchments in accordance with the Natural England's ANGSt. The

provision of accessible natural greenspace is identified as being equivalent to about 32.5 sqm per person – well above the ANGSt aspiration of 20 sqm per person. The PPG17 also identifies that most of the District is well provided with amenity greenspace, with around 2.3 sqm per person, however, this does mask local variances with some areas deficient in accessibility to the wider green network. The south of the district and the area to the east of Horsham are particularly well served with accessibility to the South Downs National Park and St. Leonards Forest/High Weald AONB.

- 4.46 As well as amenity and natural green spaces there are also a range of formal green infrastructure types can provide an important function. There is a wide provision of allotments throughout the District. The 2005 Horsham PPG17 Assessment identified 25 allotments in the District containing a total of approximately 1,100 plots. In our stakeholder consultation Horsham DC identified that all allotments in the District are currently full to capacity, with demand far outstripping supply, reflecting national trends and rising popularity in households growing their own fruit and veg. Horsham DC identified in consultation that there are currently 500 people on the waiting list for an allotment within the District, although the waiting list has now been closed, so ultimate demand may be much higher. 500 additional allotments to meet this identified demand would be equivalent to 6.25ha of allotment site at a standard allotment plot size of 125 sqm. It is clear that the allotment tipping point has already been reached and that all growth will need additional provision.
- 4.47 The 2005 Horsham PPG17 Assessment identified that the District has (including school provision that has an element of community use) 49 cricket pitches, 71 adult football pitches, 63 junior football pitches, 11 hockey pitches and 28 rugby pitches. This equates to 217ha of open access sports pitches plus a significant amount in schools. The PPG17 Assessment identified the total community provision amounts to around 65% of the quantity standard, suggesting that further provision needs to be made. However, taking into account joint school provision, the number of sports pitches exceeds the required amount, meaning opening up such resources to community use is a key issue and can significantly improve the accessibility of playing fields. In consultation with Horsham DC's Sports Development Officer it was identified that both the quantity and quality of pitches within the district are an issue, particularly in the winter months when poor drainage can render pitches unusable. In addition Cricket is a very popular summer sport in the district and a number of clubs struggle to accommodate their teams. Overall whilst provision is potentially adequate, it is clear there are some issues that need to be addressed through future development of sports pitches.
- 4.48 In terms of other outdoor sports provision the PPG17 Assessment identified that the District has a total of 8 bowling greens and 110 outdoor tennis/multi-use courts. In addition there are six artificial turf pitches in the District (5 on schools sites). The PPG17 Assessment suggests that anecdotally there is no indication that the District needs any more of each of these facilities at the baseline. However, current provision is below the benchmark standard and the

PPG17 assessment suggests additional provision could plug areas of deficiency. Notwithstanding this, the District is well served for some types of outdoor sports facilities, with current provision of artificial turf pitches exceeding the Sport England standard of 1 per 30,000 population.

Category 1 Settlements

- 4.49 Whilst NLP has provided an overview of each infrastructure area above, it is important to consider the spatial dynamics of infrastructure provision and the implications of infrastructure pressures on individual settlements. We identify below the main infrastructure pressures and risks in each settlement below.

Horsham

- 4.50 Horsham is the largest town within the District and is located in the northern part of the District within the Gatwick Sub-Region area. Horsham has a current estimated population of 48,233 (mid-year 2008 estimate) and as the largest settlement in the District contains many of the higher order facilities which serve a much wider catchment.
- 4.51 At the baseline position the main current infrastructure pressures relate to capacity on both the highway trunk road network and the local road network, bus services, household waste recycling facilities and GP surgeries.
- 4.52 There is a potential shortage of GP provision in the town which is a constraint. There is a shortage of outdoor sports facilities and pitches, although ultimately as a required infrastructure type, this will not necessarily prevent further growth but is an undesirable position. Other areas of concern include limited capacity in both Primary and Secondary schools, which whilst currently adequate for existing needs, may constrain further development.
- 4.53 The A24 is a strategic road throughout the Council area linking North to South running around the western side of Horsham, connecting through to Crawley via the A264. This is a major route for the area and is known to be highly trafficked and have several capacity issues along its length. From discussion with the highway authority these appear to be junction related issues rather than link so junction improvements would provide greater capacity whilst the link roads still appear to provide sufficient capacity at this time. Increased population in the local area will increase vehicle trips on the network and potentially necessitate improvement works at various locations when thresholds of performance are approached.
- 4.54 Connecting to the A24, the A264 which links Horsham to Crawley is also known to be congested during peak hours. Once again this appears to be junction capacity issues. These junctions could be potentially improved with localised improvement works. Increased population would increase trips on the network and potentially increase congestion. It is noted that as this is the major route to Crawley, a local major source of local employment, improvements to public transport could reduce this impact.

- 4.55 The B2195, Crawley Road routes from the East of Horsham to the North East quadrant of the town. It joins the A264 to its northern end and is known at times to be congested due to the high level of opposing flow on the A264. Improvements to this entry will potentially affect traffic on the A264 corridor so any improvement would need to be mindful of preventing delays on the A264 which may encourage rat running.
- 4.56 The A281 connects Horsham to the A23, North of Brighton. Capacity issues are noted in the potential strategic development site notes.
- 4.57 The town centre of Horsham is similar to many town centres, as the hub of local employment, residential and commercial activity. Similar to most other areas congestion inbound during the morning highway peak hour can be seen and this occurs outbound during the PM highway peak hour. Whilst demand will generally increase with the proposed increase in local population, these increases can be mitigated through the improvement of public transport facilities and localised highway improvement works to provide increased capacity where required. The town centre buses are known to be marred through the use of one-way routes that increase mileage and journey times, which are further marred by heavy conflicting pedestrian movements. The CUB's study found that Horsham was one of the worst towns in the UK for delays and it would seem that there would be scope for improvement to bus corridors to favour public transport.
- 4.58 Facilities at Warnham station are known to be of a relatively low quality and it would be beneficial for these to be improved. This would increase the attraction of rail as a suitable alternative to the car in this local area.

Broadbridge Heath

- 4.59 Broadbridge Heath is a settlement located immediately west of Horsham and has a current estimated population of 3,234 (mid-year 2008 estimate). Due to its close proximity to Horsham it relies on much the same infrastructure at anything more than solely a local scale provision, and therefore suffers many of the same infrastructure pressures.
- 4.60 At the baseline position the main current infrastructure pressures relate to capacity on both the highway trunk road network and the local road network, household waste recycling facilities, electricity supply constraints and GP surgeries.
- 4.61 Being as it is, located on the west side of the A24 and adjacent to Horsham, Broadbridge Heath has similar problems to Horsham with respect to the A24 and A281. The A264 also passes to the south of the settlement and is affected by congestion. However, the West of Horsham development has proposed a number of changes to the road pattern, with the part closure of the existing A264 and its effect relocation further to the south, with a new junction to the A24.

- 4.62 Public transport provision is good but suffers from congestion delays and access across the A24 to reach Horsham.
- 4.63 EDF Energy identified that the current energy network in Broadbridge Heath is at capacity and that any new development will require an 11,000 volt supply from the Horsham Grid. Whilst a not insurmountable, this is a current issue that will need to be overcome. There is a potential shortage of GP provision in Broadbridge Heath, as with nearby Horsham, which is a constraint. Other infrastructure areas are generally adequate to serve the current needs of Broadbridge Heath.

Southwater

- 4.64 Southwater is a settlement located approximately 4km south of Horsham and has a current estimated population of 8,832 (mid-year 2008 estimate) making it the second largest settlement in the District.
- 4.65 At the baseline position the main current infrastructure pressures relate to capacity within the sewer and wastewater network. Southwater drains to the Horsham WwTW and although current capacity is okay for current purposes at the Wastewater Treatment Works, in consultation Southern Water identified that the existing sewer that pumps wastewater from Southwater to Horsham WwTW has no spare capacity.
- 4.66 Southwater is effectively by-passed by the A24, for which there is a capacity and road safety programme of gap closures and junction upgrades. Hop Oast Junction to the north of the town has a number of capacity and safety issues which require resolution. Within the town capacity issues exist on Worthing Road.
- 4.67 Public transport services demonstrate a good level of service with opportunities, depending on funding, for enhancement of services. Improvements to Hop Oast Junction will need to reduce delays to buses.
- 4.68 Although adequate for current needs, Southwater also has stretched provision of GP and Dentist provision and also falls within the catchment for the Horsham Secondary Schools, which already have limited spare capacity.

Billingshurst

- 4.69 Billingshurst is a settlement located in the east of Horsham and has a current estimated population of 6,599 (mid-year 2008 estimate). At the baseline position there do not appear to be any overriding infrastructure constraints currently within Billingshurst, with no specific tipping points currently identified as being reached.
- 4.70 There are however a number of infrastructure areas which whilst adequate to meet current needs, have potential capacity constraints and are likely to face capacity issues in the future. These include the road networks, provision of bus services and capacity issues within the energy networks.

- 4.71 Although adequate for current needs, the Billingshurst WWTW has limited capacity without extension of the existing facility. In addition the Environment Agency would need to consider the environmental constraints of the receiving waters prior to understanding the potential consent parameters and therefore the headroom.
- 4.72 Billingshurst is by-passed to the west by the A29, although the A272 remains passing through the town centre. Proposals for an A272 Billingshurst by-pass to the north east were dropped a while ago. Issues therefore remain of excessive through vehicles through the town. The A272 to the east of the town also poses problems at several junctions as far as the A24 and at the hump-backed railway bridge closer to town.
- 4.73 Billingshurst is poorly to moderately served by public transport with bus services along the A29 to Horsham and via the A272 . Rail services are half hourly to London and Bognor Regis, However, the existing railway crossing causes delays to road traffic because of the short platform lengths, which would be improved by planned improvements to station capacity through platform length increases.
- 4.74 In addition, although there is some current capacity to accommodate new pupils within the Weald Secondary school, this is reasonably limited.

Pulborough

- 4.75 Pulborough is a village located in the south west of the District and has a current estimated population of 3,097 (mid-year 2008 estimate). At the baseline position the main current infrastructure pressure relates to the capacity of the EDF Energy sub-station. The existing sub-station requires additional capacity, and EDF have plans to reinforce this facility with new transformers in the near future.
- 4.76 In addition there are also a number of infrastructure areas which, whilst adequate to meet current needs, are likely to face capacity issues in the future. These include the local road network, provision of bus services and capacity issues within the energy networks.
- 4.77 Pulborough also faces the same issues as Billingshurst with regards to secondary schools, falling within the catchment of the Weald Secondary school, where pupil capacity is reasonably limited.
- 4.78 There is already a traffic problem on the A29 - especially on the historic "cutting" heading down into the village.
- 4.79 The A283 Lower Street suffers from speeding traffic which in turn has meant that it suffers from poor pedestrian provision and that road safety enhancements in the shopping centre area are also a priority requirement.

Storrington & Sullington

- 4.80 Storrington and Sullington is a settlement comprised of two villages, Storrington being the much larger, located in the south of the District near to the South Downs National Park. It has a current estimated population of 6,434 (mid-year 2008 estimate). At the baseline position there do not appear to be any overriding infrastructure constraints currently within Storrington, with no specific tipping points currently identified as being reached.
- 4.81 There are a number of infrastructure areas which, whilst adequate to meet current needs, are likely to face capacity issues in the future. These include utilities, with the electricity supply network and gas supply network potentially requiring reinforcement in the future, and the local road network.
- 4.82 Storrington's Rydon Community School is an intermediate tier school for ages 10 to 13. Whilst it has significant capacity, the area continues to face limited capacity in the secondary schools which Rydon Community School feeds into, particularly Steyning Grammar.
- 4.83 It is widely accepted that there are major safety problems on the A24. The A24 junction with the A283 (Washington roundabout) has a poor accident history and in addition the A24 between the A272 and the A283 (Washington roundabout to Buck Barn crossroads) has been the scene of a large number of collisions at various locations.
- 4.84 Additionally, Hole Street is already subject to a restriction banning lorries along part of its length for safety reasons given its narrow width, and is also subject to speed restrictions for the same reasons.

Henfield

- 4.85 Henfield is a settlement located in the south east of the District, close to the A23 and approximately 14km north west of Brighton. It has a current estimated population of 5,149 (mid-year 2008 estimate). Henfield is facing a number of infrastructure issues currently including capacity having been reached at Henfield Wastewater Treatment Works and also limited Secondary School places to serve the area, with Steyning Grammar School currently oversubscribed. These both represent major infrastructure hurdles to overcome before any growth could be accommodated.
- 4.86 Henfield is also lacking in provision of outdoor sports facilities and pitches, and whilst this will not necessarily represent an absolute infrastructure issues which would prevent further development, such facilities are important in maintaining sustainable communities and therefore ways to address this deficit should be sought.
- 4.87 There are also a number of infrastructure areas which, whilst adequate to meet current needs, are likely to face capacity issues in the future. These include utilities, with the electricity supply network and gas supply network potentially

requiring reinforcement in the future. Generally, however, the local road network and level bus provision are adequate for current needs.

Steyping, Bramber & Upper Beeding

- 4.88 Steyping, Bramber and Upper Beeding is a settlement comprised of the three villages, located in the south of the District adjacent to the South Downs National Park, approximately 6km north of Shoreham. It has a current estimated population of 6,598 (mid-year 2008 estimate).
- 4.89 The main infrastructure capacity constraint within Steyping, Bramber and Upper Beeding is the current capacity issues at Steyping Grammar School, which is currently oversubscribed. Similarly to Henfield, Steyping, Bramber and Upper Beeding also lacks provision of outdoor sports facilities and pitches, which whilst not an absolute constraint, is an infrastructure area where consideration of measures to address the deficit needs to be taken into account.
- 4.90 There are number of infrastructure areas which, whilst adequate to meet current needs, are likely to face capacity issues in the future, particularly the gas network and sewer network, which are likely to need reinforcing. The local road network and level bus provision are, however, adequate for current needs.

Category 2 Settlements

- 4.91 The 19 Category 2 Settlements face a wide range of individual infrastructure pressures, often specific to their local communities and the facilities they have. Some are reasonably well served for infrastructure, such as Rudgwick Green and Cowfold, both of which have primary schools with significant surplus capacity and also small GP surgeries which are not under significant strain in terms of patient lists currently.

Strategic Sites/Site Options

- 4.92 As previously identified, there are a number of strategic sites and site options that may come forward during the plan period. These include two strategic commitments in the adopted Core Strategy and also four potential strategic site options being promoted through the Core Strategy Review. Whilst the baseline infrastructure provision will remain broadly the same as the settlements which these will be attached to, it is important to consider particular site issues and how the growth proposed on these fit within the baseline. Therefore, NLP has reviewed each location to identify what the development being promoted involves and what the main infrastructure issues associated with each one are.

West of Bewbush

- 4.93 Policy CP6 of the adopted Horsham Core Strategy (2007) identifies the site for 2,500 homes and other uses (including employment) to be provided by 2018. In relation to infrastructure associated with the allocation, Policy CP6 identifies the following principles: -

- 1 Adoption of a neighbourhood approach with a mix of uses to include shops, employment, a primary school, a library service, doctors surgery, public open space, local transport infrastructure as well as housing (including affordable housing).
- 2 Sufficient transport infrastructure to meet the needs of the development whilst maximising the opportunities for sustainable travel including providing high quality passenger transport links such as Fastway to Crawley and/or a new interchange station and ensuring safe, alternative and convenient pedestrian and cycle routes.
- 3 If any relief or link road is needed this should be developed in part on land away from the development and identified in an Area Action Plan (AAP) (since identified in the West of Bewbush Joint Area Action Plan (adopted in July 2009)). The developers transport assessment identifies that the A264 and A2220 are likely to require improvement works.

4.94 It is understood that a planning application for the scheme is anticipated for submission in mid 2010. Development is currently anticipated to commence in 2011 with the first housing completions due in 2012 (overall a ten year construction programme).

4.95 The developer has various proposals under discussion with WSCC, and has model tested various options. Vehicular access will be from the A264, with the form of the junction under discussion, which is likely to be a roundabout design. The design would need to be compatible with any future western relief road to Crawley if proven necessary. Improvements to other junctions are also under consideration including A23/A2220, M23 J11 and potential Junction improvements at the A264/Sullivan Drive roundabout.

4.96 The developer also identifies, through the transport assessment, improvements, extensions and re-routing of bus services. These are proposed for the Fastway service 10, services 200/23/24 and new service 201. Bus priority measures will be introduced with three access points, a bus gate at Sullivan Drive (Bewbush), a bus gate at Woodcroft Road (Ifield West), and via the junction on the A264 to provide bus segregation and priority access.

4.97 It is also considered that there is a potential for a railway station to encourage more sustainable travel to/from the development and the local communities at Bewbush and Ifield West, and discussions are on-going with Network Rail. A new station will require a 12 coach platform and may require the closure of Faygate station.

West of Horsham

4.98 Policy CP7 of the adopted Horsham Core Strategy (2007) identifies the site for 2,000 homes and other uses to be provided by 2018. In relation to infrastructure associated with the allocation, Policy CP7 identifies the following principles: -

- 1 Development will require a new junction south of the existing Farthings Hill junction and a new link road provided to separate local traffic from through traffic on the A24. The current western part of the A264 Broadbridge Heath bypass will be closed or downgraded.
- 2 Opportunities for sustainable travel should be maximised.
- 3 Sufficient high quality community services and facilities including leisure facilities should be provided.

- 4.99 Outline applications for different areas of the site were submitted in November 2009 and HDC resolved to grant planning permission for the proposal for 1,044 dwellings at committee in April 2010.
- 4.100 The first scheme includes 1,044 residential units, employment uses, a fire station, community centre, expanded facilities for Tanbridge House School and various transport works and improvements. Other community facilities including green infrastructure works, new allotments (0.35 hectares), two neighbourhood areas of play (NEAP) and one multi use games area (MUGA), sports pitches (2 hectares) and facilities to be used as a BMX park.
- 4.101 The other scheme includes 963 residential units, community facilities including land for a primary school, transport works and improvements including a new east-west link road connecting with Five Oaks Road and the partial closure of the existing A264 Broadbridge Heath. This phase of the scheme anticipates a start on site in 2010 and a seven year period for construction.
- 4.102 It is proposed that the impact of new development on the existing transport network will be minimised. This will be undertaken through a series of measures with the development accessed from a new junction south of the existing Farthings Hill junction. This junction currently suffers from capacity and safety issues, so the local traffic will be separated from through traffic using the A24 by way of a new link road, from the A264 south of its junction with the A281 to the proposed new junction on the A24, which will also join the existing A264 at Broadbridge Heath close to the entrance to the Tesco superstore/- Leisure Centre. This link will form a grade separated junction onto the A24 immediately north of High Wood Hill with linked/overlapping slip roads to Farthings Hill interchange.
- 4.103 In conjunction with these network changes, the current western part of the A264 Broadbridge Heath bypass will be closed order to assist in integrating the new development with the existing community. Subject to detailed ongoing traffic modelling, this new Southern East-West Link Road is likely to be a dual carriageway with limited access. Appropriate pedestrian, cyclist and equestrian facilities will be provided.
- 4.104 It is proposed that high quality passenger transport links to the town centre and Horsham rail station are provided to ensure excellent accessibility to local services and provide an alternative to the car from the outset. This latter will be in the form of a shuttle bus.

- 4.105 Safe, attractive and convenient pedestrian and cycle routes will also be provided between the development and local facilities.

West of Ifield Option

- 4.106 The Core Strategy Review identifies the potential site as having a capacity of approximately 3,000 dwellings. The site is identified as a strategic location close to Crawley and Gatwick Airport with the potential to provide links to existing routes and public transport in an attractive setting. The site is identified as being constrained by access, flooding issues, potential aircraft noise issues and significant natural and cultural designations affecting the overall area.
- 4.107 The background document to the Core Strategy Review identifies no showstoppers in respect of utilities but specifies a number of likely transport infrastructure requirements including:-
- 1 Provision of a new Western Relief Road with an opportunity for a park and ride site accessed from the route
 - 2 High quality public transport links including real time passenger information and improved frequency of rail services at Ifield station
 - 3 New road links and improvements to cycle and footway links
- 4.108 The background note also recognises that the scale of development would also give rise to a need for provision of additional primary and secondary school places but this would require detailed evaluation. The note concludes that a primary school would be required to be provided as part of the scheme.
- 4.109 Of key concern to the Highways Agency has been the cumulative impact of the several new developments that are likely to give rise to additional impacts on the M23/A23 corridor and associated junctions (J11 and J10). Together with West of Bewbush, the developments at West of Ifield and North of Horsham are likely to have a major impact on J11 and the M23, although this is a situation that can only be tested through use of traffic modelling across the whole area. Improvements are highly likely to be needed at this junction, which would require funding from the developers concerned in order to overcome the HA's likely objections.
- 4.110 West Sussex County Council consider that there is a lack of strategic highway access in the area of this development and site generated traffic would make excessive use of local roads. The Crawley Western Relief Road (CWRR) is seen as the link that would relieve this situation for traffic from this development. Funding for the link is a key issue and significant developer contribution would be required, otherwise it is highly likely that if the CWRR is unable to be constructed the development could not proceed. It will be necessary to test with the local model the overall impact of the development and its cumulative contribution to traffic issues in the area.
- 4.111 It is considered that as both the highways agency and local highway authority have raised significant concerns on highways grounds with this site that the

future development of this location would require extensive levels of highway mitigation work.

- 4.1.12 The developer for this site has indicated that public transport access would be improved, possibly linked to the Fastway network, as well as other bus improvements. The local bus operator (Metrobus) is keen to extend services where these can either be operated commercially or attract subsidy from the developer or WSCC.

North Horsham Option: Holbrook Park and Chennells Brook

- 4.1.13 The Core Strategy Review identifies the two potential sites as having an overall capacity of up to 3,500 homes (1,500 at Holbrook Park and 2,000 at Chennells Brook).
- 4.1.14 The document identifies that the Holbrook Park site is adjacent to the existing Warnham railway station with the potential to improve existing road, pedestrian and cycle links but would have potential negative effects on views, traffic generation and nature conservation issues. In relation to the Chennells Brook site, there are opportunities to provide a new train station, connect to existing infrastructure and create a significant area of natural open space but the site is constrained by environmental and floodplain designations and due to a lack of natural boundaries could lead to settlement coalescence. Both sites are constrained by physical separation from Horsham making integration difficult.
- 4.1.15 The background document to the Core Strategy Review identifies no showstoppers in the provision of utilities connections and transport but improvements and additional infrastructure would be required. The document identifies a requirement for a new primary school and secondary school as part of the Chennells Brook site and a new primary school for the Holbrook Park site; as well as contributions to improve the existing library service in Horsham. A new doctors' surgery or extension to existing facilities would be needed as a result of the development of the combined sites.
- 4.1.16 The highways agency has expressed concern with regard to the development of this site if completed in combination with the West of Bewbush and West of Ifield sites. Upon the basis of this they would require further study, in the form of a traffic model to identify the potential problems. The A264 which passes the site currently exhibits capacity and safety issues at junctions and it would be necessary to obtain access to the site with upgraded junctions, these will need testing by use of the WSCC transport model.
- 4.1.17 Public transport for the strategic site is focussed on bus services which would be improved by extending and improving services into the site with some associated public transport priority, such as a new bus gate to site. The bus operator considers that there is potential to improve services but this is generally dependent on the availability of finance, particularly in initial stages of development. Overall financial viability will need further consideration depending on whether the new/extended services were able to be operated on a commercial basis.

- 4.118 Rail services for the North Horsham area are focussed on Warnham and Littlehaven Rail Stations, with potential for an improved station and levels of rail services. These latter aspirations may be difficult to reconcile with the current rail focus, as whilst Network Rail would welcome improved station facilities, they and the Train Operating Company are focussed on the longer distance commuter. As part of the Core Strategy Review a Horsham Parkway Station has been identified with access from the A264 immediately to the north east of the B2195 junction. This could be accommodated within the site and has been discussed with Network Rail. If passenger figures warrant this new facility, and in order to avoid operational issues, it may be necessary to close Faygate Station, which has low passenger numbers. Such a facility would benefit the development, particularly those elements at the eastern end. Elsewhere improvements to the bus service to Horsham station would be required.
- 4.119 The A264 does, however, act as a barrier to movements to Horsham and it would be necessary to improve pedestrian and cycle connectivity.

West of Southwater Option

- 4.120 The Core Strategy Review identifies the potential capacity of the site for up to 2,750 new homes together a new primary and a new secondary school, community sports facilities, open space and a link road to the Hop Oast roundabout. It identifies the potential opportunities of the scheme as the potential to reduce local pressure on education facilities and roads and enhance sports facilities and local connections. The site is constrained by capacity in the utilities network (waste and mains water) and could give rise to significant transport effects.
- 4.121 Access is via the A24 corridor and Hop Oast junction has existing capacity and safety issues. The developer is proposing an at-grade signalisation, which will accommodate the development with some additional capacity. They consider that the design and what is achieved is in line with WSCC's policies for the A24.
- 4.122 Public transport services are currently considered by the developer to be excellent and will accommodate early phases of development. Later phases will require increases in levels of service, which the bus operator would agree subject to them being either commercially viable or if subsidised by the developer or WSCC at appropriate levels. Links to existing rail stations could either focus on Christ Hospital rail station or Horsham. The latter is preferred by WSCC.

East of Billingshurst Option

- 4.123 The Core Strategy Review identifies the potential capacity of the site for up to 1,750 new homes, employment land and a local centre providing a range of community, health, education and retail facilities. The developer has issued a vision document relating to the site (June 2009) which illustrates a number of

elements of the scheme, including 14ha of employment land providing units for start-up businesses and a 2ha new local centre. The site is constrained by landscape and ecology issues, but these can be overcome through sensitive design and also provide an opportunity for a high quality network of strategic green infrastructure on site. Although current capacity within utilities would be outstripped, this is not a major constraint with providers identifying no fundamental reasons prevent development within this location, subject to necessary upgrades.

- 4.124 The developer will deliver a North - South relief road providing access from the development to the A29, as well as removing traffic from the centre of Billingshurst currently using the A272.
- 4.125 The developer is proposing a package of sustainable transport measures to improve bus levels of service to major local destinations including Horsham and Crawley/Gatwick. Improvements to Billingshurst rail station are also proposed.

Baseline Infrastructure Pressures

- 4.126 The overall baseline infrastructure position established provides a platform to identify where there may be existing capacity with existing infrastructure to accommodate growth without major investment in new infrastructure, or where there are current constraints where development may be prevented without investment in the supporting infrastructure.
- 4.127 Table 4.2 provides a traffic light approach to existing infrastructure to identify where in the District there are current infrastructure pinch points. This refers to the existing baseline condition within the settlement and does not include consideration of additional infrastructure and the ability of this to mitigate impacts of growth.
- 4.128 Each infrastructure area is identified as there either being a current under-provision where a tipping point has been reached; that provision is currently adequate but is nearing a capacity constraint; or that there is some infrastructure capacity to accommodate growth.
- 4.129 These are identified on the basis used in the analysis contained within Appendix 3, but have been related to each individual settlement.

Table 4.2 Summary of Infrastructure Pressures by Settlement

	Horsham	Broadbridge Heath	Southwater	Billingshurst	Pulborough	Storrington & Sullington	Henfield	Steyning, Bramber & Upper Beeding
Red (R): Current Identified Capacity Constraint (Tipping Point Reached)								
Orange (O): Potential Capacity Constraint (Tipping Point Nearing limited capacity to accommodate growth)								
Green (G): Adequate capacity currently (Can accommodate some growth)								
Grey (n/a): Infrastructure not provided in settlement and/or not applicable								
Fundamental Infrastructure Types								
Transport – Are there particular capacity issues with the Highway Trunk Roads ?	R	R	n/a	O	n/a	n/a	n/a	n/a

Red (R): Current Identified Capacity Constraint (Tipping Point Reached)
Orange (O): Potential Capacity Constraint (Tipping Point Nearing limited capacity to accommodate growth)
Green (G): Adequate capacity currently (Can accommodate some growth)
Grey (n/a): Infrastructure not provided in settlement and/or not applicable

	Horsham	Broadbridge Heath	Southwater	Billingshurst	Pulborough	Storrington & Sullington	Henfield	Steyning, Bramber & Upper Beeding
Transport – Is the Local Road network capacity constrained?	O	O	O	O	O	O	G	G
Transport – Are there particular issues for the provision of Bus Public Transport ?	O	O	O	O	O	G	G	G
Transport – Is the existing Rail Public Transport network suitable for short distance travel?	G	n/a	n/a	G	G	n/a	n/a	n/a
Utilities – Is the settlement affected by any Electricity supply constraints?	G	R	G	O	R	O	O	G
Utilities – Are there particular capacity issues with the Gas network?	G	O	G	O	O	O	O	O
Waste – Are there capacity issues with the Household Waste Recycling Site serving the settlement?	R	R	R	G	n/a	n/a	n/a	n/a
Water and Wastewater – Are there particular capacity issues with the Sewer network?	O	O	R	O	O	O	O	O
Water and Wastewater – Is there capacity in existing Wastewater Treatment Works ?	G	G	R	O	O	G	R	G
Essential Infrastructure Types								
Health – Is the settlement well served for GP Surgeries ?	R	R	O	G	G	G	G	G
Health – Is the settlement well served for Dental Surgeries ?	G	G	O	G	G	G	G	G
Education – Are there current capacity issues for Primary Schools which serve the settlement?	O	G	G	G	G	G	G	G
Education – Are there current capacity issues for Secondary Schools which serve the settlement?	O	O	O	O	O	O	R	R
Required Infrastructure Types								
Community Facilities – Is the settlement well served for Libraries ?	G	O	G	G	G	G	G	G
Community Facilities – Is the settlement well served for Community Centres ?	G	G	G	G	G	G	G	G
Community Facilities – Is the settlement well served for Swimming Pools ?	G	G	G	G	O	O	O	G
Community Facilities – Is the settlement well served for Sports Halls ?	G	G	G	G	O	G	G	G
Green Infrastructure – Is the settlement well served for outdoor sports facilities and pitches ?	R	G	O	G	O	O	R	R
Green Infrastructure – Is the settlement well served for amenity green space and recreation ?	G	O	G	G	G	G	O	G

4.130

This summary highlights that the areas where there appear to be the most infrastructure constraints existing, and therefore allows a comparison between where growth may be possible within existing provision and where infrastructure pressures may necessitate investment, even before any more growth occurs.

- 4.131 The table above also sets out the broad existing pressures on the transport aspects of the developments. The HA have existing concerns about Trunk Road network (M23/A23 corridor) and J11 in particular. It is their view that any further growth could prove to be a showstopper. The HA even consider that the A23 towards Brighton may be adversely affected by increases in traffic. Only area wide modelling can resolve the position. The impact on the local highway network will also be best tested through the use of the model with concerns about all major roads in the area, particularly to the north of the district but extending south down the A245 and the A29.
- 4.132 The WSCC and local bus operator, Metrobus, are working well together and passenger flows are growing well. Metrobus appear flexible enough to put on new or enhanced services if these are commercial or can attract a subsidy. Continuation of the latter at current levels into the future must be of concern. The bus operator does find difficulties in working through Horsham as the one-way system creates excessive mileage and time delays and the congestion on some streets also causes delays for buses. Certain junctions e.g. Hop Oast junction, also cause delays and un-reliability issues.
- 4.133 Rail has not been considered in this table as it is considered that new stations are unlikely to attract sufficient funding for new 12 coach length platforms, which are required by NR and NR and TOC are more focussed on the longer distance commuter. Relocated railway stations may find more favour.

5.0 Infrastructure to Support Growth

Introduction

- 5.1 Growth will create demands and pressures on infrastructure to support development. This will increase the pressure on existing infrastructure, either reducing existing capacity, or creating a requirement for investment into upgrading or providing additional infrastructure. Using the benchmarking approach set out, combined with a review of other technical baseline work and through technical stakeholder engagement, NLP has identified what infrastructure would be required across the district, for each settlement and for each strategic site and site option, taking account of potential levels of development identified in the growth scenarios and the cumulative impacts of these.
- 5.2 The baseline position established seeks to understand whether there are existing levels of 'under provision' that will need to be considered and accounted for or 'surplus' provision which may meet some future demand without the need for additional infrastructure. Where a requirement is identified at the baseline it is included within the infrastructure to support growth. Benchmark standards and likely future infrastructure needs have been applied to housing growth to yield a theoretical requirement for additional infrastructure that will accompany the identified levels of development. Once a requirement is identified it is possible to apply a unit cost to the infrastructure requirement to gain an indication of the likely costs associated with provision of that infrastructure.
- 5.3 There are two aspects to the estimate of infrastructure requirements:
- 1 The infrastructure required district-wide to deal with overall growth levels to 2026 and 2031. This analysis is carried out district-wide and is quantitatively focussed to provide overall headline requirements and cost estimates only.
 - 2 The infrastructure required within each settlement and strategic site/site option area to reflect potential levels of growth. This analysis is spatially focused and looks at the impacts from all identified growth options, notwithstanding that this could produce an output greater than current district-wide RSS requirements.
- 5.4 Care should be taken when applying either estimate and they will not necessarily tally with each other due to the nuances of infrastructure capacity and catchments. Overall infrastructure requirements mask wide variations in infrastructure provision at local levels, which may need to be addressed, but they are useful in providing overall headline figures for infrastructure provision at particular levels of growth and identifying those requirements which fall at a district-wide level. Looking at infrastructure requirements at settlement by settlement, scheme by scheme basis provides a granularity of assessment to identify specific pressures and requirements arising in specific areas, however,

this does not take account of the total quantum of growth likely to come forward in the District but does provide a comparative evidence base for assessing where growth could achieve best infrastructure outcomes (e.g. by using existing spare capacity or directing development to areas which minimise infrastructure costs falling on the public purse).

Overall Infrastructure Requirements

- 5.5 The overall headline infrastructure requirements relate to those infrastructure types needed to support the district-wide growth identified within the growth scenarios. This includes consideration of the need for a range of social infrastructure types, such as schools, health facilities and community facilities, and also a wide range of physical infrastructure schemes. It does not take account of the spatial dimension of infrastructure provision, which is assessed in Section 7.

Social Infrastructure

- 5.6 Applying the benchmark standards to the overall growth, and taking account of the baseline requirements, at a purely district-wide scale this yields a requirement for social infrastructure as set out in Table 5.1.

Table 5.1 Overall Social Infrastructure Requirements 2009 to 2026

Infrastructure	Unit of Measurement	Baseline Capacity	Low (8,716 new homes)		RSS (12,080 new homes)		High (13,349 new homes)	
			Absolute Requirement	Benchmark Cost (£m)	Absolute Requirement	Benchmark Cost (£m)	Absolute Requirement	Benchmark Cost (£m)
Primary Schools	Pupil Places*	1,135	709	£8.694m	1,421	£17.419m	1,690	£20.710m
Secondary Schools	Pupil Places*	287	1,036	£19.135m	1,547	£28.567m	1,739	£32.125m
Sixth Form/College	Pupil Places	0**	521	£11.171m	722	£15.482m	798	£17.109m
Education Total:				£39.0m		£61.5m		£69.9m
Education per dwg:				£4,474		£5,091		£5,236
GPs	GPs	5	7	£3.638m	11	£6.118m	13	£7.054m
Dentists	Dentists	5	5	£2.929m	9	£5.037m	11	£5.832m
Hospitals	Hospital Beds	0**	56	£22.452m	78	£31.118m	86	£34.387m
Health Total:				£29.0m		£42.3m		£47.3m
Health per dwg:				£3,327		£3,501		£3,543
Community Centres	Sqm Floor Area	0**	3,007	£3.605m	4,168	£4.997m	4,605	£5.522m
Libraries	Sqm Floor Area	0**	641	£2.444m	889	£3.387m	982	£3.743m
Sports Halls	Sqm Floor Area	0**	2,005	£2.075m	2,778	£2.876m	3,070	£3.178m
Swimming Pools	Sqm Floor Area (20% pool area)	0**	1,002	£2.017m	1,389	£2.795m	1,535	£3.089m

Infrastructure	Unit of Measurement	Baseline Capacity	Low (8,716 new homes)		RSS (12,080 new homes)		High (13,349 new homes)	
			Absolute Requirement	Benchmark Cost (£m)	Absolute Requirement	Benchmark Cost (£m)	Absolute Requirement	Benchmark Cost (£m)
Community Total:				£10.1m		£14.1		£15.5m
Community per dwg:				£1,158		£1,167		£1,161
Local Nature Reserve	Hectare Area	0**	20	n/a	28.8	n/a	30.7	n/a
Amenity Open Space	Sqm Area	0**	80,187	£0.494m	111,136	£0.685m	122,811	£0.757m
Equipped Play	Sqm Area	0**	10,023	£1.704m	13,892	£2.362m	15,351	£2.610m
Allotments	Sqm Area	-62,500	87,559	£2.350m	97,230	£2.610m	100,878	£2.708m
Outdoor Sports Pitches	Sqm Area	0**	280,655	£1.948m	388,976	£2.699m	429,838	£2.983m
Other outdoor sports (courts)	Sqm Area	0**	20,047	£6.615m	27,784	£9.168m	30,703	£10.132m
Green Infrastructure Total:				£13.1m		£17.5m		£19.2m
Green Infrastructure per dwg:				£1,502		£1,448		£1,438

*No natural surplus in schools capacity has been assumed and actual operational requirements may exceed this.

** The quantitative baseline position is assumed to be in equilibrium (hence no surplus or under provision)

- 5.7 Whilst this does not take account of locally specific factors, nor the proposed development of particular sites, including the strategic sites and site options, it does provide a useful reference for the total quantum of social infrastructure likely to be required at different levels of growth over the Core Strategy Review period. Assuming future growth will spatially match infrastructure provision, existing surplus capacity in social infrastructure will be taken up by growth and there are substantial requirements for additional social infrastructure to support growth. However, in practice this is unlikely to be the case.
- 5.8 At the RSS growth figure to 2026 there is an absolute potential requirement for 1,421 new primary school places, equivalent to four 355 place primary schools, and an absolute potential requirement for 1,547 secondary school places, equivalent to one large or two smaller secondary schools. In actuality schools will need to maintain a level of surplus capacity to ensure choice and efficient operating capacity and as such requirements could be up to 10% higher. In terms of green infrastructure alone, the land budget associated with requirements at the RSS growth figure is equivalent to approximately 92.5 hectares. Overall the cost of the identified social infrastructure to 2026 is approximately £11,200 per dwelling at the RSS level compared with £10,460 at the low growth level and £11,380 at the high level. This reflects the ability of lower levels of growth to take advantage of existing capacity in current

infrastructure, without creating large pressures for new facilities, particularly in terms of schools.

Physical Infrastructure

- 5.9 The physical infrastructure to support overall levels of growth will depend greatly on the spatial distribution of development, but there are a number of overarching infrastructure requirements that will be necessary.

Transport Infrastructure

- 5.10 Transport infrastructure is one of the key requirements to enable mobility. Mobility enhances peoples lives and enables the fulfilment of needs at all levels. Highway infrastructure provides the necessary network between places to facilitate mobility. The highway infrastructure needs to be appropriate to ensure that the capacity of the network is suited to the level of the movement.
- 5.11 Capacity issues can occur at junctions between connecting roads or on the highway links between junctions. Generally the majority of capacity problems occur at junctions due to the different movements that occur. If the capacity of a junction becomes an issue, localised improvements will often provide suitable mitigation such as localised widening or control (installation of traffic signals), however if a link becomes congested, more dramatic measures are required to be implemented. These can take the form of dual lanes or providing a dedicated bypass if the area is congested on the link and at junctions.
- 5.12 In addition to the actual highway infrastructure, there are softer transport improvements that focus upon promoting an alternate means of transport to the private car. These compliment the specific nature of the car for its convenience and uniqueness in journey making ability, by providing convenient transport to high trip attractors whilst minimising highway space and pollutant impact. For areas of large employment public transport can play a major part in transporting employees to their place of employment, removing car trips from the network and reducing congestion. There are double benefits to this as the reduction of congestion reduces delay and therefore improves journey time. However to encourage this and to prevent a regression back to car use on the less congested network it is important that public transport access is improved to give it advantage over the private motorist and make it attractive, this can normally be achieved through bus priority measures, such as bus lanes or bus gates.
- 5.13 Bus access should be quick and efficient, providing good connectivity and penetration of services to operate effectively. This encourages patronage which in turn can increase the supply of services to the network.
- 5.14 Pedestrian and cycle modes of transport are the optimum modes of sustainable travel, however they have a number of obstacles that detract from their use. These obstacles can be overcome but require investment at both trip ends and along the routes. Such improvements range from cycle storage and shower facilities through to well surfaced, direct cycle routes and well lit walkways.

- 5.15 Rail is a key travel mode that removes vehicular traffic off the highway, it provides fast and efficient access into and between urban areas. Rail is effective for high volume, longer distance movements, enabling the transit of people through the managed rail network on high demand routes and the aim of the operator is to generally keep fast uninterrupted routes between major urban centres to improve services to the majority, this means minimising interim stops that introduce delay for the minimal exchange of passengers. To increase rail usage the stations need to provide good interchange between alternate modes. These include cycle facilities such as storage or ability to take cycles onto trains and bus/taxi interchange allowing onward travel to local destination not served by rail.
- 5.16 For the proposed development sites connectivity via all transport modes is an important consideration. From the perspective of sustainable travel, good connectivity with local footpaths and cycle paths is important to promote these modes of travel that offer health as well as environmental benefits.
- 5.17 For many journeys it is not feasible to walk or cycle so public transport can sometimes be the only publicly available option and to facilitate this as a suitable alternative requires good regular services that achieve penetration within the development sites.
- 5.18 An important aspect of access will be the appropriate highway links to the existing network. These links should provide adequate and safe access onto the network. Additionally to these accesses the impact of the traffic generated by the development will need to be managed to prevent it causing problems at other locations through appropriate offsite improvement works, accompanied by improvement to bus services and sustainable access networks.

Utilities

- 5.19 Provision of utilities into the proposed new developments will be assessed by the providers with respect to their overall existing infrastructure. This assessment will identify the need for provision of reinforcement/upgrading of existing off site services where necessary and the provision of new services to serve individual development sites. The assessment will take account of the various types of development and its associated demands from residential, commercial, Neighbourhood Centres, Sports Facilities areas etc.

Renewable Energy Infrastructure

- 5.20 Increasing the proportion of electricity generated from renewable sources (e.g. wind, sun, water, biomass) is an important part of the national strategy to reduce the consumption of fossil fuels and associated production of greenhouse gases which are considered to be a major cause of the effects of climate change. The government has proposed that 10% of the UK's electricity requirements should be met from renewable sources by 2010 with an aspiration to reach 20% by 2020. Achieving these objectives will apply to both existing and future development for growth in local areas such as the district of Horsham.

- 5.21 The Government Office for the South East has acknowledged that there has been very little renewable energy development in the region but the South East Plan (adopted in 2009) seeks to achieve a step change through application of Policy CC2. The policy requires local authorities to include policies and plans to “...help reduce the region’s carbon dioxide emissions by at least 20% below 1990 levels by 2010, by at least 25% below 1990 levels by 2015 and by 80% by 2050”.
- 5.22 These issues are of relevance in considering infrastructure requirements from growth in Horsham both as to the effect that the implementation of renewable energy technology or energy saving techniques may have on demand for energy in the district and also to ensure that investment is made in forms of energy infrastructure that seek to assist in meeting these regional targets.
- 5.23 HDC have already brought into force measures and made grants available for retrofitting renewable technology in existing dwellings.
- 5.24 For future growth in the district, there are a number of options for integrating renewable energy infrastructure which are best considered at a district level rather than on a settlement/site basis. It is recommended that a feasibility study to determine the suitability of a ‘direct wire’ network system, served by renewables and distributed to all developments should be considered. This would be in line with the Woking model which has the potential to save 15-20% of energy costs due to efficiencies.
- 5.25 Other small scale measures to seek energy efficiencies and the incorporation of renewable technologies within developments and as part of a strategy for infrastructure investment could include:-
- 1 Energy efficient building design including passive solar design through orientating buildings to maximise potential for solar heat gain.
 - 2 Efficient lighting as in most domestic homes, lighting accounts for around 10-15% of the electricity bill and low energy bulbs as a replacement for standard bulbs can provide a 60% reduction in electricity when compared with traditional incandescent lights.
 - 3 Water conservation measures including rainwater harvesting and/or grey water recycling/attenuation which can both serve WC systems and have the potential to save potable water as a valuable resource and promote reduced operational costs for householders.
 - 4 Solar panels for heating water, which can supply approximately 40-50% of annual domestic hot water, and Photo Voltaic (PV) panels for electricity generation. These could be fitted to south-facing roofs on all buildings.
 - 5 Ground Source Heat Pumps (GSHP) could provide groups of houses with a communal source of heating using the sun’s heat energy stored in the earth and also geothermal heat for vertical configurations. This heats water which is then distributed throughout the houses to metered heat exchange interfaces in each unit which would then have its own wet heating systems to provide all space and water heating.

- 6 Biomass fuel, particularly communal systems, can be an economical means of generating heat using fuel such as wood pellets, wood chips and wood logs either directly in wood stoves or indirectly in boilers to heat water for conventional wet central heating systems.
 - 7 Both heat and electricity may be generated using Combined Heat and Power (CHP) as community energy generation. A typical system may have prime movers driving electrical generators where the heat generated in the process is utilised for community heating. The electricity is distributed to dwellings within the area and linked to the local electricity distribution network to provide top-up or security of supply.
- 5.26 Many of these renewable infrastructures are micromanaging delivery, providing infrastructure at a small scale on a dwelling by dwelling basis. The viability of renewable energy infrastructure should be considered with respect to system size, annual carbon saving, capital cost, environmental and visual impact, site suitability, security and availability of fuel supply and maintenance issues. Therefore, it will be necessary for detailed feasibility work to underpin any new renewable infrastructure provision to meet any standards on renewable energy adopted by the Council.
- 5.27 From October 2010, Code for Sustainable Homes (CfSH) Level 3 will become mandatory for all new development through changes to building regulations. HDC should consider the applicability of enforcing higher CfSH standards for all new developments through policy. Government is also committed to achieving zero carbon homes by 2016, and this will continue to push the requirements for renewable energy as an integral part of new developments.
- 5.28 However, it is recommended that any policy stance adopted on this issue should be supported by a strong evidence base and recognise that a one-size fits all approach is not always appropriate. HDC may wish to give consideration to the key sustainability issues for the district and link policies to secure realistic and pragmatic improvements in particular areas. For example carbon reductions can often be better achieved through building design and efficiency rather than blanket requirements for a proportion of renewable technology within schemes. Consideration should also be given to how new development could assist in seeking improvements to the performance of existing stock in the district.

Soft Infrastructure

- 5.29 As well as hard infrastructure types (the development of a physical facility or undertaking of physical works) as identified in this study, there will also be significant pressures on soft infrastructure arising from growth. Soft infrastructure encompasses a range of supporting functions or community services which improve the economic, social and environmental wellbeing of communities. These include such functions, organisations and services as:
- 1 Local business support;
 - 2 Opportunities for skills and training, such as evening classes;

- 3 Community clubs and community development support such as youth clubs, coffee mornings, community events and other social organisations; and
- 4 Sports development and sports clubs, including provision of sports league structures.

5.30 In general, whilst these types of soft infrastructure will need a physical building or land to operate from, they do not necessarily create a need for an actual built infrastructure requirement. Often their main resources are people and the time they invest, and often they will operate out of existing community facilities, such as a youth activity group who operate out of a village hall. They are therefore inherently more difficult to quantify in terms of existing provision and requirements arising from growth. Nevertheless they have an important role to play and consideration should be given to ensuring that these functions are supported and encouraged through the availability of revenue or grant funding and the availability of physical infrastructure to support their needs and aims.

Infrastructure Requirements by Settlement/Site

5.31 Although overall infrastructure requirements arising from growth provide a useful indicator of the scale of provision likely to be required, it does not take account of local circumstances and the impacts of growth in particular areas on existing infrastructure. Infrastructure requirements from growth in different areas will yield different infrastructure pressures, based upon existing capacity, the different types of development, and the critical mass provided by growth to trigger the notional requirement for an additional unit of infrastructure. This analysis has focussed on Category 1 Settlements and the cumulative considerations within each settlement, particularly where Infrastructure requirements are coming from both settlement growth and strategic sites/site options. Broadly for purely neighbourhood infrastructure provision, NLP has assumed that strategic sites/site options will be self contained and will, in the main, serve their own needs once completed. This is desirable to create sustainable communities with walking access to local facilities and services.

5.32 A full table showing the impact of growth upon the baseline infrastructure position and the potential mitigation for these pressures is included at Appendix 4.

Horsham

5.33 Horsham town could potentially deliver development of between 827 and 992 new homes, as identified in the Horsham AMR (see Section 3), combined with economic development to support wider growth in the Gatwick Sub-Region. These developments are likely to place significant constraints on a settlement that is already facing a number of infrastructure pressures.

5.34 The key identified infrastructure requirements to support growth in Horsham are:

- 1 Improved Public Transport Priority seeking to reduce public transport journey times to make public transport more economically and chronographically desirable;
- 2 Improved bus service levels;
- 3 Farthings Hill Junction/A24.New Junction Improvement;
- 4 A264 closure and new east-west link to A24 at Broadbridge Heath;
- 5 Upgrade to Horsham WwTW with combined pressures for cumulative growth;
- 6 New 5 GP Surgery to address existing deficit and support growth in Horsham and Broadbridge Heath;
- 7 New dental surgery or expansion of existing ones to provide 7 new dentists to meet existing deficit and support growth in Horsham;
- 8 Extension to existing Primary Schools to accommodate 195 new pupils; and
- 9 New provision of community and green infrastructure.

5.35 Overall growth in Horsham can broadly be supported within existing infrastructure, provided that certain pressures on existing services can be mitigated. An upgrade to Horsham WwTW is a key strategic requirement to support proposals in this area and the potential for growth on strategic sites/site options will help to create the value and critical mass to deliver these requirements.

North Horsham Potential Strategic Site Option

5.36 North Horsham could deliver up to 3,500 new dwellings and 2ha of employment development. The location of the North Horsham site, separated from Horsham by the A264 trunk road, means that much social infrastructure will need to be provided on the strategic site option to ensure accessibility for residents is good. Combined with growth in Horsham there will also be pressures on physical infrastructure in this location. To support growth on the site there are the following infrastructure requirements:

- 1 Improved Public Transport Priority/Bus Gateway;
- 2 Improved bus service levels;
- 3 Littlehaven Station Improved station facilities;
- 4 A264/A2220 improvements;
- 5 Connection to all utilities services and upgrade to Horsham WwTW;
- 6 Community infrastructure including a GP Surgery, Dental Surgery, Library facility and up to four community centres;
- 7 Two primary schools and potential need for a new secondary school, although existing provision in Horsham, the potential new school in Southwater and a potential extension to Tanbridge House school means

this requirement may need to be considered in the context of overall cumulative growth.

- 8 Green infrastructure including sports pitches, amenity open space and allotments.

5.37 North Horsham strategic site option will need to provide a wide range of neighbourhood facilities to ensure it serves its own population, particularly given potential accessibility constraints to the rest of Horsham. A key area that will need consideration is Secondary Schools. The strategic site option is not necessarily large enough to support a secondary school on it's own, with only circa 531 pupils arising from development, but given the capacity constraints in existing Horsham secondary schools and that the north of Horsham area has relatively poor accessibility, with all secondary schools in the south of the town, there will need to be a trade-off between accessibility (i.e. expanding an existing school) or efficiency (i.e. developing a smaller school or one with significant excess capacity).

Broadbridge Heath

5.38 Broadbridge Heath could potentially deliver between 52 and 62 new dwellings within the existing settlement over the Core Strategy period, as identified in the Horsham AMR (see Section 3). With Broadbridge Heath's close proximity to Horsham, residents will tend to use any higher order facilities and services within Horsham and therefore pressures are generally created for the Horsham area as a whole. This is particularly illustrated by there being no GP surgery within Broadbridge Heath, with residents likely to attend practices in Horsham. The implications of this clear infrastructure link between the two settlements are that sustainable transport links between them needs to support this relationship. Therefore, pressures arising in Broadbridge Heath generally fall within pressures on Horsham as a whole, however, particular infrastructure required to support growth in Broadbridge Heath includes green infrastructure and sports, particularly associated with potential for expansion at Broadbridge Heath Leisure Centre.

5.39 Although wider cumulative impacts on utilities, such as wastewater treatment, in the Horsham area will serve to constrain development, in general there are limited infrastructure risks to this small level of growth in Broadbridge Heath, particularly with the development of the West of Horsham Strategic Site providing a range of infrastructure mitigation measures for the wider area.

West of Horsham Strategic Site (Commitment)

5.40 The West of Horsham Strategic Site is identified in the adopted Core Strategy and subsequently a masterplan has been adopted for the site. This sets out the key infrastructure requirements to support development of this site with the identified infrastructure including:

- 1 New junction south of the existing Farthings Hill junction;

- 2 New link road, from the A264 south of its junction with the A281 to a proposed new junction on the A24;
- 3 In conjunction with these network changes, the current western part of the A264 Broadbridge Heath bypass will be closed order to assist in integrating the new development with the existing community;
- 4 High quality passenger transport links to the town centre and Horsham rail station are provided to ensure excellent accessibility to local services and provide an alternative to the car from the outset. This latter will be in the form of a shuttle bus;
- 5 Safe, attractive and convenient pedestrian and cycle routes will also be provided between the development and local facilities;
- 6 Relocation and expansion of Shelley Primary School;
- 7 Extension to Tanbridge House school playing pitches;
- 8 Expansion of Broadbridge Heath Leisure Centre to serve the development and a wider sub-district function; and
- 9 A new neighbourhood centre, with Library, local retail, GP surgery and community facilities.

5.41 A clear framework for delivering this site has been set out and the developers will need to meet the above infrastructure requirements to mitigate the impact of the development on the current baseline infrastructure position. The site also has potential to serve a wider sub-district role, particularly for sports and leisure through a potential extension to Broadbridge Heath leisure centre.

West of Crawley Sites

5.42 Although outside of the District, growth within Horsham will have significant cross boundary infrastructure pressures on Crawley. These will particularly come from the two strategic sites on the edge of Crawley which will help to meet growth pressures at Crawley and within the wider Gatwick Sub-Region.

5.43 The West of Bewbush scheme is a 2,500 dwelling development, the principles for which were identified through the adopted Core Strategy and was allocated for development in a Joint Area Action Plan, which sets out in detail the infrastructure required to support the development. The West of Ifield site is a potential strategic site option which could provide up to 3,000 dwellings. Overall these will have cumulative impacts, particularly on the transport network where the need to improve Junction 11 of the M23 and also the potential need to provide a west of Crawley relief road are particularly pertinent infrastructure issues.

5.44 The At Crawley Study (2009) considers the infrastructure requirement arising from potential cumulative growth around Crawley.

West of Bewbush (Commitment)

5.45 The West of Bewbush Joint AAP sets out a comprehensive infrastructure delivery plan for this scheme. Complementing this with analysis of the scale of infrastructure requirements and the cumulative impacts, the key infrastructure required includes:

- 1 Vehicular access will be from the A264, with the form of the junction under discussion, although this could be a roundabout design.
- 2 Improvements to other junctions are also under consideration including A23/A2220, M23 J11 and potential Junction improvements at the A264/Sullivan Drive roundabout.
- 3 Improvements, extensions and re-routing of bus services are also proposed for the Fastway service 10, services 200/23/24 and new service 201.
- 4 Bus priority measures will be introduced with three access points, a bus gate at Sullivan Drive (Bewbush), a bus gate at Woodcroft Road (Ifield West), and via the junction on the A264 to provide bus segregation and priority access.
- 5 A primary care centre with a GP Surgery and Dental Practice, alongside other primary care functions;
- 6 A primary school and also expansion to Thomas Bennett and Ifield Community Colleges, if feasible, to support growth from both West of Crawley strategic sites. If not feasible a new secondary school may need to be brought forward at Crawley;
- 7 An neighbourhood centre with community complex including a library;
- 8 Green infrastructure including amenity open space, sports fields and neighbourhood play areas.

West of Ifield Potential Strategic Site Option

5.46 The West of Ifield site option will also contribute to infrastructure pressures around Crawley.

- 1 WSCC have identified a number of locations on the A23 and A2220 where peak hour congestion occurs. The Crawley Western Relief Road (CWRR) and associated road links are considered to be able to remove an element of traffic from these corridors. WSCC would object to the development unless CWRR is implemented. There are however, major concerns over deliverability, which may need developer funding, otherwise WSCC consider access a “showstopper” to development;
- 2 Improvements would be required to bus services to improve the frequency of services, which will help minimise impacts upon the highway;
- 3 Requirement for upgrades to Crawley WwTW or delivery of on-site treatment solution;

- 4 A primary school, and either extensions to existing Secondary Schools or a new one to serve both developments;
- 5 Neighbourhood centre with local retail, health facilities and community centres;
- 6 New sports pitches, multi-use games areas and a new sports hall facility to serve both strategic sites;
- 7 Local green infrastructure including amenity open space, local allotments and local play areas.

5.47 Developments on strategic sites to the West of Crawley face a number of significant constraints. The West of Ifield site option will need to provide a solution to the current constrained road network capacity, with the Crawley Western Relief Road considered a key component within this. Concerns over deliverability, given the cost of implementing the CWRR, are a major risk and, unless alternative suitable mitigation is identified through a comprehensive and detailed transport assessment, mechanisms for funding and delivery of the CWRR will need to be explored with questions over whether the Ifield site alone could fund this. Combined with requirements around Wastewater Treatment, the site is currently constrained by physical infrastructure and the costs associated with mitigation.

5.48 Whilst each development will need to serve its own residents in terms of local social infrastructure, such as health facilities, community centres and green infrastructure, off-site requirements, such as the need for additional Secondary School provision, provide a number of potential options for mitigation. The At Crawley Study identifies that whilst there is potential to expand both Thomas Bennett and Ifield Community Colleges, this would be expensive due to having to renegotiate PFI contracts, therefore a new secondary school to serve both developments may be an alternative.

Southwater

5.49 Southwater could potentially deliver between 74 and 89 new dwellings over the core strategy period, as identified in the Horsham AMR (see Section 3). Broadly there are no identified infrastructure constraints to development of this scale within Southwater, with the impacts from growth largely able to be accommodated within existing infrastructure. This is not to say that suitable planning obligations from these schemes should not be sought to enhance existing provision or provide additional provision of specific infrastructure as desirable. Existing deficits in the provision of sports pitches and allotments could be addressed by securing new facilities.

5.50 In addition to the growth in Southwater there is also potential for development on a strategic site to the West of Southwater towards Christ's Hospital.

West of Southwater Potential Strategic Site Option

5.51

The West of Southwater potential strategic site option could provide up to 2,750 new dwellings. The identified infrastructure requirements which the developers have indicated could be associated with the development plus the study team's knowledge include:

- 1 Hop Oast junction upgrade - this could be developed in a phased manner as development proceeds. Options range from a signalised at grade improvement to the existing roundabout to more radical grade-separation proposals. All need to include bus priority to be acceptable to the highway authority. Further technical work is required to develop an agreed solution.
- 2 Public transport services are currently considered by the developer to be excellent and will accommodate early phases of development;
- 3 Later phases will require increases in levels of service, which the bus operator would agree subject to them being either commercially viable or if subsidised by the developer or WSCC at appropriate levels;
- 4 Links to existing rail stations could either focus on Christ Hospital rail station or Horsham (preferred by WSCC);
- 5 Upgrade to local water and wastewater networks including a 2km 200mm water main and 2km 250mm wastewater rising main to supply the site, required after the first 500 to 1,000 new homes;
- 6 Health facilities including a GP surgery and Dental Practice;
- 7 A circa 580 place primary school and a circa 750+ place secondary school, to support growth from both the strategic site option, Southwater and also existing resident pupils who would attend the school instead of Tanbridge House, opening up extra capacity there;
- 8 Community facilities including a neighbourhood library as part of a community complex and up to three community buildings, to meet needs such as a community hall or youth centre as appropriate;
- 9 Sports facilities including a sports hall, multi-use games area and sports pitches, potentially as part of a joint community use facility with the school, and also other green infrastructure such as amenity open space and allotments.

5.52

Overall the West of Southwater strategic site option faces a number of potential infrastructure constraints including the requirement to signalise the Hop Oast junction and required upgrades to the local water and wastewater networks, which could represent significant costs. Other main requirements include new schools, although particularly a new secondary school on this site, as identified by the developers, could help to provide a local option, reduce the school run to Horsham, but also serve the central part of the District potentially reducing capacity pressures on The Weald School in Billingshurst and Steyning Grammar.

Billingshurst

- 5.53 Billingshurst could potentially deliver development of between 113 and 136 new homes over the core strategy period, as identified in the Horsham AMR (see Section 3). This would create additional pressures on an already constrained The Weald Secondary School, which could potentially reach tipping point from this level of development. This could limit the amount of growth occurring in Billingshurst in the short term, with a potential need for temporary mitigation measures put in place, pending a longer term solution which may come from the strategic site option or from new provision in Southwater. Although not a constraint on development, it was identified in the West Sussex PCT Strategic Service Delivery Plan that the Billingshurst Surgery will need a rebuild or new premises in the future. In addition, as with across the District, there is a shortage in the provision of allotments and a new facility should be sought as appropriate.

East of Billingshurst Potential Strategic Site Option

- 5.54 Whilst growth within the existing Billingshurst urban area is only constrained by secondary school capacity, potential growth on the strategic site option would yield a requirement for much greater infrastructure provision including:
- 1 Improvements to junctions and links required if a material impact shown by modelling. Primarily on A272 but the HA has indicated that these effects may extend as far as the A23;
 - 2 The developer proposes a North - South relief road providing access from the development to the A29, as well as removing traffic from the centre of Billingshurst currently using the A272;
 - 3 The developer proposes a package of sustainable transport measures to improve bus levels of service to major local destinations including Horsham and Crawley/Gatwick;
 - 4 Improvements to Billingshurst rail station are also proposed by the developer;
 - 5 Upgrade to Billingshurst WwTW after total growth of 300 homes served by the works;
 - 6 Upgrade to the local electricity network after total growth of 600 homes;
 - 7 A primary school and also an expansion of capacity within The Weald School. The latter is constrained with limited scope to expand the school on the current site, leaving two main options for mitigation; to reduce the pressure on the school currently by increasing provision elsewhere and reducing the catchment of The Weald School, or providing an off-site expansion to The Weald School, for example by providing a separate sixth form campus on the strategic site option;
 - 8 A local neighbourhood centre with community centre buildings and potentially the new Billingshurst Surgery and also sports and green infrastructure provision.

- 5.55 Overall the East of Billingshurst strategic site option would need to provide a solution to the existing constrained school capacity and once a strategic review of secondary school provision has been undertaken by WSCC once there is more certainty around the position at Southwater, Rydon Community College and Tanbridge House, a suitable way forward can be identified. In addition development will need to secure upgrades to wastewater and electricity networks as well as providing a north-south relief road.

Pulborough

- 5.56 Pulborough could potentially deliver between 114 and 137 new dwellings over the core strategy period, as identified in the Horsham AMR (see Section 3). The main constraint on this level of development would be the capacity within St. Mary's C of E Primary School, which would be reduced to circa 2% capacity if the higher end of growth were to occur. It may therefore be necessary to consider either limiting growth in Pulborough to a lower level of growth or plan for potential extension of capacity, if achievable. Other potential infrastructure requirements could include additional dentist provision and additional allotments provision. Other utilities including existing electricity, gas, water and wastewater networks could accommodate development with minimal works.

Storrington and Sullington

- 5.57 Storrington and Sullington could potentially deliver between 138 and 166 new dwellings over the core strategy period, as identified in the Horsham AMR (see Section 3). The only infrastructure constraint identified relates to secondary school capacity at Steyning Grammar, which is currently oversubscribed. One solution could involve expanding Rydon Community College to a full secondary school, which may relieve pressure on both Steyning Grammar and The Weald School opening up capacity for growth, however this would need to be considered by WSCC in a strategic review of secondary school provision. There are no other identified infrastructure constraints to this level of development and therefore the development is likely to be able to be accommodated within existing infrastructure capacity if a solution to capacity in secondary schools can be provided. Particularly development would take advantage of existing capacity in Storrington First School. The main infrastructure identified for provision in Storrington and Sullington relate to existing deficit in provision of sports pitches and allotments, which, whilst not ultimately preventing development in this location, should be sought to enhance provision and support growth.

Henfield

- 5.58 Henfield could potentially deliver between 103 and 124 new dwellings over the core strategy period, as identified in the Horsham AMR (see Section 3). Similar to settlements across the south and east of the District capacity for development is constrained by capacity within Steyning Grammar School. There are no other identified infrastructure constraints to this level of development and therefore the development is likely to be able to be accommodated within

existing infrastructure capacity if a solution to capacity in secondary schools can be provided. The main infrastructure identified for provision in Henfield relate to existing deficit in provision of sports pitches and allotments. Whilst these will not preventing development in this location, they should be sought to enhance provision and support growth.

Steyning, Bramber and Upper Beeding

- 5.59 Steyning, Bramber and Upper Beeding could potentially deliver between 39 and 47 new dwellings over the core strategy period, as identified in the Horsham AMR (see Section 3). As previously identified capacity for development is constrained by capacity within Steyning Grammar School which is currently oversubscribed and a suitable means of increasing capacity within the south east of the district would need to be sought, either through expansion of Steyning Grammar, if feasible, or expansion of provision elsewhere, such as expanding Rydon Community College into a full secondary school. There are no other identified infrastructure constraints to this level of development although provision of sports pitches and allotments are desirable to meet existing deficits.

Infrastructure Impacts of a New Settlement

- 5.60 A new 10,000+ dwelling market town within the A23 corridor in the east of the district would create major pressures over and above the baseline infrastructure position. Without a specific scheme or specific site in mind identifying the infrastructure requirements associated with a new settlement will be high level. However, in general terms, on the assumption that the settlement will be a 10,000 dwelling relatively self-contained market town with employment and facilities to serve its own population, the impacts and requirements are likely to be as follows:

- 1 Transport impacts upon the A23 will necessitate improvements to the route, whilst, depending on the location of the new settlement, it is likely that new junctions with new trunk roads to serve the settlement will be necessary;
- 2 The new settlement will need to be served by public transport to ensure a high level of accessibility and sustainable transport options;
- 3 New utilities services will need to be provided, including links to the strategic energy networks. Likely need to find a new location for a wastewater treatment works;
- 4 Primary school provision for circa 2,100 pupils equivalent to five 420 place schools. Secondary school provision for circa 1,500 pupils and Post-16 provision for circa 600 pupils equivalent to either one large school campus or two smaller secondary schools with sixth form facilities;
- 5 Requirement for health services including 14 GPs and 12 Dentists. Potential for smaller secondary healthcare services to also be located in a settlement of this scale as required;

- 6 Town centre with a range of retail, employment and community uses, including a circa 750 m² sub-district Library facility. A network of local centres with up to twelve 300 m² community buildings;
- 7 Built sports and leisure facilities including a main swimming pool and four 5-badminton court sports halls; and
- 8 Network of green infrastructure including 23ha of nature reserve, 9.2ha of amenity open space, 1.1 ha of equipped play areas (equivalent to 11 neighbourhood play areas), 2.8ha of allotments, 32.2ha of sports pitches and 2.3ha of outdoor sports courts.

- 5.61 These requirements are based on a high level scoping of some of the main issues, and although there are a number of infrastructure barriers to delivering a new market town, further work is required to assess the ability to provide the necessary infrastructure and mitigate any impacts.
- 5.62 Further scoping work on the feasibility of a new settlement within the Gatwick sub-region is currently being progressed jointly by Horsham District Council, Crawley Borough Council and Mid-Sussex District Council, which will provide a more comprehensive analysis of the infrastructure issues associated with a potential new settlement in this location.

Cumulative Growth Effects

- 5.63 Whilst many infrastructure requirements are linked to a single development or growth within a single settlement, some infrastructure will be needed due to the total level of development within the district, largely regardless of where it is located. These requirements are in addition to the infrastructure identified to support growth in specific areas or on specific sites, as in the preceding section. These are not infrastructure types that are linked spatially to a specific area (such as school to serve a development or specific catchment) but are wider requirements arising to support the whole district and potentially beyond.
- 5.64 Such infrastructure requirements are the cumulative growth effects, i.e. the impacts and infrastructure requirements that will arise to support all developments, not just relating to a single development or location. The impacts of cumulative growth throughout the district will trigger a number of infrastructure requirements and these will be a function of generally increased pressure across the District and sub-region on infrastructure.
- 5.65 Of key concern to the Highways Agency has been the cumulative impact of the several new developments that are likely to give rise to additional impacts on the M23/A23 corridor and associated junctions (J11 and J10). Together with West of Bewbush, the developments at West of Ifield and North of Horsham are likely to have a major impact on J11 and the M23, although this is a situation that can only be tested through use of traffic modelling across the whole area. Improvements are highly likely to be needed at this junction, which would require funding from the developers concerned in order to overcome the HA's likely objections.

- 5.66 Growth will also be an issue for the growing pressure placed on secondary health care services. The PCT identify that whilst in general there is a move towards providing more secondary care at a local level, such as the introduction of polyclinics and PCT mini-hubs providing space for a range of visiting healthcare services, there will still continue to be a need for larger hospital facilities. Horsham Hospital provides a range of outpatient services although A&E facilities to serve the District are located in Haywards Heath, Redhill or on the South Coast. Cumulative growth will increase the need for secondary healthcare services and the potential to accommodate new facilities at Horsham Hospital should be explored in the first instance to support growth within the District, with alternative mitigation involving expansion at other hospital sites within the PCT area. Overall, a scenario of high growth to 2031, with 16,914 new dwellings anywhere across the district, would necessitate up to 109 new hospital beds.
- 5.67 Another cumulative growth effect will be the increase in demand for Post-16 and adult education opportunities. This is particularly important given the provision of the Education and Skills Act 2008 which have risen the leaving age for compulsory education to 18 coming into effect from 2013 for 17 year olds. Whilst some of this will be undertaken in the workplace, much of this increase in demand will place pressures on further education establishments such as sixth forms and colleges. NLP has estimated that growth alone could place pressures on post-16 education establishment of up to 1,033 additional pupils (high growth to 2031). Combined with potential pressures from changes in leaving age, there is likely to be a need to invest in Post-16 education facilities over the Core Strategy Review period, with either expansions in existing facilities or provision of new sixth form colleges, either as part of a secondary school or a stand alone facility.
- 5.68 Other cumulative growth impacts include the need for district-wide facilities such as a swimming pool, with overall population growth to 2026 and 2031 likely to support demand for a new swimming pool facility, even at a lower growth. In addition there is likely to be a need to identify new strategic scale nature reserves, totalling up to 78ha (high growth to 2031) to meet Natural England's suggested targets of a minimum of one hectare per 1,000 population as well as other targets on nature. Again, these infrastructure requirements are not necessarily linked specifically to individual developments, but arise from the needs created by cumulative development throughout the District and should therefore be suitably planned for.
- 5.69 There may be cumulative growth impacts upon other services such as schools, GP surgeries and sports facilities, however, in general these will be dealt with at a local scale, with facilities provided to serve individual locations and not necessarily the district as a whole.

Conclusions on Infrastructure Requirements

- 5.70 It is clear that different schemes face different pressures, and that there are also a number of overarching strategic requirements which will need to be

overcome before major growth can occur in many areas of the District, including Junction 11 of the M23 serving the Gatwick Sub-Area part of the district and the Crawley Western Relief Road in opening up road capacity for development around Crawley.

- 5.71 Despite these pressures it is also clear that a relatively small, but still significant, level of growth could occur within existing infrastructure capacities, which is particularly the case with small amounts of development in existing settlements. Most local pressures relate to provision of school places, particular secondary tier, provision of utilities capacity and addressing deficits in existing 'required' social infrastructure. All developments are likely to require connection to utilities and minor access works, and these have not been addressed in this strategic study unless it creates a pressure on the strategic network.
- 5.72 A key area that will need to be addressed is the provision of school places. Whilst in the short term capacity may be increased in schools by provision of temporary solutions such as pre-fabricated class rooms, this should be seen as a last resort measure and is not a desirable solution. A long term view will need to be taken in light of the distribution and scale of growth across the district and West Sussex County Council are currently progressing work on planning for schools places within Horsham, which will provide a clearer strategy for meeting educational requirements.
- 5.73 There is inadequate spare capacity in the existing sewerage network to serve the proposed developments in the study area. Both Thames Water Utilities (TWU) and Southern Water (SW) will require additional infrastructure to be built in order to accommodate the additional flows generated by the potential developments. TWU and SW propose to liaise with Horsham District Council and the Environment Agency and carry out a study to ascertain the necessary infrastructure provision.
- 5.74 A full delivery plan detailing each infrastructure requirement associated with the different spatial distributions of growth is contained in Appendix 6.

6.0 Funding Options and Delivery Mechanisms

- 6.1 This section considers the challenges associated with funding and delivering the infrastructure required to deliver the different spatial growth identified, based upon the infrastructure delivery plan. As this is based upon the spatial distribution of growth identified in Section 4, and not the overall growth scenarios, it is based upon the aggregated infrastructure requirements from all identified growth options, which would far exceed the dwellings required under growth scenarios to 2026. Therefore, the funding options and delivery mechanisms must be viewed in the context that not all growth will necessarily come forward.
- 6.2 In order for the identified infrastructure to be delivered in a timely fashion alongside housing growth, it is important that robust funding and delivery structures are in place. This section also identifies appropriate funding mechanisms for local authorities, private or public and private partnerships. It also provides analysis of the opportunities and risks associated with the current funding sources and delivery models associated with the different infrastructure types considered in this study. It also considers the possible future mechanisms including developer contributions, CIL and rolling funds and how these relate to each other and could be applied in practice within Horsham.

Costs of Infrastructure

- 6.3 Based upon the delivery plan, which provides a schedule of infrastructure requirements to support potential growth in the different locations within the Borough, the costs for infrastructure are summarised below: -

Table 6.1 Infrastructure Costs of Aggregated Potential Development

Infrastructure Type	Cost of Infrastructure to Support Aggregated Levels of Development (up to 17,233 dwellings)	£ per dwelling
Transport	£90,000,000 - £137,500,000 ¹	£5,222 - £7,979
Utilities ²	£750,000 +	£44 +
Health	£81,850,000	£4,750
Education	£117,500,000	£6,818
Community	£8,750,000	£508
Green Infrastructure & Sport	£38,700,000	£2,246
Other Identified Infrastructure ³	£3,680,000	£214
Total	£341,230,000 - £388,730,000	£19,802 - £22,558

¹ Transport high number includes costs associated with transport schemes beyond the district boundary and those that are required from wider sub-regional growth but may be part funded by growth within Horsham.

² Energy, Water and Wastewater Utilities have not been costed as insufficient information on exact requirements is currently known. This also excludes waste requirements beyond the district boundary

³ Other infrastructure includes a replacement Horsham Fire Station, which, whilst not an area the infrastructure study has particularly looked at, was included as part of the masterplan for the West of Horsham Strategic Site.

- 6.4 This shows that the total cost of identified infrastructure to meet the needs of potential growth within the district is circa £19,800 to £22,600 per dwelling. This is irrespective of dwelling type and does not take account that affordable housing units would not necessarily be required to contribute the full amount to infrastructure costs through planning obligations. Based upon a £ per market dwelling basis this figure would increase substantially depending on the proportion of affordable housing delivered. These costs will fall upon a range of sources, and are not just associated with the public purse, but provide an estimate of the overarching scale of costs to meet the infrastructure requirements within the infrastructure themes that this study has assessed.
- 6.5 Table 6.1 breaks the infrastructure costs down by theme and it is important to note that the cost per dwelling of infrastructure to support a particular spatial pattern of growth is higher than the overall district growth scenarios identified in Table 5.1. This is due to the imperfect nature of the baseline capacity in meeting growth, with some surplus capacity within infrastructure likely to be unused as growth will not occur in that area, and also the lumpiness of infrastructure in meeting need, which builds in natural infrastructure inefficiencies and surplus capacities to accommodate longer term growth (e.g. where an additional unit of infrastructure has a 'minimum size' greater than the need).
- 6.6 Whilst these costs provide an overview for the district, they should be regarded as a starting point in respect of the implications of housing growth upon the baseline position as there are a number of uncertainties which could affect the exact cost of providing infrastructure and the level of required investment. These include: -
- 1 The overall cost is a function of all identified potential growth coming forward, whilst the finalised spatial strategy for the district may yield different infrastructure requirements, dependent on the distribution of development;
 - 2 The nature of infrastructure identified in this study is not intended to be exhaustive and further infrastructure themes or specific requirements may wish to be legitimately included in a delivery plan;
 - 3 Costs are based upon benchmark schemes, broad construction cost estimates and costs identified in other technical studies and are utilised to give an estimate of the scale of costs. Actual build costs will vary significantly dependent on build standards and specific infrastructure design requirements. More detailed feasibility studies will be needed to refine these;

- 4 The costs above exclude utilities, which are a considerable cost but are often borne by the costs of development or by the utility provider.
- 5 The costs include other infrastructure requirements which may be part or fully funded away from the public purse or away from being funded on development value (e.g. on its own commercial basis such as GP and Dental surgeries);
- 6 Costs are expressed at 2010 estimates and infrastructure costs can change markedly over time due to construction cost inflation, deflation, economies of scale or other regulatory measures (e.g. building regulations); and
- 7 Changes in the methods and means of providing of types infrastructure may increase or decrease infrastructure costs either negating requirements or increasing them (e.g. joint use school facilities, which may act as a school as well as a leisure centre, community centre, community library etc. – reducing the need for these as stand alone facilities).

6.7 These costs do show that costs associated with ‘fundamental’ and ‘essential’ infrastructure types are generally much higher than those associated with the ‘required’ infrastructure types and these are also the types of infrastructure that are necessary up front or early on within growth. This highlights the relative risks associated with funding infrastructure as generally a high proportion of the costs will be required early on, before any value from the development is captured.

Prioritisation and Phasing

6.8 A key issue will be the development of a framework to assist in prioritising the provision of infrastructure and, where appropriate, to assist in making decisions on the necessary trade-offs and choices about what is provided and when. This will need to be sufficiently flexible to take account of emerging issues on viability, phasing and funding and is particularly relevant for infrastructure types which this study has categorised as ‘essential’ or ‘required’ which may not be required up-front.

6.9 In advance of having a more detailed phasing programme for the delivery of growth in the district, it would be inappropriate to determine the approach to phasing of infrastructure. At a later stage in the development of the Core Strategy Review, when a clearer picture on the delivery of sites across the district emerges, this study will assist in providing a basis for making the necessary choices on the approach to phasing as a basis for securing funding for required infrastructure.

6.10 Notwithstanding the above, the baseline analysis provides a starting point for when new infrastructure will be necessary, with the existing capacity within each infrastructure translated to a tipping point. This tipping point, is the level of growth beyond which additional infrastructure or works to upgrade existing infrastructure beyond existing planned works would be required. This gives a

overview of what infrastructure needs to be prioritised and when infrastructure need is likely to be phased. We have produced Gantt style graphics to visually represent this for the four main areas of growth which are included in Appendix 8.

Funding, Delivery Mechanisms and Partners

- 6.11 The infrastructure associated with and required to support growth, alongside other underlying investment, may have access to various funding streams. In general terms, the funding sources identified for infrastructure are, like most public sector funding, constrained by Spending Review periods meaning that it is difficult to have certainty on the ability to secure resources for long term investment beyond each three year cycle.
- 6.12 The current Spending Review period ends in April 2011. At the time of writing, there are clear uncertainties in terms of:
- 1 The potential for current spending commitments in the period to April 2011 being reduced (e.g. by £6bn as proposed by the new Government);
 - 2 The absence of a Comprehensive Spending Review for the period 2011-2014 amid the likelihood that public sector funding will be severely curtailed, particularly for capital projects, for at least the three year period from 2011 and most likely longer;
 - 3 As a result of this, there must be big question marks over the very existence or structure of existing funding resources and the quantum of resources that might flow through them. This includes existing local government funding, transport projects; and funding credits for PPP projects such as BSF, and so on.
 - 4 Although CIL has now been established formally, and with associated guidance and regulations on s.106, there are also potential proposals, arising from the change in Government, for an alternative approach to planning obligations. As it stands however, securing an approach to CIL must be a priority given the limitations imposed on use of s.106 to secure obligations not directly related to impacts of the development in question.
 - 5 At the same time, the prospects for other measures, such as the proposals of the Conservative Party for local Council Tax retention are also, at the time of writing, unknown.
- 6.13 At the same time, the recent election means a number of potential changes in the structural architecture that surrounds planning and infrastructure provision.
- 6.14 So, in outlining funding options, it must be recognised that there is considerable uncertainty on the precise nature of resources available, and the mechanisms by which they will be channelled. For much infrastructure planning work carried out in the recent past, it has been a given that a significant proportion (if not the majority) of resources for infrastructure will come from existing funding flows (including local government funding formulae and

resources such as Basic Need funding for school place planning) and that it was important not to overstate the cost burden on development. However, looking to the future, such assumptions may be more difficult to hold.

6.15 What does seem clear is that the approach to resourcing should be dictated by more detailed consideration of the following:

- 1 A recognition that resources (public and private – the latter due to compressed land values) will be tight for at least the first phase of the plan period
- 2 That a more flexible approach to infrastructure requirements (either in terms of absolute provision or their phasing) may be necessary, possibly to a greater extent if forms of development with higher infrastructure costs are to be prioritised
- 3 That ‘early wins’ may be necessary by prioritising development in more ‘infrastructure efficient’ locations for development in the early phase of the plan, with more complex and ‘expensive’ schemes following when there is greater scope for capturing value uplift to support development
- 4 The integration of judgements about viability / affordable housing provision / infrastructure / spatial priorities to secure the right balance of deliverability and achievement of planning objectives over the phases of the plan.
- 5 The scope for securing cross-boundary/sub-regional approaches to funding certain items of infrastructure (notably transport) including through a pooling of CIL resources as well as other funding pots
- 6 The governance of funding mechanisms that will be needed to make the above work given the spatial priorities and phasing issues to be considered.

6.16 Taking all of this into account, the remainder of this section of the report provides a scoping of funding options and highlights delivery issues to be resolved as the pre-cursor for more detailed consideration that will flow from:

- 1 Refining of the spatial options and identification of viability considerations, including with reference to affordable housing
- 2 more details of the post-election settlement for planning and, insofar as it is possible, funding (this being likely to remain unclear for a number of months)
- 3 consideration of sub-regional tariff/co-funding options for infrastructure of more than local significance.

Funding Options

6.17 Funding options for the infrastructure costs identified in this report will come from a number of sources, and are subject to the factors identified above. In general terms, these are grouped into: the following categories:

- Developer Contributions

- Public Funding Streams
- Private investment
- Other/voluntary sector

6.18 The role of developer contributions is considered first (although it must be stressed that it is not necessarily the first port of call for funding for each infrastructure type), including the role of s.106 and CIL and the mechanisms for managing it. Recognising that funding pots are interdependent, including through PPP mechanisms, funding through b-d above is considered under the headings of each of the infrastructure typologies used in this report, namely:

- Transport
- Utilities
- Health
- Education
- Community
- Green Infrastructure & Sport
- Other Identified Infrastructure

Developer Contributions

Community Infrastructure Levy (CIL)

6.19 CIL came into force on 6 April 2010 through the Community Infrastructure Levy Regulations 2010. The Regulations empower local authorities to levy a charge on new developments in their area from which new local and sub-regional infrastructure can be funded. When such a standard charging approach is established, Section 106 agreements will only be allowed for issues directly related to a specific development.

6.20 Implementing CIL is not mandatory but has potential benefits in improving certainty for developers on what they will be required to contribute, ensuring a more equitable requirement to contribute from developers (both large and small scale) and raising additional capital receipts to ensure that infrastructure in local areas required to bring about growth is developed where it is needed.

Key Considerations for HDC on CIL

What infrastructure can CIL be used to fund?	The CIL Regulations are clear that receipts can only be spent on new infrastructure and not to remedy pre-existing deficiencies (unless new development will make these deficiencies worse). Affordable housing provision is specifically excluded
How will CIL be administered?	Up to 5% of the CIL receipts can be used to administer the collection and distribution of funds to infrastructure provision

Key Considerations for HDC on CIL	
In what timescales will infrastructure be delivered?	See below; LPAs have the power to borrow against future CIL receipts to deliver required infrastructure earlier if necessary and subsequent levy payments can go towards repayments. This will avoid delay if infrastructure can only be delivered after the payment of the levy
Does the CIL need to relate to the whole LPA area?	It can; but the guidance also establishes that differential rates can be identified for different zones within which development may be situated or with reference to different types of development.

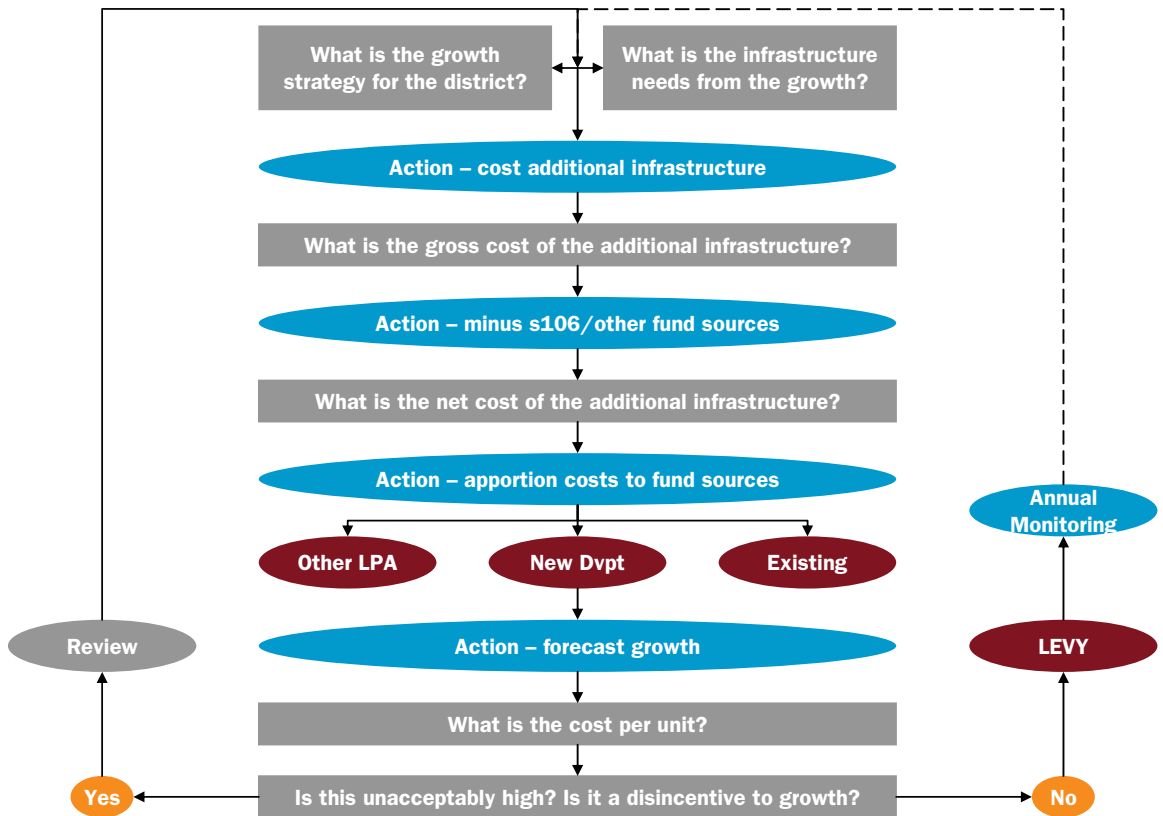
- 6.21 In setting rates, the CIL Regulations make it clear that the level identified needs to strike a balance between:-
- The desirability of fixing a rate that guarantees funding for infrastructure required to support development in the area with
 - The potential effects of imposing the CIL rate on the economic viability of development in an area.
- 6.22 In this regard, the guidance defines that It is for charging authorities (i.e. the Council) to decide how to present *appropriate* evidence on the appropriate balance between the *desirability* of funding infrastructure from CIL and the potential effects of CIL on the economic viability of development. Charging authorities should carry out a *broad test* of viability across their area and not focus on the potential implications of setting CIL for individual development sites. The guidance identifies the role of viability methodologies and indicates that a charging authority may want to sample directly a few sites, particularly where the impact of CIL on economic viability is likely to be more significant.
- 6.23 Where a charging authority is proposing to set differential rates, the Government has indicated that it may undertake more *fine grain sampling* to identify a few data points to use in estimating the boundaries of particular zones, or different categories of intended use. The guidance indicates that *appropriate available evidence* must “*inform*” the draft charging schedule; the proposed rate does not have to exactly mirror the evidence (there is room for some pragmatism). Importantly, the guidance indicates that charging authorities should avoid setting a charge right up to the *margin* of economic viability across the vast majority of sites, and should bear in mind that economic circumstances and land values can change significantly during the lifetime of the charging schedule.
- 6.24 The guidance is clear that charging authorities should not seek to exempt individual development sites from CIL, through setting a differential rate for individual sites. Charging schedules should not impact disproportionately on a particular sector or small group of developers.
- 6.25 Paras. 12 to 18 of the Government’s guidance explain that for infrastructure planning:
- 1 The charging authority needs to identify the total cost of infrastructure that it desires to fund from CIL.

- 2 The charging authority should determine the size of its total infrastructure funding gap having regard to total costs and other sources of funding.
- 3 Authorities may spend their CIL revenues on different projects and types from those identified as indicative for the purpose of charge setting.
- 4 Where infrastructure planning has been undertaken specifically for CIL, the examiner will only need to test that the evidence is sufficient in order to confirm the aggregate infrastructure funding gap and total target amount proposed to be raised through CIL.

6.26 The outputs of this study will be an important contribution to this process, but need further iteration to reflect the need to resolve the spatial strategy, programme of development, viability considerations, and potential funding sources (given current uncertainties – discussed below).

6.27 The process to address this balance can be summarised as follows:-

Figure 6.1 The process of establishing a CIL



Source: NLP (adapted from work by South West Councils)

6.28 If Horsham are seeking to implement CIL in the district, it is clear that early preparation of a charging schedule to facilitate payments should be considered. Failure to do so may lead to opportunities to secure funding for major required infrastructure in the district will be missed.

6.29 There are a number of practical issues to be resolved in implementing CIL, not least the potentially significant omission from the Government’s overview on

CIL which is that it does not address the situation where an item of off-site infrastructure which may be intended to be funded by CIL is required to be provided prior to development commencing, to mitigate the site-specific impacts e.g. a transport improvement. Currently, this would be dealt with by a Grampian condition requiring that development does not commence until that element of infrastructure is provided, but without necessarily a guarantee that CIL would be expended at the exact time needed to deliver it. It is unclear from the Government's CIL overview whether:-

- 1 The developer could seek to overcome the potential objection by delivering the infrastructure improvement (as well as making a CIL contribution) i.e. in effect by making a double payment; or.
- 2 Seeking to use the 'exceptional circumstances' provisions (where they are allowed) for seeking relief from CIL if using s106 to provide the required infrastructure (although the Regulations explicitly seek to prevent s106 being used for CIL infrastructure).

6.30 Further, more detailed work on CIL and its practical implementation in Horsham will be required.

Section 106 Agreements

6.31 Despite the introduction of Community Infrastructure Levy (CIL) s.106 agreements will continue to play an important role in the provision of infrastructure. However, under the new regulations, this role is distinct from previously. The objectives underlying the proposed reform of the s106 system comprise:

- clarifying the purposes of planning obligations in the light of CIL to restrict the use of planning obligations to *direct impact mitigation*
- preventing the opportunity for "*double charging*" through the use of both planning obligations and CIL. The Government clarified that planning obligations should aim to secure necessary requirements that facilitate the granting of planning permission for a particular development, while CIL contributions are for general infrastructure need
- putting tariff-style charges on a better statutory basis

6.32 The Government's policy tests on the use of planning obligations (previously guidance in Circular 5/05) became law from 6 April, 2010, with it now being unlawful for an obligation to be taken into account in determining a planning application, if it does not meet the three tests of being:

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

6.33 The two remaining tests from Circular 5/05 have been omitted because they were considered unnecessary or repetitive.

- 6.34 The intention of the statutory tests is to: clarify the purpose of planning obligations in the light of CIL; improve the effectiveness of their use; and provide a stronger basis to dispute planning obligations' policies or practice that breach these criteria.
- 6.35 Further, once a CIL charging schedule has been published, regulation 123(2) prevents a planning obligation being entered into where this provides for the funding or provision of *relevant infrastructure*. Relevant infrastructure is then defined as those infrastructure projects included on a list of infrastructure projects or types published on the charging authorities website or, where no list has been published, any infrastructure. This Regulation, although intended to prevent LPAs from charging for infrastructure using both s106 and CIL may not necessarily have the desired effect, as an LA could theoretically include a very limited list of categories of *relevant infrastructure* for its charging schedule and then use s106 for tariff-type contributions, with the s106 then being a material consideration in the determination of the application (provided that it also complies with Regulation 122).
- 6.36 Finally, in relation to pooling, a planning obligation imposed on a planning permission granted after 6 April 2014 (or the date when the first charging schedule is published, if first) may not provide for the funding of an infrastructure project, or type of infrastructure, if five or more separate obligations have already been entered into in that area that provide for the same item (regulation 123(3)(b)). Essentially, some pooling of infrastructure contributions via s.106 would be allowed for items not included on a published list. This is of significance for the potential role of s.106 or CIL in funding sub-regional infrastructure or transport schemes whose impact arises from multiple developments inside or outside Horsham.

Rolling/Holding Infrastructure Funds

- 6.37 The Government has identified that collection of CIL will be carried out by the 'CIL collecting authority' which will be the local planning authority in most cases (although the regulations allow for The Homes and Communities Agency, Urban Development Corporations and Enterprise Zone Authorities can also be collecting authorities for development where they grant permission).
- 6.38 Part 7 of the Regulations confirms that a charging authority must apply CIL to funding infrastructure to support the development of its area, or outside of it, where this would support the development of its area. Helpfully, CIL may be applied to expenditure already incurred or, subject to certain limitations, to repay loans used for the funding of infrastructure. The regulations dictate that charging authorities must prepare a report for any financial year confirming total CIL receipts, total CIL expenditure and summary details of that expenditure, including the items of infrastructure to which CIL has been applied.
- 6.39 However, it remains the case from the Regulations that an LA payment to another party to provide infrastructure will be sufficient for an LA to be able to confirm that it has applied its CIL receipt to funding infrastructure, even if the

monies received are not used immediately or at all by the other party to provide the required infrastructure. It remains the case that there is no mechanism for an LA imposing CIL to be able to guarantee the provision of required infrastructure.

6.40 One of the factors of relevance to the adoption of CIL is that of phasing and cash flow. In short, for a number of developments it is possible that delivery of infrastructure to be funded by CIL will necessitate financial investment at times when the CIL income in the pot is not sufficient to deliver it – reflecting that infrastructure costs are likely to be more ‘lumpy’ than CIL income arising from a more even pattern of build rates across the district. S.106 mechanisms have sought to resolve this by making payments linked to specific ‘trigger points’.

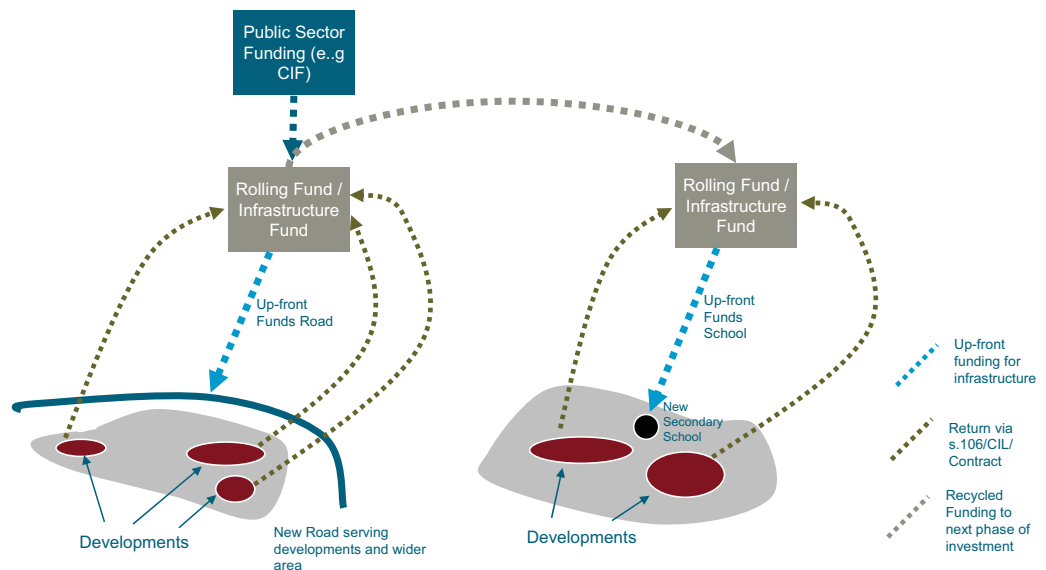
6.41 So, there are two challenges:

- Providing a ‘repository’/ holding fund for CIL income and to have in place the appropriate governance structures to ensure resources are invested to deliver the infrastructure at the right time, given the wider patterns of development;
- Finding the necessary funding as and when required to cash-flow infrastructure even if this is then repaid by future CIL (or other) receipts.

6.42 The approach being pursued in some other locations is to establish infrastructure funds that take up-front funding (e.g. through the CIFs) and then use it to fund upfront infrastructure delivery, capture the development value released by the investment (or captured from multiple developments) through tariff or section 106, and use these receipts then delivery future projects.

6.43 This is illustrated below:

Figure 6.2 Illustration of Rolling Fund Principles



Source: NLP

- 6.44 Some key issues for funds of this sort relate to:
- Scope – what will it fund?
 - Funding – where will it secure resources from?
 - Programme – what is its anticipated spend profile given the development programme and how will it change in response to phasing/market fluctuations?
 - Control – who determines what infrastructure it funds and monitors its performance?
 - Delivery – what will it actually do?
 - Legal – what is its legal structure/who is the accountable body (will it be separate allowing for injection of CIL funds from the charging authority to represent discharging of CIL expenditure / will it have potential to borrow money?)
 - Time – how long will it last?
 - Exit – what happens when it is completed?
- 6.45 Decisions on this will need to flow from assessments around the infrastructure programme once it is developed, and the relationship to broader issues of delivery and coordination which are discussed below. The alternative income streams for such a fund (e.g. Council/public sector assets and/or Council Tax retention might also be part of this debate).

Summary on Developer Contributions

- 6.46 There are clearly a number of practical issues to resolve in shaping the approach to securing developer contributions via CIL and s.106 and then managing receipts in such a way as to delivery infrastructure at the right time. These relates to factors that go beyond the immediate ambit of this Study but require concerted effort to address as a priority workstream so that a sound charging schedule and *intra vires* fund management arrangements are in place as soon as is practicable.

Other Funding Sources

Transport

- 6.47 Transport funding was originally anticipated to be an infrastructure sector where more innovative models might be applied. Transport 2010, issued by DfT, was anticipated to increase predictability of funding and planning, including the use of road user (e.g. congestion) charging to fund improvements. However, high profile failures to secure public support in Edinburgh and Manchester, the reversal of the West London Congestion Charge Zone and abandonment of Road Lorry User Charging have stymied growth in that direction.
- 6.48 In the current spending review period, identified sources for transport investment to support housing growth specifically (and other objectives) have

included the Community Infrastructure Fund (CIF) and Transport Innovation Fund (TIF) (subsequently the Urban Challenge Fund). These are not applicable to Horsham, which is not in a Growth Area/Growth Point.

- 6.49 The DfT also has its capital funding stream for highways authorities to access resources for capital works. The Integrated Transport Block grant is capital funding used by local transport authorities for small transport improvement schemes costing less than £5 million. Schemes include small road projects, road safety schemes, bus priority schemes, walking and cycling schemes and transport information schemes. Allocations have been paid annually since the year 2000 when local transport plans were first introduced. The funding, which is not ring fenced combines capital grant and supported borrowing. Funding is used to implement projects below £5m that are set out in Local Transport Plans. There are no resources understood to be identified for the current period that relate to infrastructure identified in this study. This also applies to the Highways Agency.
- 6.50 DfT also has funding for major schemes (over £5m) but these are subject to economic appraisal (WebTAG). An element of resource for revenue and capital investment is made available to the Transport Authority within the area-based grant distributed via CLG (e.g. to cover road safety and rural bus subsidy). Other sources are available include for emergency works and to take account of factors such as de-trunking.
- 6.51 Beyond this, the DfT established the Delivering a Sustainable Transport System” (DaSTS) programme, which sets out resources for regions to plan ahead for prioritising future Government transport funding. In response to this, the South East Region submission identifies a number of programmes of work required to address particular priorities. One of these is the M25 to Gatwick Diamond corridor. There is no certainty that DASTS will yield capital resources in due course given wider changes in public spending.
- 6.52 Network Rail is also a source of funding for rail investment. It has a significant programme of debt finance (£30bn) and a series of route investment plans that define its investment programme. As stated earlier in this report, although Network Rail does not have fundamental objections to new investment to support housing growth, it does not currently figure in its investment plans, and it is worth noting that there are significant route upgrades necessary elsewhere on the network.

Table 6.2 Transport Funding

Lead Agencies	County Council DfT Network Rail Highways Agency
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Infrastructure Issues	Upfront funding to deliver infrastructure to enable development Underlying improvements in highways to address localised congestion and road safety Sub-regional highways issues Improvements to public transport Potential rail stations / lengthened trains for longer distance commuting
Funding Sources	Significant unknowns post-2011 due to Spending Review, but could include: Local Transport Plan DfT Major Schemes Network Rail Developer Contributions Revenue from parking
Delivery Models	Range of PPP models for delivering infrastructure schemes on top of direct grant. Examples, such as street lighting PFIs like that adopted by West Sussex, may have benefits in enabling up-front funding of early phase infrastructure. New accounting rules can mean that they do not provide the degree of 'off-balance' sheet solutions they might previously have done.

Utilities including Waste

- 6.53 Asset Management Plans (AMPs) are submitted by utility companies to their regulators. The coordination of utility AMPs and housing growth strategies is crucial in ensuring that utilities are planned alongside the LDF.

Table 6.3 Utilities including Waste

Lead Agencies	County Council National Grid All major utility providers (e.g EDF, Scotia Gas Networks)
Infrastructure Issues	Lead in times for certain infrastructure types and cash flow issues, including uncertainty of take-up Emergence of higher environmental standards, increasing the specification of service delivery
Funding Sources	Developer Contributions Private Sector / Utility Providers PFI Credits (Waste) Customers
Delivery Models	Rolling Fund Developer – Delivered PFI / PPP Models (e.g. WSCC MRM contract with Biffa)

Health

- 6.54 With an ageing population and changing demographic, future healthcare will need to reflect the needs of a changing society. The restructuring of these services includes a shift to greater provision in primary care located in community settings, integrated with social care services.

- 6.55 The provision of future healthcare in the study area will be primarily funded by the Department of Health, which allocates funding to primary care trusts

(PCTs). This funding is based on a formula that calculates the needs of a given population.

6.56 There are significant uncertainties around future funding for health. Although in general terms the national fiscal pressures are unlikely to result in real cuts, health care cost inflation is higher than normal inflation so even static or modestly rising budgets can appear like real-term cuts. It is likely that capital schemes will be constrained.

6.57 In terms of social care, Public money comes from a combination of central government grants, council tax revenues, and user charges. Nationally, some £2 billion is raised through user charges, which accounts for around 14 percent of gross expenditure on adult social care. It is down to individual councils to decide how to use that funding and how much of it to spend on social care. Central government also supports a number of projects managed by voluntary organisations through Section 64 grants.

Table 6.4 Health

Lead Agencies	PCT's Strategic Health Authority Hospital Trusts Specialist services and ambulance trusts) West Sussex County Council (Social Care)
Infrastructure Issues	Funding required facilities to accommodate housing growth Strategic Commissioning environment Funding pressures of a changing demographic Funding of developments in medical treatment, demand for drugs and staffing
Funding Sources	PFI PCT Private sector - GP Practices Third Sector Restructuring of property assets Developer contributions
Delivery Models	PFI LIFT Commissioning Private sector (e.g. for new GPs/Dental practices)

Education

6.58 Funding for new school and FE provision has seen a marked increase over recent years, combining both significant levels of direct capital investment from the public sector, allied to PPP mechanisms, notably BSF (an initiative aiming to revitalise all secondary schools in England). BSF is complemented by the Primary Capital Programme (PCP), seeking to achieve similar objectives for the primary schools. Although both have waves and long term objectives (e.g. over

the period to 2020 onwards), there must be some caution over prospects for funding post 2011 beyond deals already done.

6.59 In addition to the specific initiatives (BSF/PCP), there are funding formulae for capital investment, including Basic Need which is based on pupil projections, and changes (increases or reductions) in school rolls. In previous years, Basic Need has been supplemented by ‘top-up’ funding to cope with short-term changes arising from population growth in particular years. Overall, basic need funding does not match the full cost of each pupil space required.

6.60 For Further Education, the Skills Funding Agency has replaced the Learning and Skills Council in terms of funding FE places. Funding plans beyond 2011 are uncertain.

Table 6.5 Education

Lead Agencies	WS County Council
Infrastructure Issues	Ongoing review of education provision in light of growth and existing facilities. Investment needed in existing school and Further Education infrastructure.
Funding Sources	BSF Primary Capital Programme DCSF funding (Basic Need / Supplemental Basic Need / Devolved Formula Capital / Modernisation Allocation / Access Initiative) Skills Funding Agency Private Sector sponsorship Developer Contributions Third Sector (including faith organisations)
Delivery Models	BSF is the funding, but a Local Education Partnership (LEP) is a delivery model that allows local authorities to procure all the requirements of their local BSF projects through a single long-term partnership with a private sector partner and PfS in a joint venture company. Investment from faith-based school, Academy school routes, independent bodies / trusts or through the LEA.

Community

6.61 With many local authorities struggling to maintain their current provision of libraries, without considering creating increased provision, there is a need to establish innovative funding tools and partnerships to deliver community facilities which will form an essential part of civic life in the study area for the plan period and beyond.

6.62 Determining the location for future need of community facilities will enable the local authority to ensure funding will be provided either through developer contributions which is the most likely source of funding or through any of the potential sources set out below. The determination of existing deficiencies in community facility provision will also need to be assessed and programmed for delivery.

Table 6.6 Community

Lead Agencies	WS County Council HDC Parish Councils Other agencies (for shared / community hubs)
Infrastructure Issues	New facilities will need to cater for growth in new developments Funding pressures of future financial savings Capturing appropriate development value for funding Existing community facilities within existing settlements will need to be enhanced
Funding Sources	Developer Contributions Third Sector (Trusts and Foundations) DCMS Lottery Sponsorship Prudential Borrowing
Delivery Models	Public Sector Joint Ventures Local Authority Led Trust Structures PPP models, including PFI and joint ventures

Green Infrastructure & Sport

- 6.63 The need for green infrastructure and outdoor sport facilities will increase with a growing population and the growing multi-generational demand for increased participation in sport and recreation.
- 6.64 Green infrastructure, including open space and recreation areas in new developments are typically funded through developer contributions. With ever changing trends in sport and fitness activity, it can be difficult to predict with certainty the future needs and the form this infrastructure will and should take.
- 6.65 In terms of service, there has been a recent trend which is likely to continue whereby local authorities commission services rather than being the main supplier.

Table 6.7 Green Infrastructure and Sport

Lead Agencies	Sport England HDC Parish Councils WS County Council
Infrastructure Issues	Mixed market including public, private and third sector provision Requirement for new and expanded facilities Funding pressures in local government as result of Comprehensive Spending Review

Funding Sources	Developer Contributions Prudential Borrowing PPP Joint Venture Asset Disposal Sport England WS Council Lottery Department for Culture, Media and Sport initiatives
Delivery Models	Public Sector Joint Ventures Local Authority Led Trust Structures PPP models, including PFI and joint ventures

New Funding Models

6.66 There are a number of new funding models that are being considered as solutions for the infrastructure funding gaps that may arise as a result of the public and private sector funding squeeze. Some of these are capable of implementation under current frameworks, whilst others will await new legislation. What is common to all is that they are neither straightforward or panaceas, and those seeking to adopt them need to adopt a rigorous feasibility and due diligence process before embarking upon them.

6.67 It is not for this infrastructure study to replicate the analysis that would be needed to assess and take forward the potential models (and some of these are identified in the schedules above) but it does identify some potential issues and risk factors to shape future discussion. The models are:

- Expanded Prudential Borrowing and other loans (e.g. via the European Investment Bank)
- Expanded PPP ventures
- User charges (revenue streams)
- Tax Increment Financing

Expanded Prudential Borrowing and other loans

6.68 Since 2004, local authorities have been able to borrow on private capital markets or from the Public Works Loan Board (part of the Treasury). The Prudential rules are relatively tightly defined however, Some commentators have suggested loosening the rules to allow additional borrowing. However, this is unlikely given measures seeking to restrict the PSBR given the fiscal crisis.

Expanded PPP ventures / Asset Based Vehicles

6.69 Many of the PPP models so far adopted for local infrastructure are commoditised in response to Treasury initiatives. However, there is also scope to apply these principles to other forms of infrastructure where there is a public sector stake (either in terms of equity – cash/assets – or revenue) and scope for value uplift/revenue generation that can be used to attract private sector

partners. This can also tie into the very significant market for private infrastructure funds who regard many infrastructure classes as 'safe'. However, in order for the latter to be secured, the scale of investment needs to be very large (generally regional, at least).

6.70 Asset-based vehicles are being widely touted as potential opportunities for driving value for local authorities to achieve regeneration and growth objectives. More generally, the role of local government and other public sector assets is being widely identified as untapped potential. There are a number of emerging models, including that adopted by Croydon, as well as the partnerships entered into by various RDAs for the industrial/employment land portfolios. In general terms, the model is predicated on the public sector investing land, buildings and possibly cash into a vehicle and setting out its aspirations for the development; this is used to attract a private sector partners who might invest its own land holdings but more likely bring private capital to enable unfunded projects to proceed, as well as expertise around development and asset disposal. Asset vehicles are not a panacea and their effectiveness is dependent upon three key success factors:

- 1 **A strong investment prospectus** – a clear vision of how the assets can generate value, including where relevant, their role in supporting growth
- 2 **Attractive to all Joint Venture participants** – both public and private sector with clarity of objectives and roles (through clear governance)
- 3 **Capable of raising and repaying finance** – in order to forward fund development in the expectation of future benefit and to meet its ongoing running costs. This includes raising commercial debt, attracting private equity, and then servicing and repaying it.

6.71 Further work would be needed to establish whether such a model had any traction in Horsham or more widely.

6.72 It is also worth noting that are a number of variant PPP models including JV and contractual approaches, incorporate and unincorporated and with different approaches to sharing of risk and reward. The form should follow the function in terms of what is being sought from the arrangement.

User charges (revenue streams)

6.73 User charges flow from public sector revenue streams from both existing and future infrastructure. Revenue-based vehicles (such as 'bond' type models) adopt some similar principle to some asset vehicles, but effectively seek to secure private investment based on secure longer term income streams (that might be CIL-based or indeed local tax revenue, pooled future capital funding, user charging, or other local taxes) and high levels of confidence that this income will be forthcoming. In effect, resources are securitised on future income.

6.74 Ultimately, asset/revenue based vehicles can be a mixture of both asset and revenue based. Pure revenue-based vehicles are often difficult because of the

higher risk associated with local-based revenue streams (given the centralised nature of local government funding).

Tax Increment Financing (TIF)

- 6.75 TIFs are a model that has been subject to significant debate, and beyond some Accelerated Development Zone pilots, it has not yet been adopted in the UK. The TIF is based on securitising future increases in local tax revenue within a defined area to deliver up-front investment.
- 6.76 In advance of the framework for this being more fully established nationally, there is less merit in providing detailed consideration within this study. Lessons from the US indicate that, in order for TIF to be effective, it will be important to establish clear planning frameworks to maximise certainty of future value uplift being realised with limited discretion on detailed planning once the approach is established. This might mean, for relevant TIF areas, some form of Simplified Planning Zone or EZ approach being applied. If this approach emerges as a more widespread tool, HDC should investigate how it might be applied, including how it will fit with the planning regime (as the work so far has looked more at theoretical financial models rather than the practical reality of how it works in practice).

7.0

Implications of Infrastructure Requirements

7.1

The identification of infrastructure requirements can not only support the management of growth within the district, it can also help to inform the spatial strategy adopted within the Core Strategy and provide the necessary evidence to help inform the critical path for delivering growth. Whilst the delivery plan identifies the infrastructure to support the potential growth within different parts of the district drawing this down into each area, settlements and strategic site can identify where there may be high infrastructure costs which need to be tackled.

Costs by spatial area

7.2

NLP has split the costs associated with the infrastructure identified in the delivery plan into the area, settlement and/or strategic scheme from which the requirement arises. A full breakdown is included in Appendix 7 and Table 7.1 summarises the infrastructure costs associated with development within each area. This provides an analysis of the infrastructure efficiency of different areas, highlighting areas where it may be relatively cheap in infrastructure terms and areas where it may be relatively expensive in infrastructure terms.

Table 7.1 Infrastructure costs by area

Area	Scheme/ Settlement	Potential Growth	Infrastructure Hierarchy	Total Cost (£million)	£ per dwelling
Horsham / Broadbridge Heath	Horsham Settlement Growth	827	Fund. & Ess.	£13,564,442	£16,402
			Required	£3,602,903	£4,357
			<i>Sub-Total</i>	<i>£17,167,345</i>	<i>£20,759</i>
	Broadbridge Heath Settlement Growth	52	Fund. & Ess.	£730,663	£14,051
			Required	£349,508	£6,721
			<i>Sub-Total</i>	<i>£1,080,171</i>	<i>£20,773</i>
	West of Horsham Strategic Site	2,000	Fund. & Ess.	£56,543,947	£28,272
			Required	£4,988,510	£2,494
			<i>Sub-Total</i>	<i>£61,532,458</i>	<i>£30,766</i>
	North of Horsham Potential Strategic Site Option	3,500	Fund. & Ess.	£72,731,907	£20,781
			Required	£11,669,043	£3,334
			<i>Sub-Total</i>	<i>£84,400,951</i>	<i>£24,115</i>
Total	6,379	Fund. & Ess.	£143,570,959	£22,507	
		Required	£20,609,965	£3,231	
		Grand Total	£164,180,924	£25,738	
Crawley Area	West of Bewbush Strategic Site	2,500	Fund. & Ess.	£31,954,434	£12,782
			Required	£5,852,888	£2,341
			<i>Sub-Total</i>	<i>£37,807,322</i>	<i>£15,123</i>
	West of Ifield Potential Strategic Site Option	3,000	Fund. & Ess.	£27,661,421	£9,220
			Required	£8,625,466	£2,875
			<i>Sub-Total</i>	<i>£36,286,886</i>	<i>£12,096</i>
Total	5,500	Fund. & Ess.	£59,615,854	£10,839	

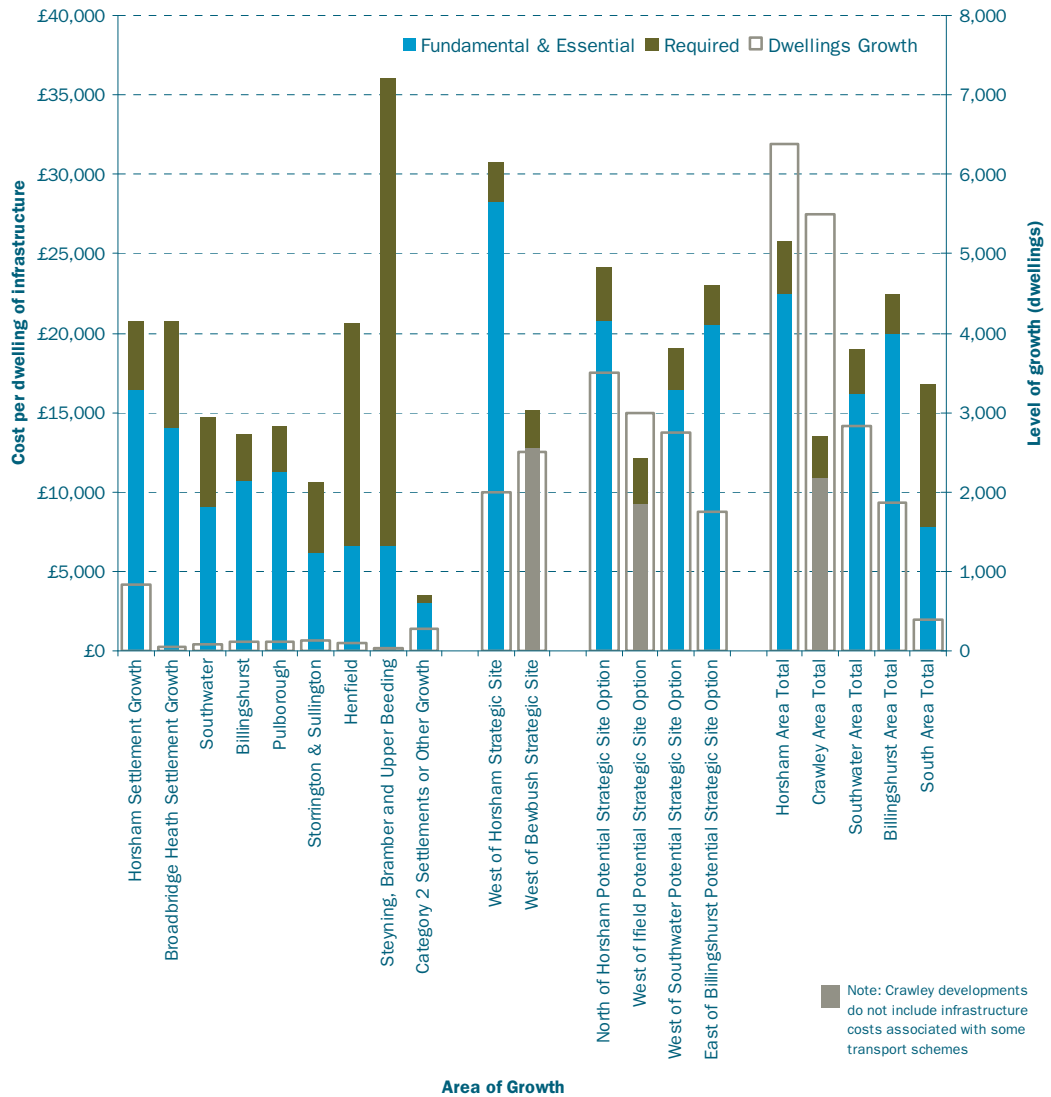
Area	Scheme/ Settlement	Potential Growth	Infrastructure Hierarchy	Total Cost (£million)	£ per dwelling
			Required	£14,478,354	£2,632
			Grand Total	£74,094,208	£13,472
	<i>Note: Does not include major transport works for the wider area. Inclusive of these the Crawley Area grand total would be £20,290. (See note at end of table)</i>				
Southwater Area	Southwater Settlement Growth	74	Fund. & Ess.	£668,966	£9,040
			Required	£418,861	£5,660
			<i>Sub-Total</i>	<i>£1,087,828</i>	£14,700
	West of Southwater Potential Strategic Site Option	2,750	Fund. & Ess.	£45,163,327	£16,423
			Required	£7,334,177	£2,667
			<i>Sub-Total</i>	<i>£52,497,504</i>	£19,090
Total	2,824	Fund. & Ess.	£45,832,293	£16,230	
		Required	£7,753,038	£2,745	
		Grand Total	£53,585,332	£18,975	
Billingshurst Area	Billingshurst Settlement Growth	113	Fund. & Ess.	£1,215,013	£10,752
			Required	£329,343	£2,915
			<i>Sub-Total</i>	<i>£1,544,356</i>	£13,667
	East of Billingshurst Potential Strategic Site Option	1,750	Fund. & Ess.	£35,913,554	£20,522
			Required	£4,279,022	£2,445
			<i>Sub-Total</i>	<i>£40,192,575</i>	£22,967
Total	1,863	Fund. & Ess.	£37,128,567	£19,929	
		Required	£4,608,364	£2,474	
		Grand Total	£41,736,931	£22,403	
South Area Settlement Growth	Pulborough	114	Fund. & Ess.	£1,285,645	£11,278
			Required	£329,868	£2,894
			<i>Sub-Total</i>	<i>£1,615,513</i>	£14,171
	Storrington & Sullington	138	Fund. & Ess.	£854,012	£6,188
			Required	£612,471	£4,438
			<i>Sub-Total</i>	<i>£1,466,484</i>	£10,627
	Henfield	103	Fund. & Ess.	£678,593	£6,588
			Required	£1,444,091	£14,020
			<i>Sub-Total</i>	<i>£2,122,684</i>	£20,609
	Steyping, Bramber and Upper Beeding	39	Fund. & Ess.	£256,847	£6,586
			Required	£1,150,481	£29,500
			<i>Sub-Total</i>	<i>£1,407,328</i>	£36,085
Total	394	Fund. & Ess.	£3,075,098	£7,805	
		Required	£3,536,911	£8,977	
		Grand Total	£6,612,009	£16,782	
Other	Category 2 Settlements or Other Growth	273	Fund. & Ess.	£827,729	£3,032
			Required	£143,367	£525
			<i>Sub-Total</i>	<i>£971,096</i>	£3,557
GRAND TOTAL	17,233	Fund. & Ess.	£290,050,500	£16,831	
		Required	£51,130,000	£2,967	
		Grand Total	£341,180,500	£19,798	

Note: Crawley area growth does not include major transport works which will arise as a result of cumulative growth in the Crawley Area, and the sub-region, including the Crawley Western Relief Road, works to Junction 11 of the M23 and a re-sited Ifield rail station. There is also If these costs fell solely on the West of Ifield Site (acknowledging that the West of Bewbush scheme is already committed and the associated infrastructure set through the AAP) it would increase the cost per dwelling to £24,596 for the potential strategic site option. This would increase the cost per dwelling in the Crawley Area to £20,290. In actuality these costs are likely to fall upon wider growth in the Crawley Area and the Gatwick Sub-Region, and have therefore not been included.

Note: Table does not include costs for physical utilities other than waste.

- 7.3 Table 7.1 illustrates that infrastructure costs vary across the potential growth within different parts of the district and for different types of growth. Infrastructure costs within the existing settlements vary, but are generally lower than the strategic sites for ‘fundamental’ and ‘essential’ infrastructure types, mainly due to the ability of the lower levels of growth that will potentially come forward within these areas taking advantage of existing capacity within existing infrastructure, such as primary schools. The existing settlements do, however, tend to face higher ‘required’ infrastructure costs per dwelling, mainly associated with addressing current deficits in the baseline provision, particularly around green infrastructure, such as allotments and sports pitches. These costs of meeting a baseline requirement would not necessarily fall into a developers planning obligations, but highlight where existing infrastructure pressures may not be able to support new development fully, even if a development provides the necessary mitigation for its own purposes.
- 7.4 Broadly the strategic sites and potential strategic sites feature much higher ‘fundamental’ and ‘essential’ infrastructure costs per dwelling, reflecting the need to provide all new infrastructure to support these schemes, such as new roads and new schools. Conversely, growth within the settlements can often take advantage of existing infrastructure, such as surplus school capacity. However, due to the higher levels of development on the strategic sites, with many more dwellings growth than is anticipated in many of the existing settlements, these high infrastructure costs are spread amongst greater numbers of dwellings.
- 7.5 In terms of the overall costs associated with development within different parts of the district, notwithstanding the developments at Crawley which have not been quantified due to cross-boundary cumulative pressures on transport infrastructure around Crawley and the need to identify a solution to funding these, Horsham, which has the potential for the highest level of growth, also faces some of the highest absolute as well as relative infrastructure costs. These high costs are associated with the need to undertake significant transport works, particularly along the A24, the A264 and improving public transport throughout the town. Growth in the southern part of the district, whilst much lower than elsewhere due to its rural nature and environmental constraints, faces lower infrastructure costs per additional dwelling due to existing capacity in infrastructure such as primary schools and the much lower levels of potential development not necessitating any strategic transport works.
- 7.6 These marginal cost differences associated with the infrastructure to support potential levels of growth in different areas are illustrated in Figure 7.1.

Figure 7.1 Infrastructure costs by area



Implications and opportunities

7.7 What this analysis identifies is that whilst there are significant infrastructure costs in delivering growth in certain areas, there are also areas where low levels of growth may be delivered relatively efficiently in infrastructure terms. Whilst the costs associated with delivering strategic sites is relatively high, particularly for the ‘fundamental’ and ‘essential’ infrastructure which is more likely to be required up front, lower levels of growth in the main settlements have lower infrastructure costs associated with delivery.

7.8 The purely infrastructure implications for this upon the phasing of development within the spatial strategy for the district are positive. Lead in times for strategic sites will be significantly longer than for individual developments within settlement boundaries, particularly with regards to providing up-front infrastructure, such as utilities, but also with regards to implementing funding

and delivery mechanisms. This lead in time could leave a period where there are lower levels of development. However, the lower infrastructure costs associated with some indigenous growth within the settlements provides the opportunity for the Council to achieve some faster and relatively cheaper – solely in infrastructure terms – development within the intervening period.

7.9 In addition the current spatial distribution of development tested within the infrastructure study delivers levels of growth beyond the district-wide growth scenarios, as identified within the scenarios for growth. This means that Horsham District Council may need to make the spatial choices as to which developments and in what locations they should deliver to meet their housing requirements. This analysis of infrastructure locational cost-benefits provides an important comparator between likely costs of development associated with different areas of growth, but would need to be considered alongside all other material planning considerations when coming to a decision on a finalised spatial distribution of growth throughout the district.

7.10 Additionally, further work on the viability of potential schemes to deliver necessary infrastructure would provide a more robust assessment of the implications of infrastructure costs and requirements upon spatial growth within the district. Whilst these infrastructure requirements have been identified as potential issues to consider, if there is particular funding available to deliver necessary infrastructure or development is viable delivering all infrastructure associated, there may be less need to base spatial choices upon infrastructure.

8.0 Conclusions and Recommendations

- 8.1 This study presents the findings of the infrastructure assessment. The findings are wide ranging and cover a broad canvas of issues. This section seeks to summarise the salient points, and identify key issues for moving forward.

Summary

- 8.2 Infrastructure requirements have been identified using a benchmarking approach to identify existing surplus provision or under provision. These benchmark standards have then been used to calculate the requirement for infrastructure related to different levels and spatial locations of housing development. Where using standard ratios is not applicable or the baseline data to use this approach was not available NLP/Waterman have used qualitative assessments to identify required provision. This has been supported by the key infrastructure issues identified through stakeholder consultation.
- 8.3 Overall costs associated with the provision of infrastructure identified within the study total in the region of £340m to £390m to support the potential spatial distribution of growth, which at 17,233 dwellings is beyond the level the Core Strategy Review is due to plan for, but similar to a high growth scenario over the period to 2031. Preliminary costs per dwelling total between £19,800 and £22,600, which at the 12,080 dwellings medium growth scenario to 2021 suggests infrastructure costs of £239m to £273m over the core strategy period. Infrastructure costs, however, vary significantly across the different locations of growth within the district, based upon the scale of growth tested and capacity within existing infrastructure.
- 8.4 When identifying a finalised pattern of growth and assessing the strategic sites, consideration will need to be given to the level of existing infrastructure provision in supporting growth and the infrastructure requirements that are likely to come forward from the level of development. The differential costs for different locations should be a material factor given potential restraints on available funding.
- 8.5 Further work should be undertaken to underpin the transport requirements to support housing growth associated with strategic locations and taking account of wider sub-regional factors and the contributions of development and resources across local authority boundaries.
- 8.6 Consideration needs to be given to the way growth and infrastructure should be delivered together to ensure that the people living and working in settlements derive the most benefit from infrastructure and that infrastructure is provided to ensure the most efficiency and marginal benefit from the investment in providing it.

- 8.7 A key challenge for housing growth is the funding and delivery of infrastructure needed to support growth. The costs are potentially significant, and for at the least next phase of the plan, public and private sector resources will be challenging.

Implications for the Core Strategy Review

- 8.8 There a number of key conclusions on infrastructure that will have an important role in underpinning the Core Strategy Review and the choices on the levels and distributions of development that the Council faces. These include:

- 1 Overall existing infrastructure capacity is constrained across the District, with only two settlements (Billingshurst and Storrington & Sullington) not already at a tipping point for any fundamental or essential infrastructure types. This means that anything but small levels of growth in these settlements will necessitate new infrastructure works/provision.
- 2 There are limited physical barriers preventing infrastructure from being delivered, with suitable infrastructure mitigation available for the range of growth options tested, meaning that there are no ultimate infrastructure showstoppers that would prevent development from being acceptable irrespective of any other factors. However, there are clear delivery risks for infrastructure, particularly around the availability of funding.
- 3 Infrastructure costs vary across different spatial areas and types of development, meaning that growth is not the same in infrastructure terms across the District and there are marginal benefits and infrastructure efficiencies available to take advantage of.

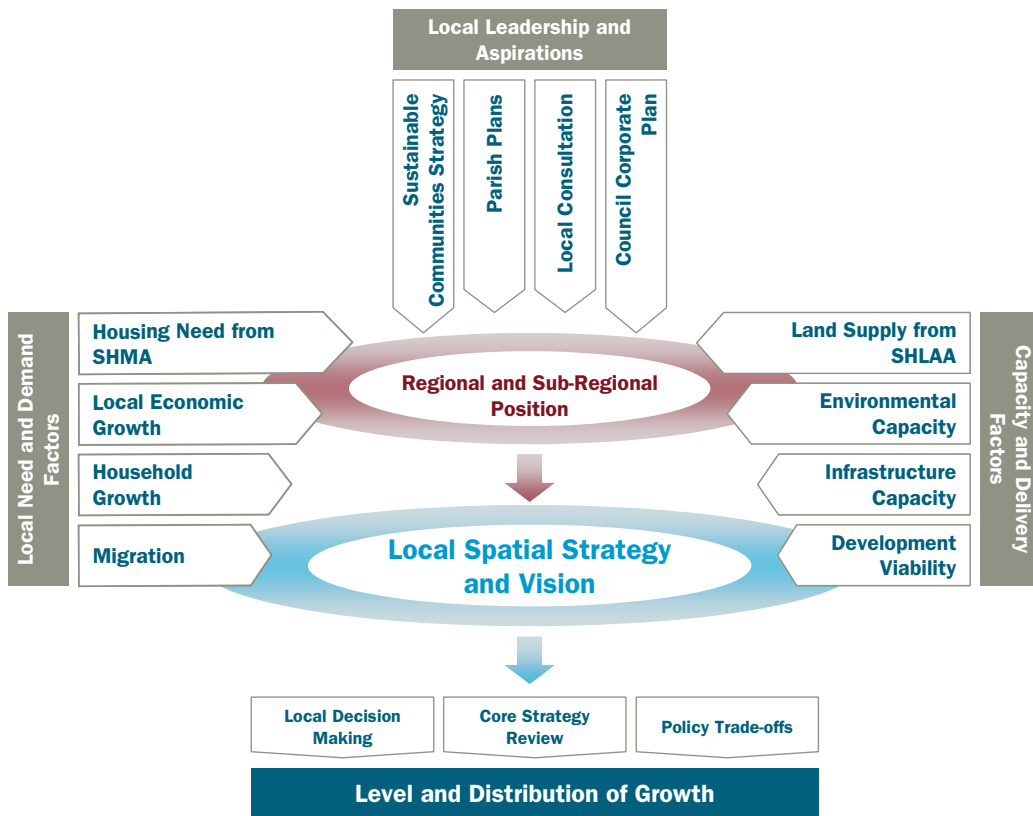
- 8.9 The implications of these conclusions are that the options in the Core Strategy Review do give rise to infrastructure requirements, however, suitable mitigation has been identified and subject to the timely delivery of necessary infrastructure (e.g. funding being in place and proactive planning with delivery partners) there are minimal infrastructure barriers. There are, however, a number of factors arising from this study that will need to be considered by the District Council in progressing its core strategy review:

- 1 The implications of the infrastructure pressures, both overall, and in terms of defining the spatial locations across the district, for the distribution of development.
- 2 The integration of viability considerations alongside affordable housing choices and marginal infrastructure costs for different locations and forms of development and achieving the optimum balance given the tighter resources likely to be available for the first part of the plan period. This is in order to secure the right balance of deliverability and achievement of planning objectives over the phases of the plan.
- 3 The likelihood, depending on 1 and 2, for the need to refine the prioritisation and phasing of infrastructure provision, including identifying how infrastructure might be deferred pending availability of funding or affordability of developer contributions (via CIL or s.106).

- 4 The need to define approaches to apportionment of costs and mechanisms for funding for infrastructure where the requirement comes partly from underlying growth and from development across local authority boundaries.
- 5 The pressing need to establish a programme of development and infrastructure necessary to secure a CIL mechanism given the limitations imposed on use of s.106 for infrastructure not immediately related to the impacts of a particular development.
- 6 The shaping and governance arrangements for the funding mechanisms that will be needed to make the above work given the spatial priorities and phasing issues to be considered.
- 7 The emerging structure and shape of any planning reforms and funding programme changes flowing from a new government.

8.10 The above issues that this infrastructure study identifies will have wide ranging implications for progressing Horsham District Council's Core Strategy Review and will be one consideration in shaping the spatial strategy for the district through the Core Strategy process. Whilst the infrastructure study provides some key evidence around the infrastructure requirements and associated costs of delivering growth across the district, it will need to be viewed alongside all other material factors in defining the level and spatial distribution of growth to be promoted through the core strategy review, including the locally generated need for housing, the aspirations for development of the Council and local people, the viability of development and environmental constraints or sensitivities within Horsham District. Figure 8.1 illustrates how the infrastructure study fits in with the other factors in determining the spatial strategy for growth within Horsham.

Figure 8.1 Integration of the Infrastructure Study with the Core Strategy Process

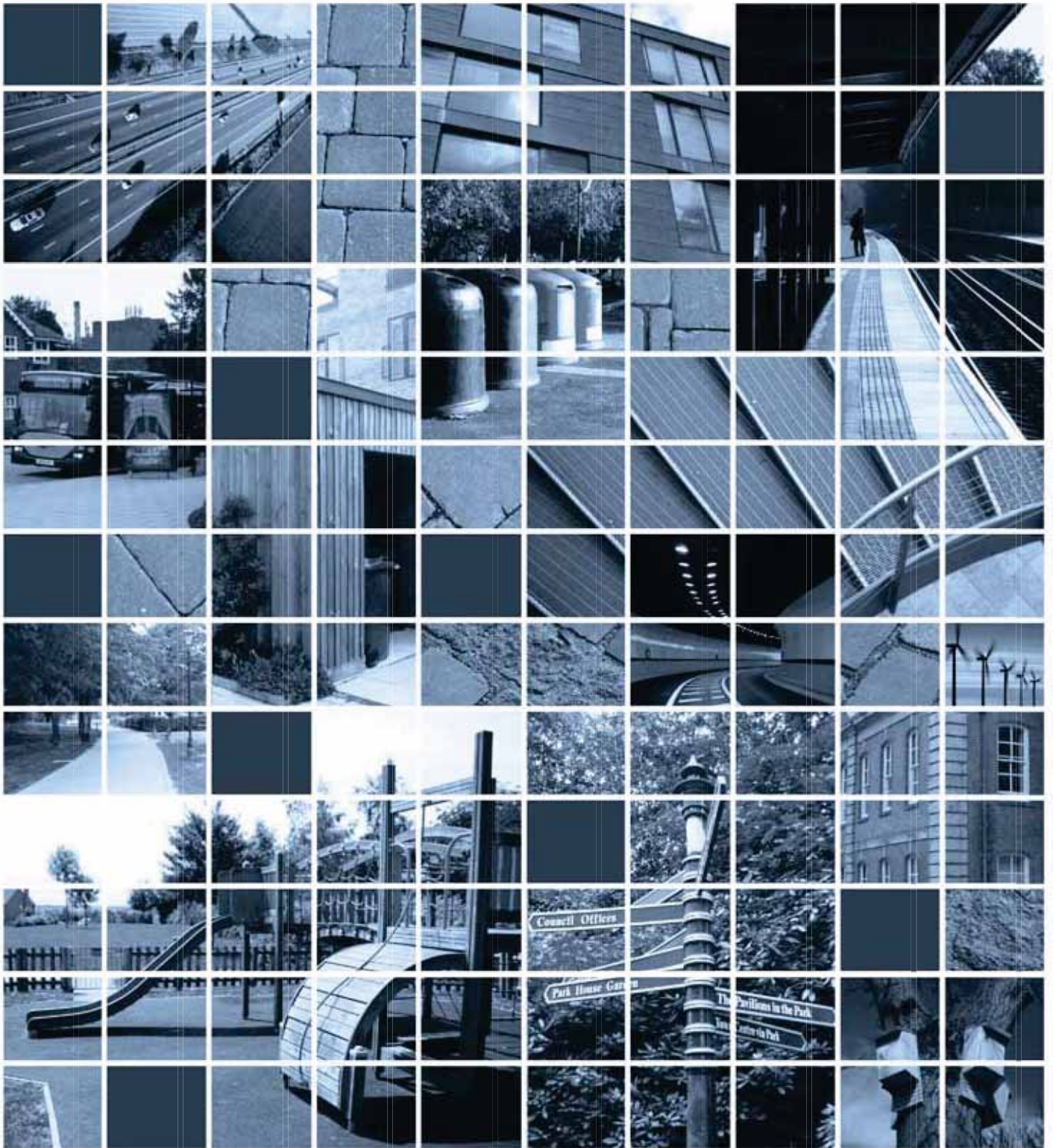


8.11 The infrastructure study identifies where there is existing infrastructure capacity, where there will be infrastructure required to support growth and the relative infrastructure costs of delivering growth within different parts of the District. This enables the Council, in purely infrastructure terms, to determine the most efficient distribution (in terms of the locations of development) and level (in terms of how many new homes to deliver) of growth throughout the District. One key conclusion is that at this stage there are no identified infrastructure constraints that could not be overcome with sufficient investment in mitigation works. This means that assuming sufficient funding can be secured, infrastructure will not prove a showstopper for any of the growth scenarios identified for the District in this study.

8.12 Although taken on its own the infrastructure study provides a picture of where, and how much, development could be delivered within existing infrastructure capacities, or at a 'cheaper' infrastructure cost, it will be necessary for the Council to weigh these infrastructure considerations against a multitude of other factors which will shape the Core Strategy, as identified above. Therefore, the next stage of the Core Strategy Review should have regard to the infrastructure evidence contained within this study and use it to either support judgements on the level and distribution of growth within different areas of the District, or to highlight potential delivery risks associated with implementing the spatial strategy set out in the Core Strategy Review. This process of developing a local spatial strategy should be guided by the wide range of factors and the Council will need to consider what weight they wish to attach to infrastructure requirements within the plan making exercise.

Recommendations and Next Steps

- 8.13 The key next steps for Horsham District Council is to consider the results of this study alongside the outputs of the other parts of the planning process (including SHLAA, SHMA, affordable housing viability, employment land review) and ongoing discussions and consideration of Strategic Sites.
- 8.14 From this, the following will be needed:
- 1 A critical path for establishing a CIL charging schedule given the need to establish working arrangements as quickly as possible in order to capture value to support infrastructure provision;
 - 2 Defining spatial priorities and appraisal of the strategic sites and other forms of development (including any new market town) in both infrastructure and other terms, including to take account of potential economic development or other impacts;
 - 3 A focused exercise to integrate viability appraisals of the spatial pattern of development with affordable housing approaches, sustainability (e.g. Code for Sustainable Homes levels) and infrastructure costs to identify potential funding/deliverability issues, including the implications for phasing – this could involve high level financial modelling of the development programme tied to infrastructure requirements and phasing options, working within different market and funding scenarios to explore sensitivities;
 - 4 Looking at the Value for Money and efficacy of certain types of infrastructure investment in certain locations where it is possible that some choices will need to be made about what is provided in the context of funding shortfalls and/or viability difficulties;
 - 5 Embark on analysis around impact, solutions, timing and funding for key cross-boundary/sub-regional infrastructure requirements;
 - 6 Preparing a spatial strategy and linked delivery plan that ties into a CIL charging schedule and framework for s.106, and helps support judgements around phasing and presents a cohesive and certain investment prospectus for development in the district, particularly for strategic sites that meet policy objectives but require confidence over infrastructure.
 - 7 Test and then establish the appropriate delivery and governance arrangements that may be needed to overcome delivery barriers, address sub-regional infrastructure issues, and secure a mechanism for managing and distributing CIL resources.



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