AECOM

WEST SUSSEX INFRASTRUCTURE STUDY

January 2016


Departures

Executive Summary

AECOM were commissioned by West Sussex County Council to prepare an Infrastructure study for the county to 2030. This aims to assemble an evidence base, setting out the county's infrastructure requirements in the context of planned growth and estimating likely costs and funding gaps.

This report sets out findings following a desk based assessment carried out by AECOM in parallel dialogue with local authorities and other infrastructure providers in West Sussex.

This study presents an overarching baseline of growth patterns, infrastructure projects and cost requirements and gaps. It has been produced drawing upon information obtained through the county council and following a period of engagement with local authorities and other infrastructure providers. The study provides a "snap-shot" in time, reflecting position during July 2015.

The preparation of the infrastructure study has highlighted the need for continued collaborative working between the County, local authorities and the service providers from the NHS to the numerous utility companies.

It has also shown that a shortfall exists in terms of a standardised agreed approach towards a study of this kind including the collection of data on housing and employment site, population forecasting, modelling infrastructure requirements and the costs and funding assumption for that infrastructure.

This study has been produced in conjunction with a Surrey Infrastructure Study that also assesses the current infrastructure capacity and the impacts of change to 2030. These two reports combined will inform a third supporting study, The Gatwick Diamond Infrastructure Assessment 2030-2050, that will assess the longer term potential infrastructure requirements and capacity issues associated with potential growth scenarios at Gatwick airport on Surrey and West Sussex.

The following key findings are highlighted:

- West Sussex is expected to accommodate housing and economic growth over the 15 year period to 2030 delivering on average **3260 dwellings per year.**
- **48,930 dwellings** are expected between 2015 and 2030 with an associated population **increase of 63,300 people** (an increase of 8%).
- Delivering the necessary infrastructure to support that growth from now to 2030 is estimated to **cost at least £2.46 billion.**
- The study has identified a combination of secured funding (over £823 million) and potential funding from the public sector, private sector and developer contributions (£883 million). The study could facilitate discussions into big target areas where innovative ways to reduce infrastructure needs could be implemented.
- Taking into consideration the potential funding identified, a **gap in infrastructure funding of £753 million** still remains between now and 2030.
- The study demonstrates that current anticipated developer contributions, central Government grants and other sources of income are not sufficient to support the scale of growth anticipated in West Sussex in the period to 2030.
- It has shown that CIL is at varying stages of adoption across the County reflecting variations in land value and the amount of money that will be collected.
- The infrastructure requirements and associated costs presented represent a **minimum scenario** as these are based on a population forecast constrained by planned housing sites as opposed to ONS population forecasts.
- ONS population forecasts for West Sussex over the same 15 year period are 56% higher than the study forecasts. The estimated costs associated with the infrastructure identified to support the population growth identified in this study could therefore be increased considerably if a growth level nearer the ONS forecast was realised.

The following key steps have been identified for West Sussex and its partners to take the study findings forward:

- Use the study as a tool for engagement with Central Government in demonstrating the challenges faced in supporting growth within the county.
- Continue dialogue commenced with local authorities and other infrastructure providers to maintain an up-to-date understanding of growth distribution and supporting infrastructure.
- Use the study as a basis for identifying where local level shortfalls are to support bids for future funding, including potential means outlined in Section 6.
- Conduct an indepth review of potential funding mechanisms and their ability to fund infrastructure in the county.
- Wider linkage to asset management reviews to best utilise county council estate
- Continued dialogue with the GLA and CLG on wider growth issues including London overspill,
- Continued dialogue with other County Councils in the South East on strategic issues and priorities - in particular transport - to support growth. This may include linkages to London and radial routes to better connect the wider South East. This includes considering impacts of major infrastructure proposals such as expansion of Gatwick and the Crossrail extension.
- Understanding and dialogue with evolving infrastructure delivery and management regimes, i.e. NHS services, Adult education, Library services etc.

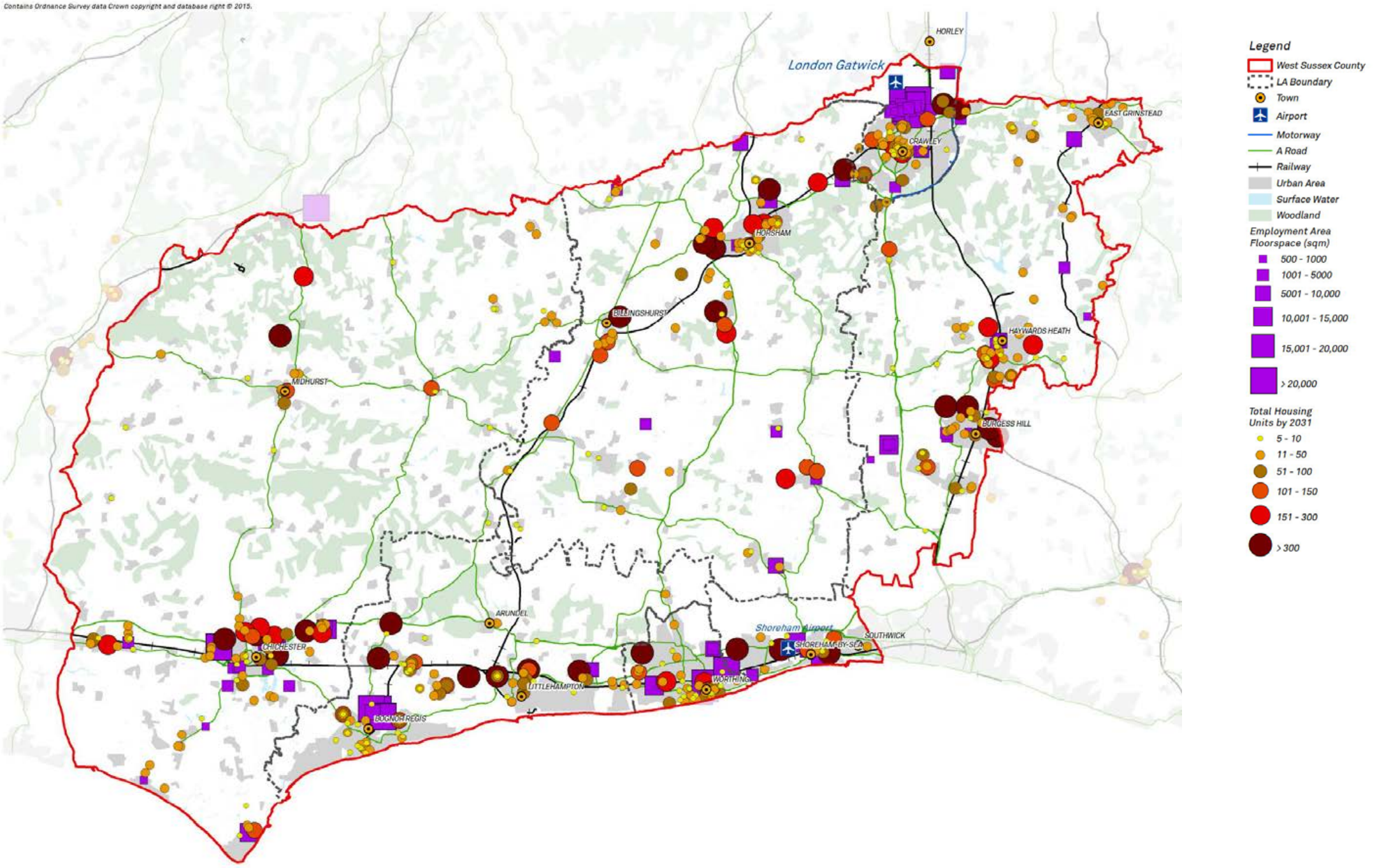


FIGURE A - STUDY AREA AND MAJOR HOUSING/EMPLOYMENT SITES

* This is based on the most up to date information at the time of publication and could be subject to change, subject to review of planning policy documents

WEST SUSSEX

THE INFRASTRUCTURE STUDY IDENTIFIES THE FOLLOWING HEADLINES FROM 2015 TO 2030:

48,930
new homes

63,300
new people

14%
workforce job growth

Total Infrastructure Costs: **£2,460,710,000**

Total Secured Funding: **£823,810,000**

Total Expected Funding: **£883,540,000**

Total Funding Gap: **£753,350,000**

% of Infrastructure Funded: **69%**

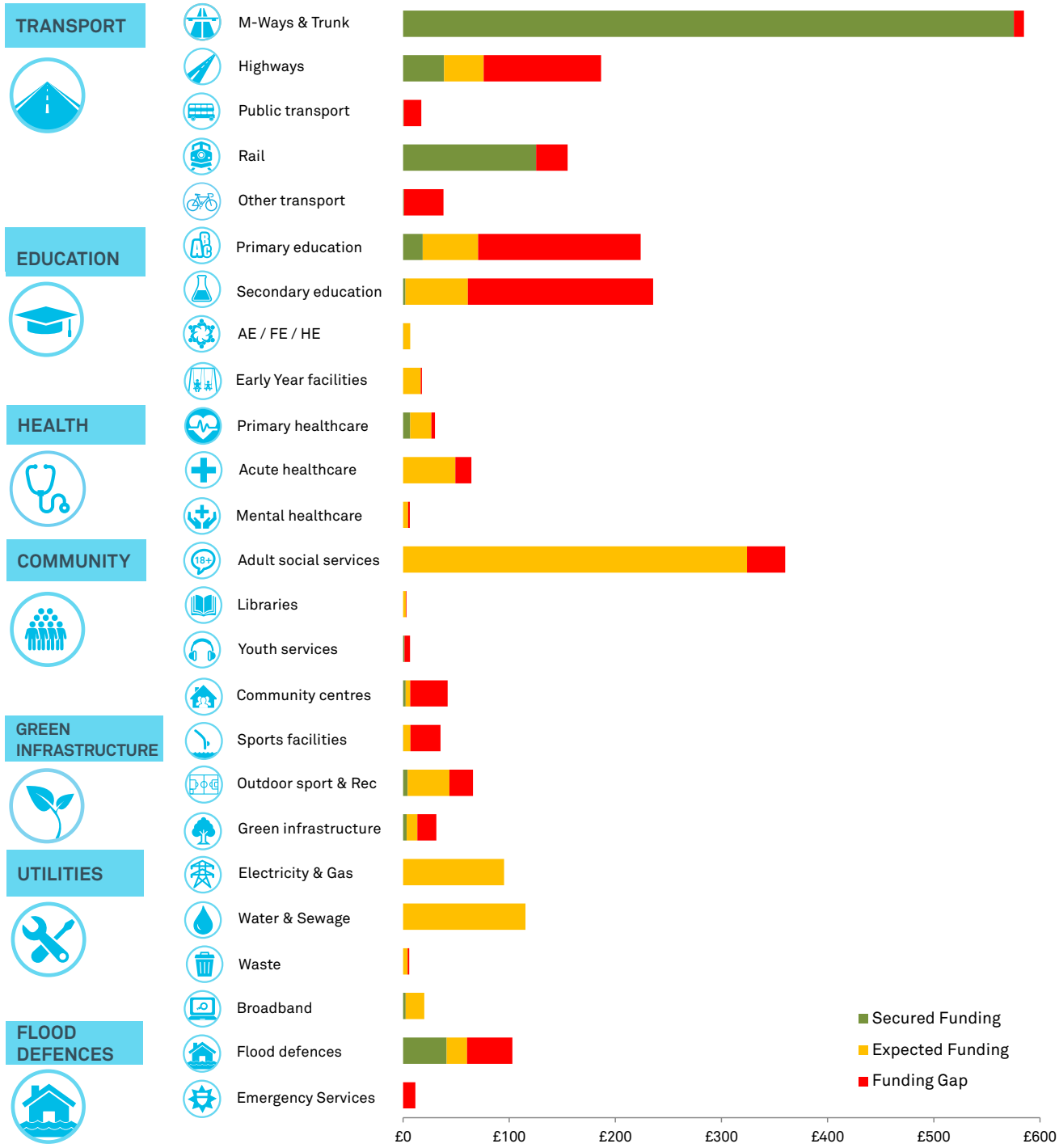


FIGURE B- SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2015-2030)

The diagram on the facing page illustrates the range of infrastructure required to support the delivery of 48,930 new homes from social infrastructure to transport and utility networks, open space and flood protection.

Our analysis has identified the potential costs of delivery alongside the currently identified secured funding, potential funding from public, private and developer contributions and the remaining funding gap.

Having considered the range of potential funding options the analysis highlights more than £750million in funding gap between 2015 and 2030.

The largest investment in infrastructure is set to take place in the first and second phases from 2015 to 2025. Each phase has a significant funding gap identified.

Horsham, Arun and Mid Sussex have the largest infrastructure costs and gaps due to major transport and education projects in those local authority areas and larger levels of housing growth to support.

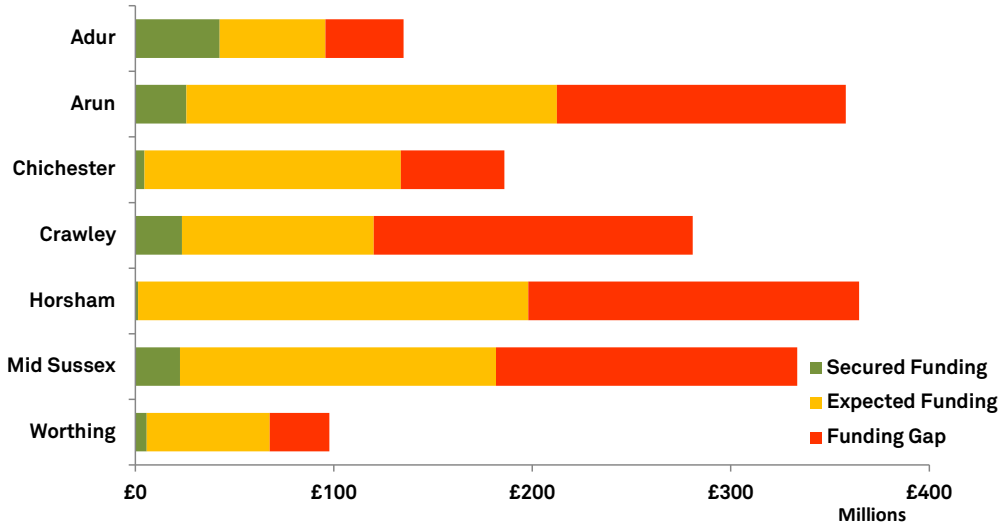


FIGURE C - TOTAL COST OF INFRASTRUCTURE AND ESTIMATED FUNDING

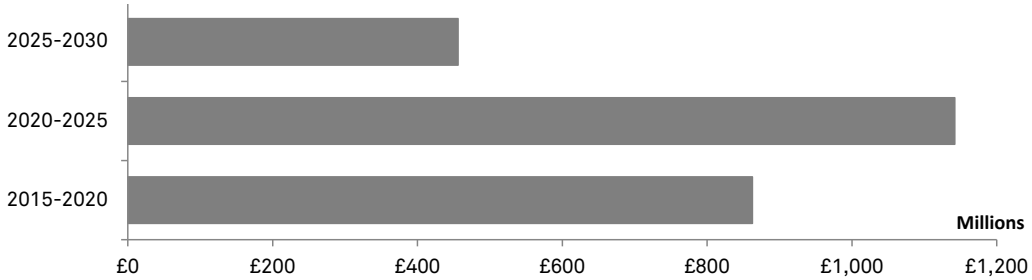


FIGURE D - TOTAL INFRASTRUCTURE COSTS BY PHASE

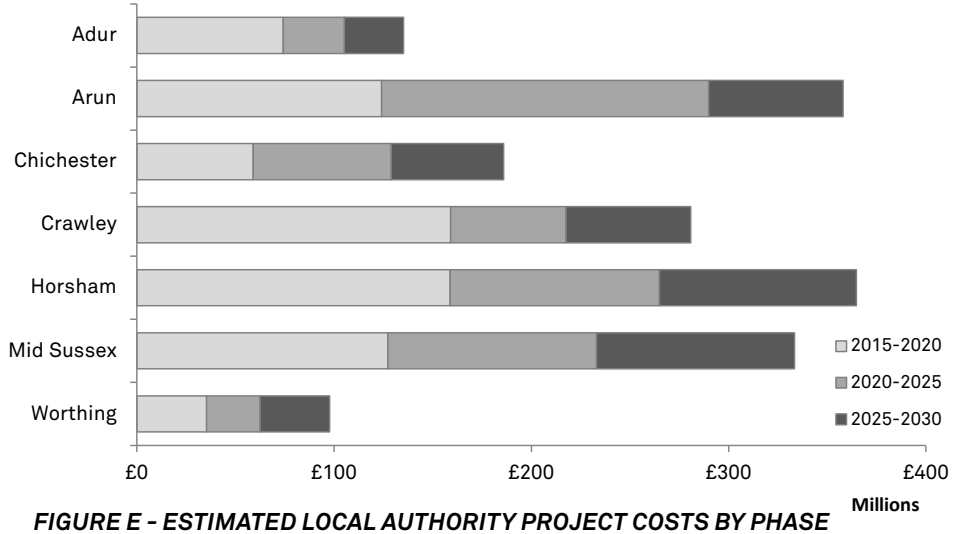


FIGURE E - ESTIMATED LOCAL AUTHORITY PROJECT COSTS BY PHASE

CONTENTS

01

The West Sussex Infrastructure Study has been developed to demonstrate to Government, infrastructure providers, the community and local authorities the challenges being faced across West Sussex in funding the infrastructure required to support growth and enhance the lives of existing residents.

INTRODUCTION

The West Sussex Infrastructure Study has been prepared on behalf of West Sussex County Council (WSCC) to provide a view of existing and emerging development and infrastructure requirements to support growth across West Sussex.

It was identified that a document, gathering together the evidence across the County for infrastructure provision for all service providers, could be helpful to provide a strategic view of growth distribution and infrastructure provision linked to development in the County'.

This document begins to paint a strategic picture of the price of and risks to growth. It aims to:

- Collate and summarise population/housing growth projections across West Sussex County Council
- Set out a combined understanding of capacity within current infrastructure provision and pipeline infrastructure projects being taken forward by WSCC, and other infrastructure providers
- Highlight cumulative costs, funding streams and gaps in infrastructure funding.

it should be recognised that West Sussex County Council have already undertaken considerable work to date in assessing the infrastructure required to support the delivery of strategic sites across the county and this work has fed into the preparation of the local authority Infrastructure Delivery Plans.

The West Sussex Infrastructure Study has been produced for the following audiences:

- Officers and members within West Sussex County Council
- Government and Infrastructure Providers – to demonstrate the requirement and distribution of growth, infrastructure requirements and funding gaps
- Local Authorities, parish councils and communities to provide a county-wide view of development and infrastructure requirements and the difficulties in delivering infrastructure across the County.

In addition the Study takes into consideration external factors affecting growth and infrastructure provision in West Sussex in relation to the wider London and south east growth requirements.

West Sussex is part of the Coast to Capital LEP, in which the LEP secured over £200m from the Government's Local Growth Fund to support economic growth beginning in 2015/16 and lasting to 2021. This Growth Deal will look to help create 14,000 jobs and 5,000 homes across the LEP in addition to the targets and funding set aside by the local authorities. Therefore, it is increasingly necessary to begin looking more strategically when it comes to growth and where current infrastructure exists.

Of particular relevance is the 2014 Inspector's Report on the Further Alterations to the London Plan which highlighted the lack of capacity in Greater London to meet growth requirements, with some of the identified 7,000 homes per annum shortfall likely to be to be met in areas outside London.

This context is recognised at the political level. The recent GLA Conservatives Report *Southern Powerhouse: True devolution for London and South East* highlights why a joint and collaborative approach is required between London and the South East, including West Sussex. This report raises a number of issues, in particular:

- It recommends a review of the GLA strategic planning boundaries with the likely outcome being "that London will... need to exert greater influence over policy decisions outside the M25"
- It acknowledges that much of London's future housing will have to be met outside London and that "London should therefore be granted powers to create new garden suburbs in partnership with the county councils that surround the city".
- It recommends that TfL's transport powers should be even further extended outside London to grant control over the major commuter routes.
- It recommends that LEPs around London should combine much of their funding to address strategic infrastructure provision.

This study has been produced in conjunction with a Surrey Infrastructure Study that also assesses the current infrastructure capacity and the impacts of change to 2030. These two reports combined will inform a third supporting study, The Gatwick Diamond Infrastructure Assessment 2030-2050, that will assess the longer term infrastructure requirements and capacity issues associated with potential growth scenarios at Gatwick airport on Surrey and West Sussex.

SCOPE OF THE STUDY

The Infrastructure Study covers all forms of infrastructure supporting the economic, environmental and social needs of West Sussex (see Figure 1.2). For the purposes of the Study all local authorities within West Sussex have been included, however South Downs National Park Authority, which overlaps a number of authorities and since 2011 possesses planning powers for its area, has not been extracted independently from the seven local authorities.

The categories covered in the report are shown in Figure 1.1.

The study is structured as follows:

Section 2 provides an overview of how growth and infrastructure is planned in West Sussex.

Section 3 sets out social and economic growth drivers and the distribution of development in West Sussex.

Section 4 provides an overview of infrastructure requirements across the County for a range of infrastructure provision including education, health, community, transport, utilities and flood protection.

Section 5 provides analysis on a local authority basis of development suitability taking into account infrastructure capacity and proposed investment.

Section 6 presents a commentary on delivery and funding issues affecting growth and infrastructure across West Sussex.

Section 7 identifies recommendations and conclusions.

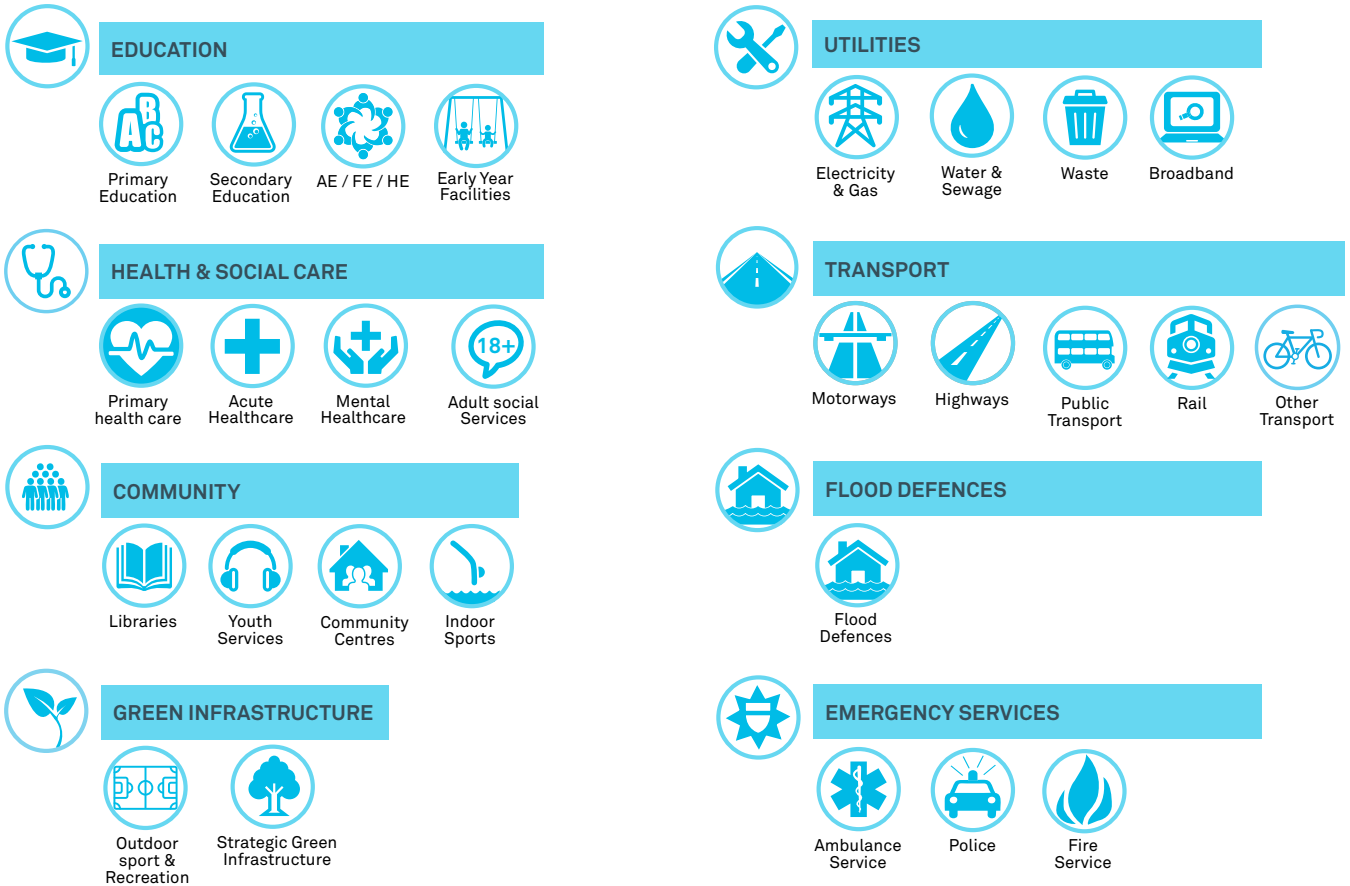


FIGURE 1.1 - INFRASTRUCTURE CONSIDERATIONS FOR THE GROWTH AND INFRASTRUCTURE

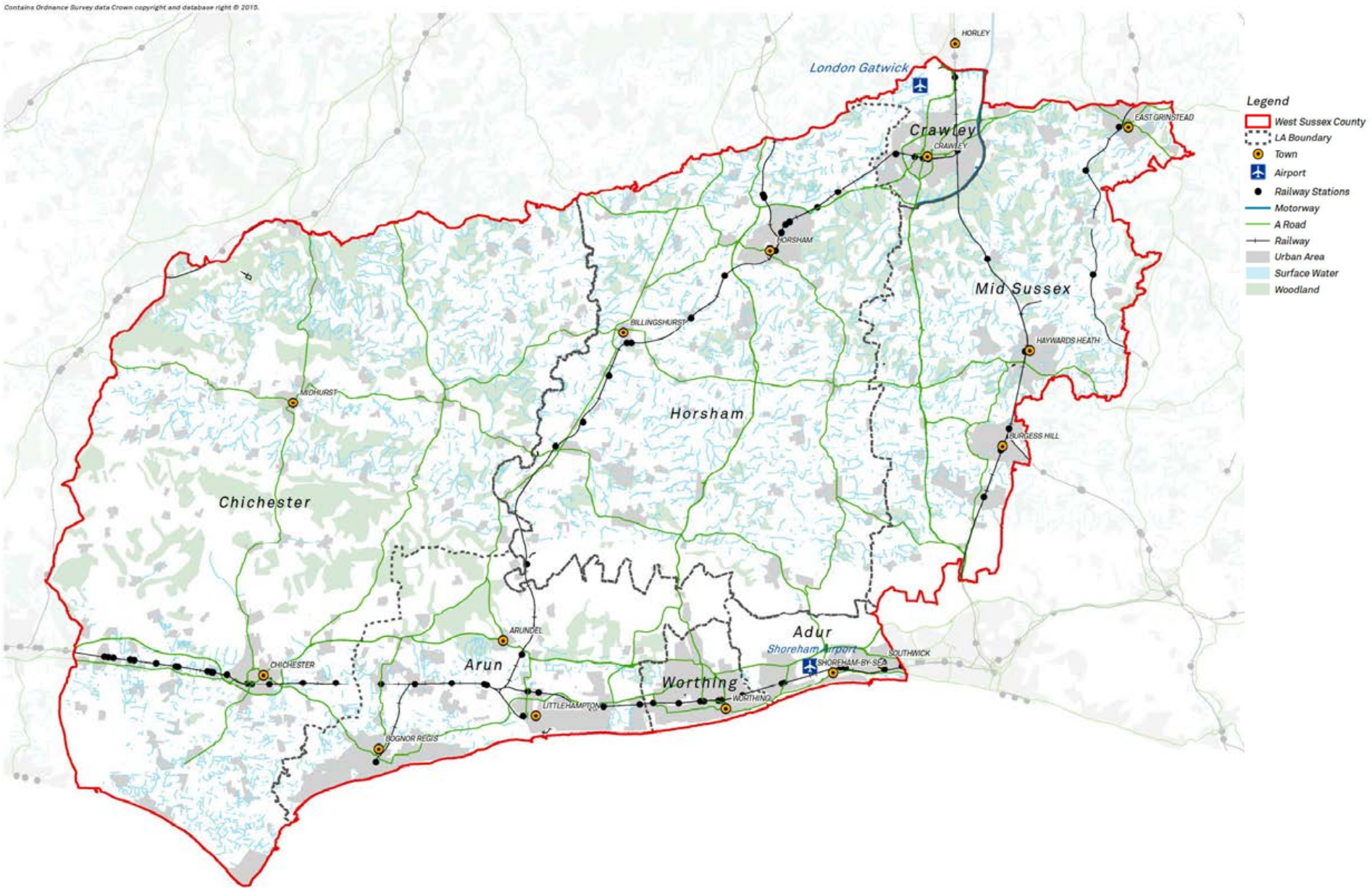


FIGURE 1.2 - STUDY AREA

PARAMETERS OF THE STUDY

This study has been prepared in accordance with the following parameters:

A Snapshot in Time:

- The housing, employment and population forecasts presented in this document represent our understanding of the growth context at July 2015 but it is recognised that this information is continually evolving and should therefore be treated as a snap shot in time only.

Housing Growth:

- The production of the Infrastructure Study has required close working with the seven local planning authorities (LPAs), as well as West Sussex County Councils data team to establish the latest understanding of potential additional housing delivery between 2015 and 2030 to feed into this study, in addition to the existing work already undertaken annually on housing trajectories.
- It is crucial to highlight the fact that across the seven local authorities a significant variation in the progression of local plans and associated technical work exists. As a result the ability of all local authorities to contribute a comprehensive housing trajectory covering 2015 to 2030 with associated housing sites has not been possible and subsequently a draft working set of figures have been provided.
- The housing trajectories presented in this document have been provided by the LPAs but represents only the latest working assumption on likely housing delivery and do not necessarily represent the latest local plan position.
- It should be noted that a number of LPAs base the need for housing in their area on population forecasts from the ONS, households forecasts from the DCLG and also to some extent on the historic guidance provided by now withdrawn Regional Plans. The housing trajectories in some cases will not therefore be fully informed by housing market and affordability data.
- A number of the LPAs are currently in the process of reviewing their housing trajectories through updated or ongoing Housing Market Assessments. The housing figures presented in this report may differ therefore from emerging forecasts from the LPAs.
- It is acknowledged that there are already signficiant pressures to the delivery of housing through shortfalls of suitable sites within West Sussex, such as land constraints in Crawley and the coastal authorities.

Employment Sites:

- Key employment sites presented in this document have been provided by the LPAs as sites likely to have significant implications for infrastructure provision. It does not include all employment sites and excludes smaller employment areas.

Population Forecasts:

- A technical population modelling scenario forecast has been produced by RPS using a Chelmer Model on behalf of WSCC to inform the infrastructure study document and the technical infrastructure modelling associated with it. This is a bottom up forecast, based on the latest number of dwellings expected to be built in each individual district as advised by each local authority planning department in July 2015.
- It is important to note that these do not replace the WSCC standard population forecasts in. The housing figures used in this study do not replace those used in the local authority local plans
- As set out earlier under 'housing growth' it is possible that the housing figures presented in this report under-represent the actual number of homes delivered over the next 15 years and as such the population forecasts produced by thr Chelmer Model for this assessment should be seen as a minimum scenario which could potentially be exceeded with the subsequent infrastructure demands and costs also increased.

Infrastructure Analysis:

- The study has sought to undertake two core activities with regards to infrastructure analysis. The first, to establish the existing scale, distribution and capacity of all infrastructure types. The second, to establish the required additional investment in infrastructure to support growth to 2030 through the consolidation of existing service planning and through theoretical modelling where no service planning is available.
- The seven local authorities have undertaken considerable work to understand the infrastructure requirements to support their local plans. Figure 2.3 presents the current availability of existing Infrastructure Delivery Plans (IDPs) across the county. These IDPs have formed important source documents for this study.

- West Sussex County Council have undertaken considerable work to date in assessing the infrastructure required to support the delivery of strategic sites across the county and produce Strategic Infrastructure Packages (SIP) which have fed into the preparation of the local authority Infrastructure Delivery Plans and this study.
- Again, it is crucial to highlight the fact that across the seven local authorities a variation in the progression of infrastructure planning work exists in conjunction with the progress on local plans. As a result, the inclusion of findings and proposed projects from those documents within this study must be accompanied by a health warning that they may not represent the latest position in the local area. It should also be noted that a number of the local authorities are currently in the process of updating their IDP.
- The topic specific infrastructure analysis represents a snap shot in time and does not necessarily reflect all current work underway across the various service areas to address capacity issues and plan for change in service provision.
- The analysis does not include the impact of housing growth within London and bordering counties (Surrey, East Sussex, Hampshire, Brighton and Hove and Kent) which will have an impact of service demands within West Sussex, particularly along border areas.
- A project database has been created to record all identified project requirements, including the type, location, timing, costs and funding of those investments.

Cost Analysis:

- The costs of infrastructure presented in this document represent the sum of all entries in the project database under that infrastructure theme and location. It should be noted that not all items in the project database have an associated cost due to a lack of project details from which to estimate costs. This therefore means that the costs of infrastructure presented in this document represent a minimum figure.
- All costs presented in this report are based on current day prices and have not been index linked forward to the assumed date of requirement.
- A full set of cost caveats have been included at the conclusion of this document and explain the predominant source of cost information by each infrastructure topic.
- It is important to note that the total costs on infrastructure requirements for each local authority presented in this report is unlikely to match exactly those presented in the Infrastructure Delivery Plans of that IDP. This study covers all infrastructure topics for each local authority and has subsequently included additional project requirements which may have not been included in the local authority studies.

Funding Assumptions:

- The funding of infrastructure presented in this document is primarily based on the sum of all entries in the project database where a project has been identified as having secured funding or is expected to receive funding from one or more sources.
- The existing understanding of project specific funding is not complete and will need to be advanced by all interested parties.
- Funding has been classified into two categories of secured and expected. Secured funding represents any project funding that has been identified within each Local Authority's IDP or specifically noted as secured by source documents or discussions with stakeholders such as the Environment Agency. Expected funding includes potential funding from the public sector, the private sector and developer contributions.
- The expected funding category includes a theoretical assumption on the potential developer contributions to that service requirement based on the number of new dwellings forecast in that area. The details of how the potential developer contribution has been calculated is included in chapter 6.
- A number of working assumptions have had to be applied to other expected funding sources (both public and private) such as the likely NHS, private sector and utility company contribution to project costs which are inevitable but cannot at this time be confirmed as in many cases the project costs identified have been generated theoretically and do not represent actual projects. These working assumptions are also set out in more detail in section 6 of the document.
- It should therefore be noted that the funding estimates presented in this document are indicative and based on a number of working assumptions and in the case of the NHS have not been validated. As this study is taken forward a greater degree of accuracy on potential funding sources is required.

02

PLANNING FOR INFRASTRUCTURE IN WEST SUSSEX

THE BASIS OF THE STUDY

THIS STUDY DRAWS TOGETHER INFORMATION AND DATA FROM A RANGE OF SOURCES. IT SEEKS TO PIECE TOGETHER A STRATEGIC PERSPECTIVE OF GROWTH AND INFRASTRUCTURE PROVISION IN WEST SUSSEX AT THE PRESENT TIME AND 15 YEARS INTO THE FUTURE.

It draws on the following information:

- Existing and emerging information, strategies and plans from local authorities across West Sussex
- GIS database information provided by West Sussex Council
- The Chelmer model for population growth in West Sussex
- West Sussex County Council's Strategic Infrastructure Packages (SIP)
- Adopted and emerging Local Plans and Infrastructure Delivery Plans for all Local Authorities within West Sussex.
- Local authorities' Local Plan evidence bases
- Documents produced by the Coast to Capital Local Economic Partnership (LEP) including a recently completed Infrastructure Study (August 2015).
- Information from other infrastructure provider's plans including utility providers, the Environment Agency, Network Rail, Highways England and the National Health Service (NHS).

The study is based on a detailed analysis of issues in West Sussex relating to growth and infrastructure current to July 2015. It should be recognised that this presents a snapshot in time and has no legal basis, or formal planning status.

A spreadsheet database containing a list of all known infrastructure projects, costs and findings provides a detailed evidence base for this Study.

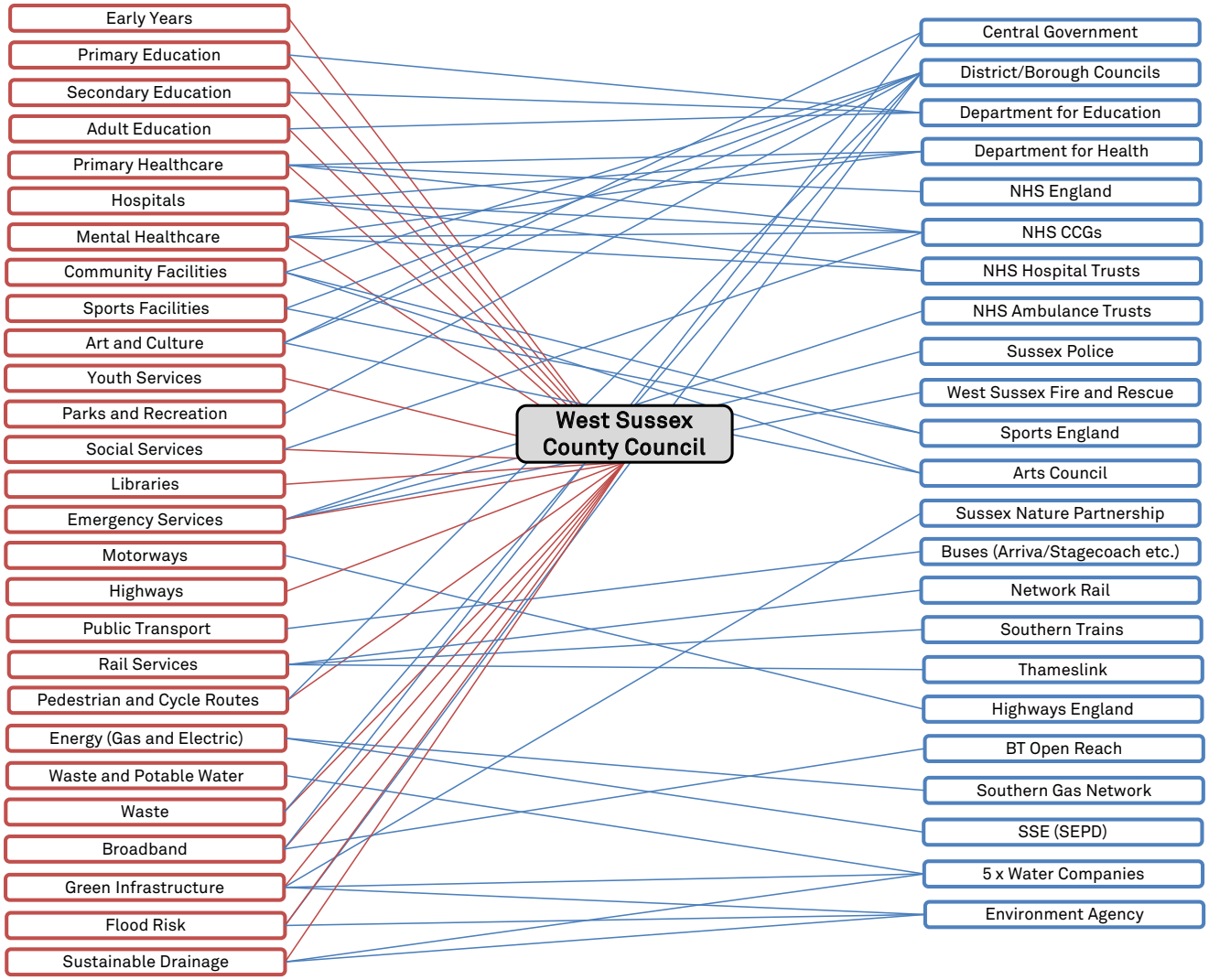


FIGURE 2.1 - THE COMPLEX PATTERN OF INFRASTRUCTURE PROVISION IN WEST SUSSEX

INFRASTRUCTURE PROVIDERS

FIGURE 2.1 SHOWS THE COMPLEX RELATIONSHIP BETWEEN INFRASTRUCTURE REQUIREMENTS AND PROVIDERS IN WEST SUSSEX. THE COUNTY COUNCIL AND THE LOCAL AUTHORITIES PLAY A VITAL ROLE IN THE SUPPLY OF INFRASTRUCTURE IN WEST SUSSEX. IN ADDITION A NUMBER OF PUBLIC AND PRIVATE ORGANISATIONS HAVE RESPONSIBILITY TO PROVIDE INFRASTRUCTURE TO SUPPORT EXISTING POPULATION AND PROPOSED GROWTH.

This Study covers the following aspects of infrastructure provided by West Sussex.

- Education (primary, secondary, further education and community learning)
- Other social infrastructure (libraries, adult social services and youth services, public health)
- Highways
- Waste

In addition, other provider's requirements have been investigated including:

- Healthcare (NHS)
- Highways (Highways England)
- Railway and bus operations
- Utility services
- Local authority services (community, leisure, etc)
- Other significant infrastructure (e.g. Environment Agency)

PLANNING FOR INFRASTRUCTURE

Changes to government legislation have modified how infrastructure planning is undertaken and placed greater emphasis on the link between the Local Plan and the delivery of infrastructure.

In West Sussex it is the local authorities who have responsibility for producing Local Plans as local planning authorities (LPA's).

At present West Sussex County Council is a statutory consultee as an infrastructure provider, but has a limited statutory responsibility for plan making. West Sussex does have a statutory obligation to plan making in respect to education, transport, health and minerals and waste planning.

The Government's National Planning Policy Framework (NPPF) states that LPA's should work with other authorities and providers to assess the quality and capacity of a range of infrastructure types and its ability to meet forecast demands; and take account of the need for strategic infrastructure within the LPA area (para. 162).

Local Plan policies on infrastructure delivery and development are required to operate together, in order to ensure deliverability in a timely fashion; and where possible the NPPF recommends Community Infrastructure Levy (CIL) charges should be developed and assessed alongside the Local Plan (para. 177).

The NPPF also sets out a duty to cooperate across boundaries enshrining the need for local authorities to engage with different organisations on strategic planning issues (para.179), in particular infrastructure providers.

As illustrated in Figure 2.3, all local planning authorities in West Sussex are at varying stages in terms of having up-to-date Local Plans . Some have been adopted while others are in the process of being prepared. All are accompanied by an"Infrastructure Delivery Plan" which sets out infrastructure required to support growth and funding regimes.

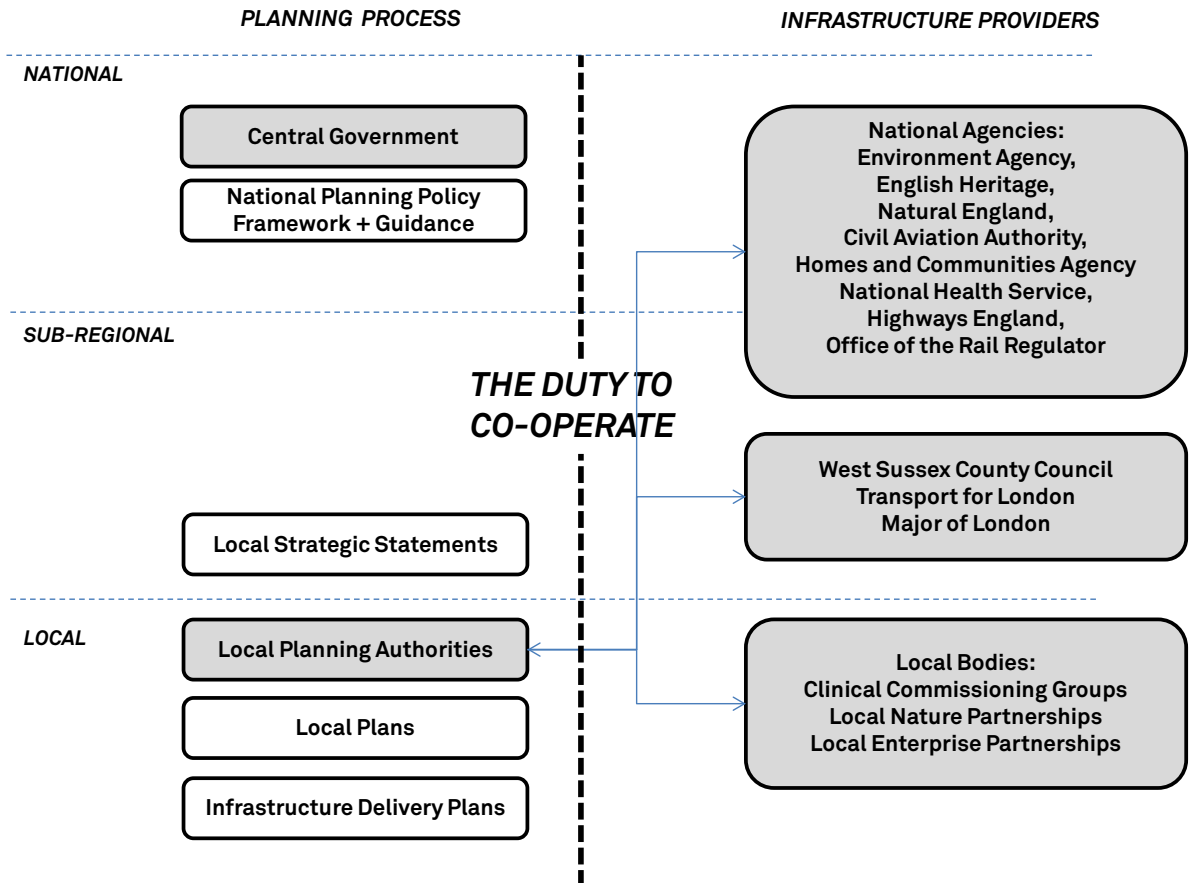


FIGURE 2.2 - THE CURRENT PLANNING PROCESS VS INFRASTRUCTURE PROVISION IN WEST SUSSEX

Although the duty to co-operate is in place to ensure co-ordination between local authorities and infrastructure providers, there is no body in place to provide strategic co-ordination of growth across local authority boundaries, or strategic infrastructure. However, all authorities are required to engage with West Sussex in their role as a major infrastructure provider, as illustrated in Figure 2.2.

This document will assist West Sussex County Council in its "Duty to Cooperate" and begin to piece together a co-ordinated understanding of growth and infrastructure across West Sussex.

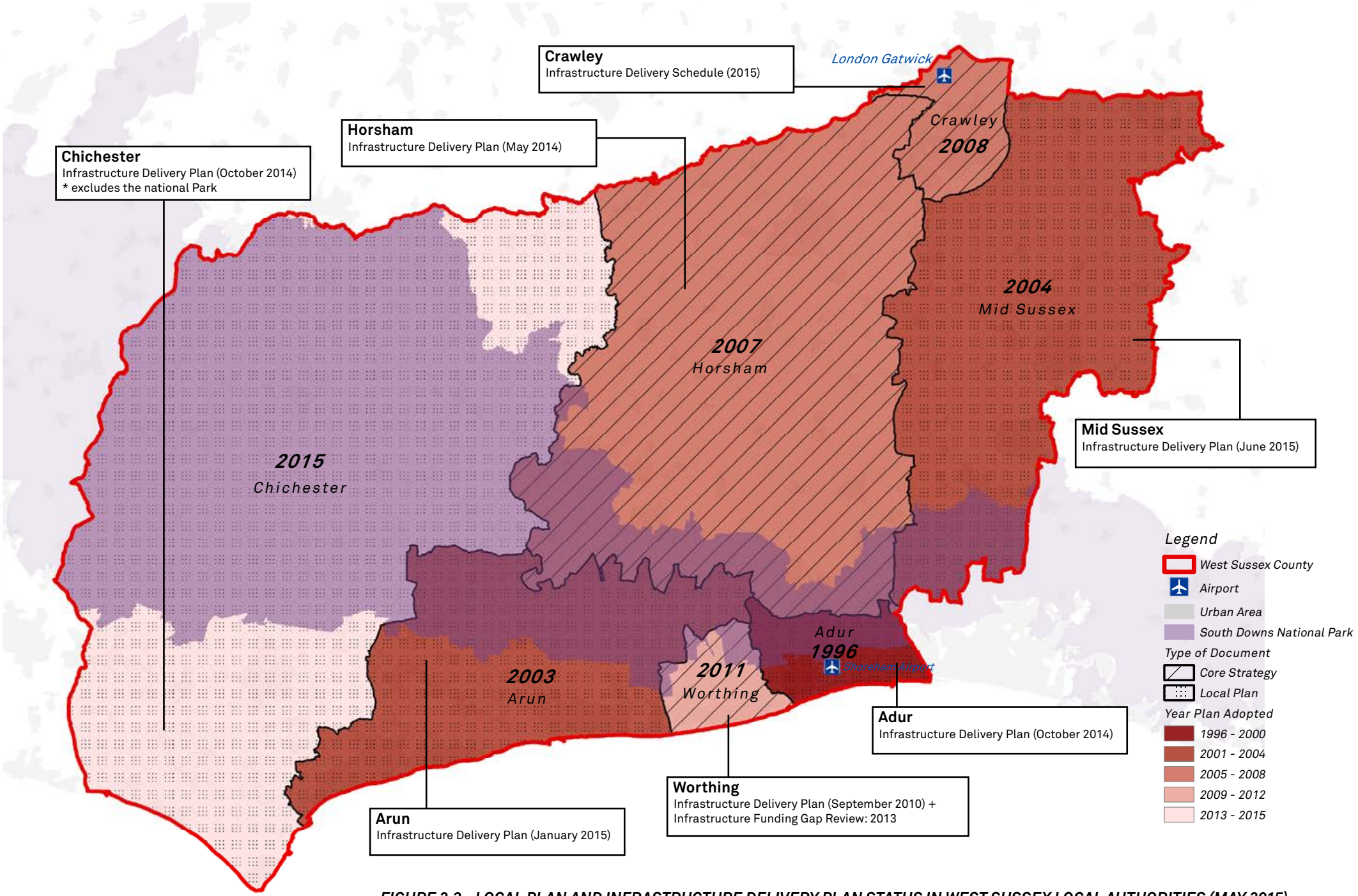


FIGURE 2.3 - LOCAL PLAN AND INFRASTRUCTURE DELIVERY PLAN STATUS IN WEST SUSSEX LOCAL AUTHORITIES (MAY 2015)

03

UNDERSTANDING WEST SUSSEX'S GROWTH REQUIREMENTS

THIS SECTION AIMS TO SUMMARISE THE KEY ISSUES IN PLANNING FOR GROWTH IN WEST SUSSEX TO 2030.

As discussed in the previous section, growth in West Sussex is planned through the Local Plan process by each individual authority. This section though assesses the demographic and economic context of the county-wide growth requirements and current planned growth areas as identified within the Local Plans.

It comprises:

POPULATION GROWTH REQUIREMENTS

- Population modelling and growth assumptions to 2030
- A social portrait summarising current socio-demographic issues and trends likely to impact on growth and infrastructure provision.
- an understanding of housing growth requirements and locations

ECONOMIC GROWTH REQUIREMENTS

- An economic portrait summarising current economic issues and trends
- an understanding of employment requirements and locations

By establishing the the context for which future growth will occur in West Sussex, this will now be used as the basis for examining infrastructure requirements in the remainder of this study.

POPULATION PROJECTIONS

THERE ARE 2 DIFFERENT POPULATION PROJECTIONS WHICH NEED TO BE TAKEN INTO ACCOUNT:

1. 2012 based Sub-National Population Projections by the ONS

- Based on ONS census results, natural change and migration trends. These are unconstrained projections.
- Provided at the local authority Level
- Used by Central Government departments and agencies for local authority funding
- Used by DCLG to produce the latest household forecasts which inform Strategic Housing Market Assessments (SHMAs)
- The ONS projection assumes a 2015 population of **840,100** in West Sussex
- It projects a 2030 population of **938,200** - an increase of **98,100,** equivalent to 12%

2. Chelmer Forecast Model

- A bespoke population forecast produced specifically for this study to establish a population forecast directly linked (and constrained) by the planned housing
- Based on ONS census results, natural change but constrained to the housing trajectories of planned growth for each of the Local Authorities
- Local authority level data provided to WSCC July 2015

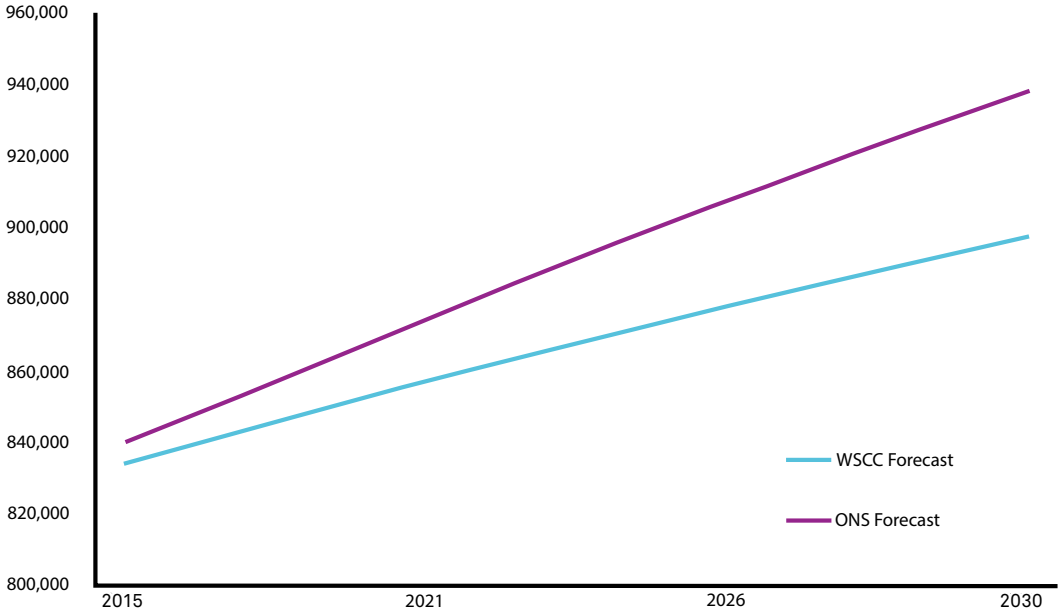


FIGURE 3.1 -2030 POPULATION FORECASTS

Source: SCC PopGroup Model Forecasts, ONS 2012 based Sub National Population Projections

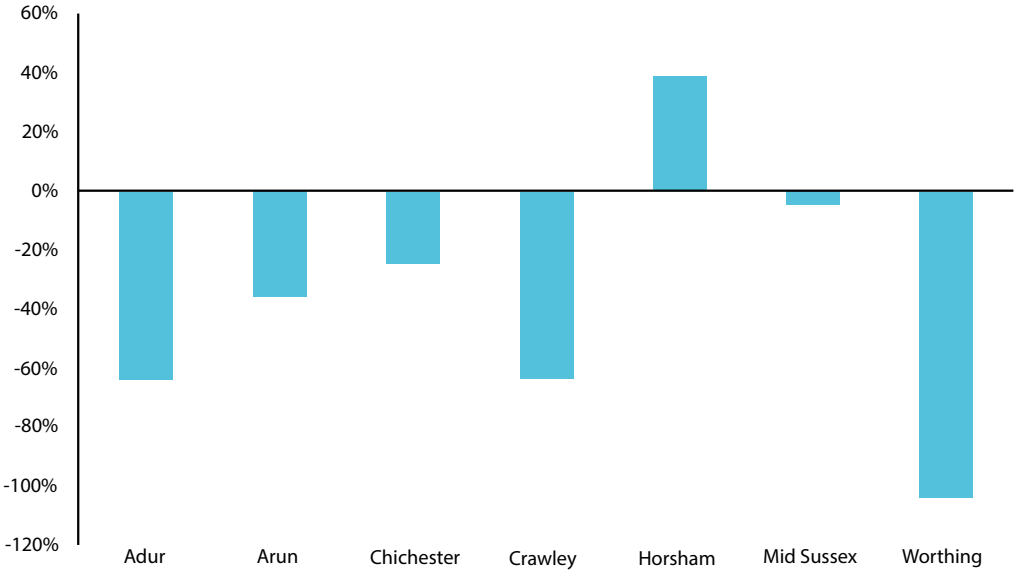


FIGURE 3.2 - WSCC FORECASTS VARIATION FROM TREND BASED ONS FORECASTS

- This projection assumes a 2015 base population of **834,200** for West Sussex
- The Chelmer forecast projects a 2030 population of **897,500** - an increase of **63,300, equivalent to 8%**

HOW THE POPULATION FORECAST VARY BY DISTRICT

There is a significant variance in the housing trajectory based West Sussex forecasts and trend based ONS forecasts overall between 2015-2030. The West Sussex forecast, which are driven by housing trajectories are significantly lower than the ONS projections. Worthing, Adur and Crawley show the greatest negative variance, illustrating greater than 50% less population growth to 2030.

It is important to make clear why the population projections produced by the Chelmer Model are notably lower in most cases to the ONS population forecasts. As set out in the earlier study parameters section, the Chelmer model is constrained by the number of homes planned by the local authorities. All other assumptions on baseline population and natural change will match the ONS forecasts. Essentially the key reason for the lower population figures is that the housing trajectories provided by the local authorities is based predominately upon current planned supply and not upon an objectively assessed need for housing.

3.1 SOCIAL PORTRAIT

THE FOLLOWING HEADLINES SUMMARISE KEY SOCIO-DEMOGRAPHIC TRENDS AND PROJECTIONS THAT WILL AFFECT THE DISTRIBUTION OF GROWTH AND PLANNING FOR SUPPORTING INFRASTRUCTURE TO 2030.

West Sussex will grow by at least 63,000 people (8% increase) by 2030

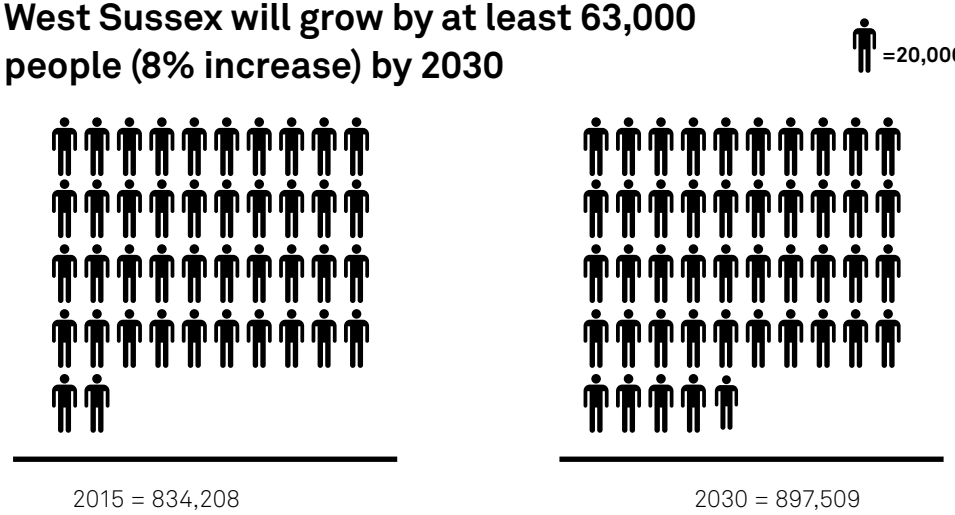


FIGURE 3.3
Source: WSCC Chelmer Forecast

However, this growth varies significantly within West Sussex, in which nearly 50% of the growth with occur in Horsham and Mid Sussex, while Worthing will experience a slight decline in population to 2030.

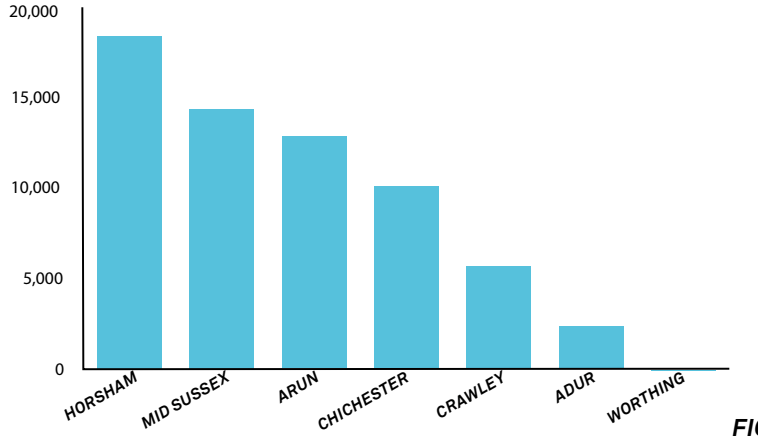


FIGURE 3.4
Source: WSCC Chelmer Forecast

In 2013 the Natural Rate of Change was just 163 people

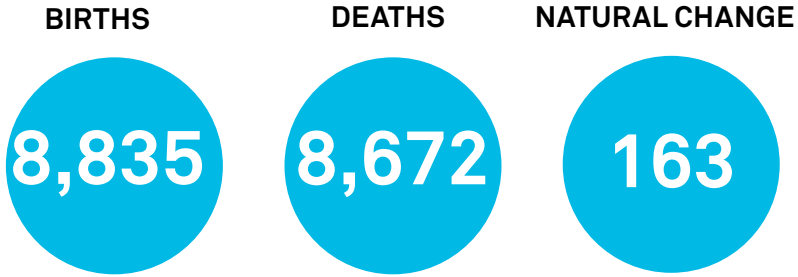


FIGURE 3.5
Source: ONS, 2013

In 2014 there was net international migration of 800 people into West Sussex

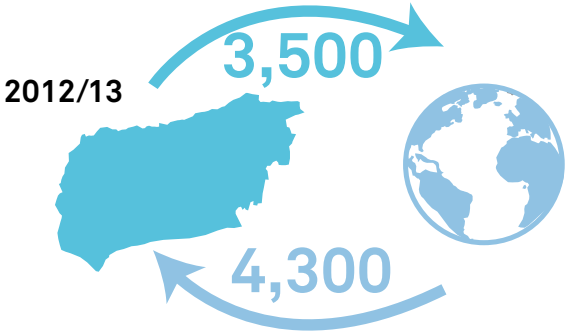


FIGURE 3.6
Source: ONS, 2014

In 2014 there was net domestic migration (within UK) of 5,300 people into West Sussex

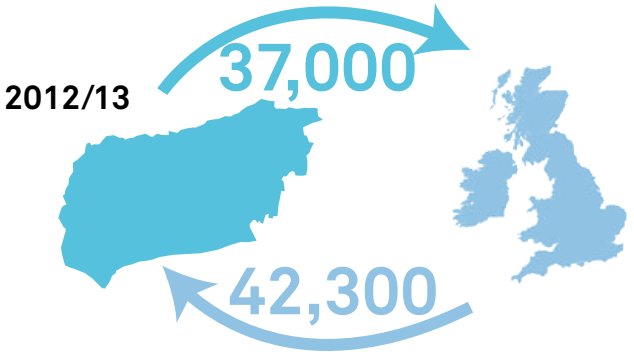


FIGURE 3.7
Source: ONS, 2014

Migration between West Sussex and London 2002-2014

From 2002 to 2011 West Sussex saw 85,770 people move from London into the County, while over the same period only 47,600 moved from West Sussex to London. This represents a net increase of 38,000 people.

Mid Sussex experienced the greatest levels of in-migration from London with 20% of the people moving here, followed by Arun at 19% and Chichester at 16%

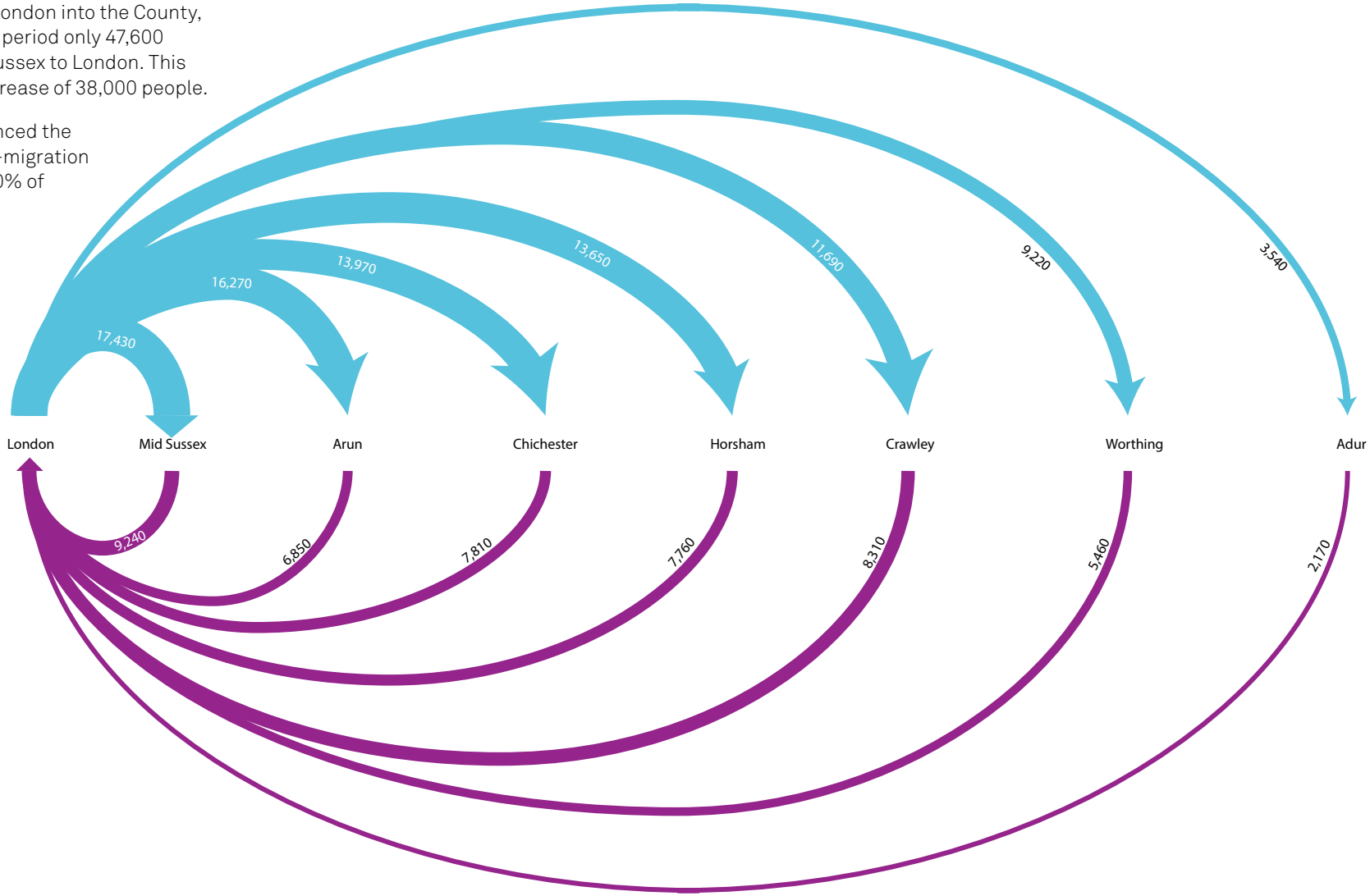


FIGURE 3.8 - INTERNAL MIGRATION BETWEEN LONDON AND WEST SUSSEX LOCAL AUTHORITIES (2002-2014) (ONS)

Source: ONS, 2002-2014

THE POPULATION OF WEST SUSSEX WILL UNDERGO A SIGNIFICANT AGEING OVER THE NEXT TWO DECADES, WITH THOSE OVER THE AGE OF 60 INCREASING THE FASTEST, AND AN OVERALL DECLINE IN THE NUMBER OF PEOPLE WHO ARE WORKING AGE

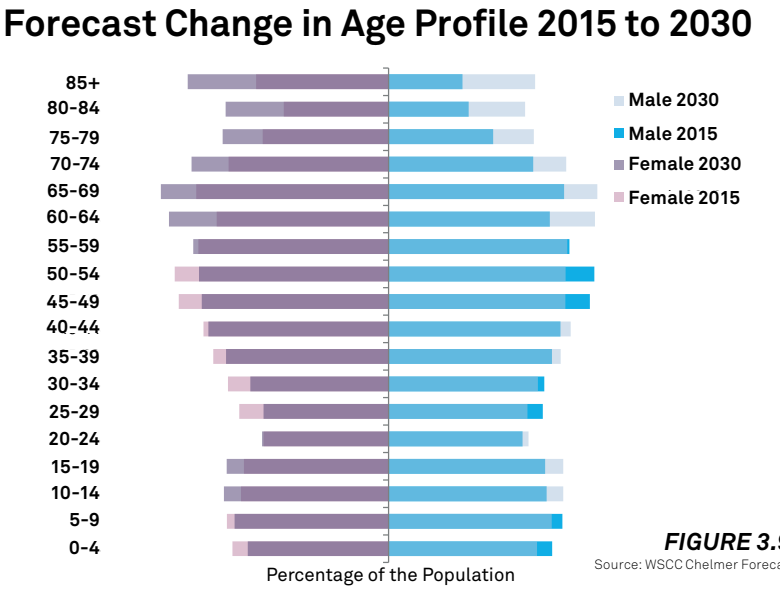


FIGURE 3.9
Source: WSCC Chelmer Forecast

Those over the age of 80 will grow the fastest of any age bracket, followed by those between 60-79. Simultaneously, working age people will see an overall decline and only those between 10-19 will see a growth. This will create a very large dependent population within West Sussex that will begin to put increase pressure for new infrastructure catering to an ageing population.

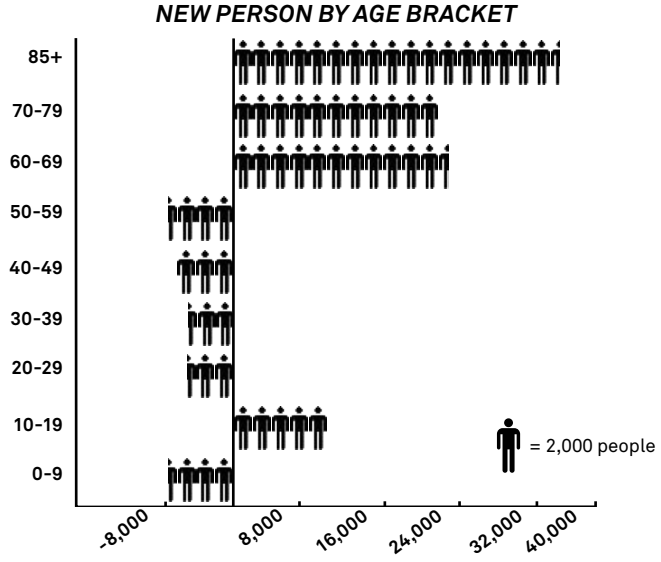


FIGURE 3.10
Source: WSCC Chelmer Forecast

WORKING AGE RESIDENTS WILL DECLINE THEIR SHARE OF THE POPULATION BY 5% FROM 2015 TO 2030, WHILE THOSE WHO ARE 70+ WILL INCREASE THEIR SHARE OF THE TOTAL POPULATION BY 6%. THIS WILL PUT GREATER PRESSURE ON WORKING AGE RESIDENTS, WHILE THE COUNTY WILL BE FORCED TO ALTER ITS SERVICES

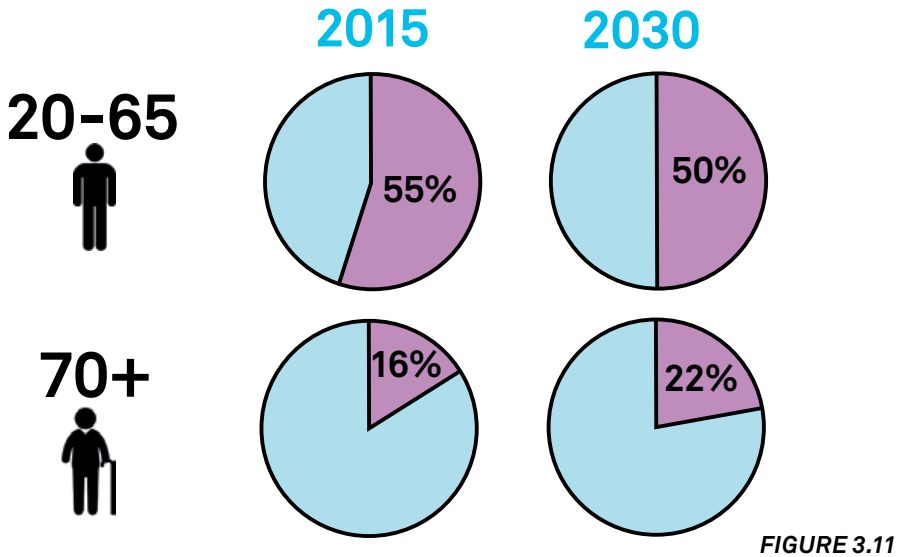


FIGURE 3.11
Source: WSCC Chelmer Forecast

As this population continues to age over the next two decades, this will begin to put increased strain on the current housing typologies, where single person households will become more common.

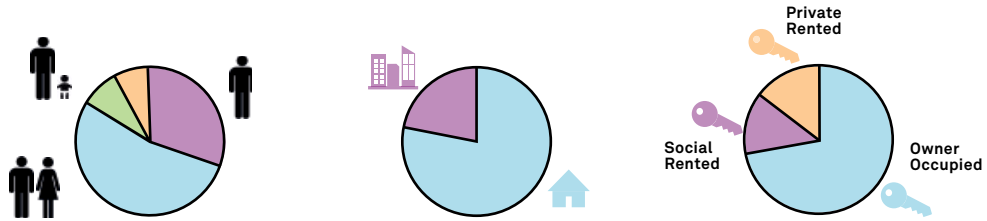


FIGURE 3.12
Source: ONS 2011

Families dominate the current housing. Trends towards compact living and smaller accommodation due to an aging population, will however change housing demands

Over 70% of the current housing stock are family homes, which may present challenges in responding to an ageing population

The majority of housing in West Sussex is owner occupied, with fewer renting privately and from housing associations.

Quality of life is generally high across West Sussex

While relatively wealthy, there are pockets of disparity, reflected in Arun, Worthing, Adur and Crawley.

Adur and Crawley have relatively high rates of unemployment at over 5%, compared to the West Sussex average pf 4%.

This high quality of life is reflected by the fact that only 1.1% of working age residents in West Sussex are currently claiming Job Seekers Allowance (JSA)

Furthermore, an analysis of the number of JSA claimants from June 2014 to June 2015 shows a significant drop of 26%, suggesting an improving economic condition in West Sussex

Crawley has the highest portion of its working age resident population claiming at 1.5%, followed by Adur (1.4%), and Arun (1.4%).

WORKING AGE JOB SEEKERS ALLOWANCE 2014-15

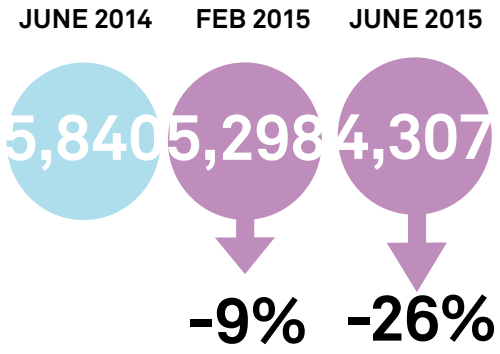


FIGURE 3.13
Source: NOMI S 2015

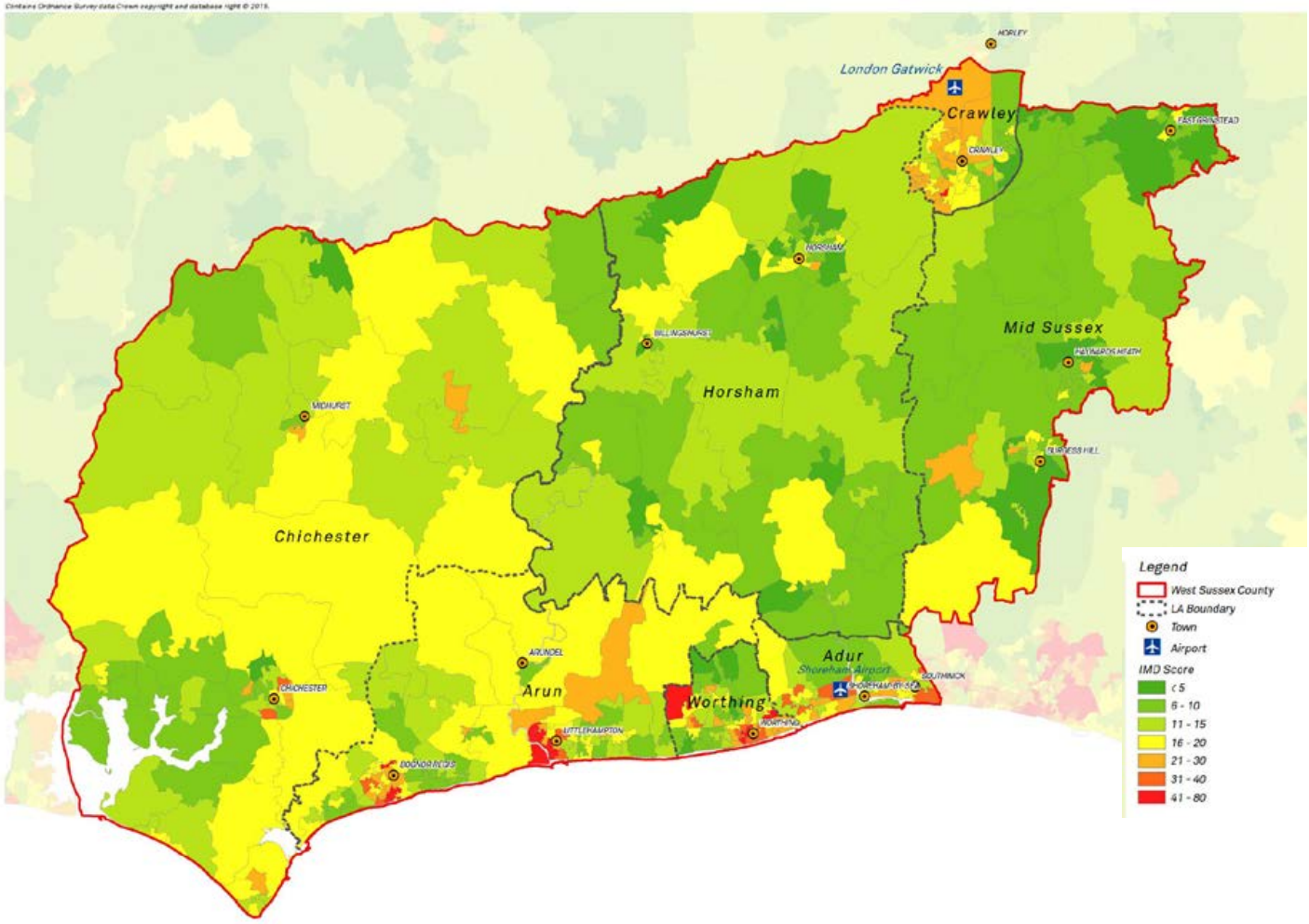


FIGURE 3.14 - INDEX OF MULTIPLE DEPRIVATION ACROSS WEST SUSSEX (2010)
Source: DCLG

3.2 HOUSING A GROWING POPULATION

EXISTING HOUSING

There are approximately 360,000 housing units existing across West Sussex local authorities. Figure 3.15 illustrates the distribution of those existing homes across the county with the largest share of homes accommodated by Arun, Mid Sussex and Horsham and the least homes within Adur.

The same figures illustrates the forecast additional dwellings between 2015 and 2030 as informed by the seven local authorities for the purpose of this study. Figure 3.15 shows both the spread of that additional housing across the county as a whole but also the relative increase within each of the local authorities.

The local authority housing trajectories indicated that some 49,000 housing units are planned across West Sussex between 2015 and 2030. This would equate to an annual completion rate of 3,266 dwellings which is considerably higher than the average achieved between 2010 and 2014 for West Sussex as a whole which was closer to 2,000 dwellings per annum on average. Figure 3.16 illustrates the total completions achieved for each local authority between 2010 and 2014 according to DCLG data.

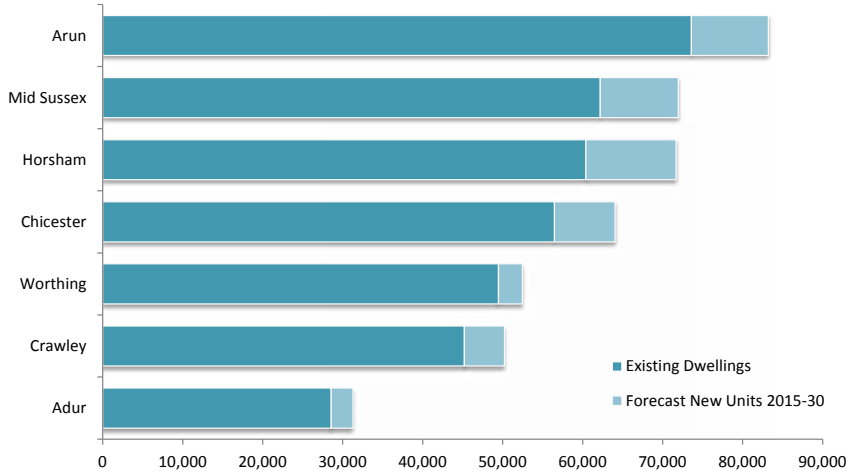


FIGURE 3.15 - EXISTING AND PROPOSED HOUSING

Source: ONS 2011, Local Authority data provided to West Sussex County Council for Infrastructure Study

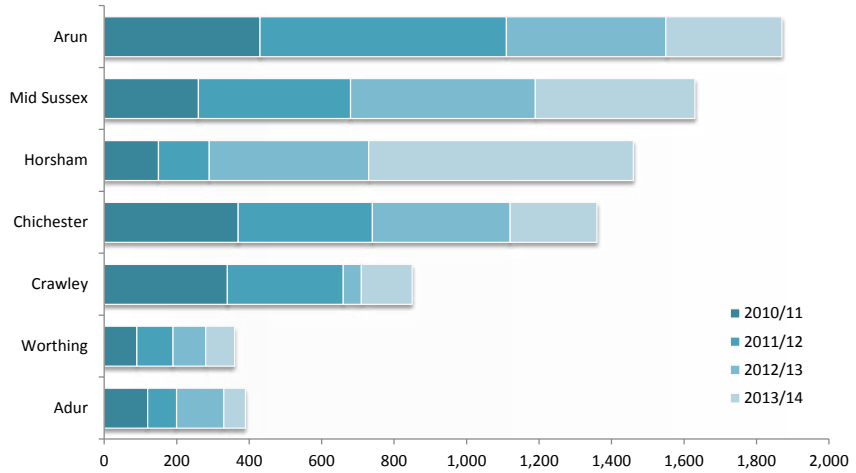


FIGURE 3.16 - RECENT HOUSING COMPLETIONS 2010/11 - 2013/14

Source: DCLG Completions Data

IDENTIFIED HOUSING SITES

For the purpose of this study the seven local authorities were asked to provide WSCC with two information sets.

The first was an agreed macro target housing trajectory for the local authority as a whole between 2015 and 2030. This was required to establish the total scale of housing growth expected over the study period and allow a bespoke population forecast to be produced to inform the assessment. The total number of homes forecast for each local authority is presented in figure 3.18 to the right. This is based upon per annum targets as identified by the local authorities for the purpose of this study.

The second set of information requested was detailed site specific data setting out the currently identified potential housing sites from all sources (permissions, allocations, strategic sites etc.) Where possible the associated phasing of these sites was also requested. This data has been used to map the distribution of forecast growth as illustrated on figure 3.21 over the page. The forecast phasing of those identified potential sites is summarised in figure 3.17 below. Note that not all local authorities (such as Mid Sussex) are able to provide phasing for sites as far ahead as 2030.

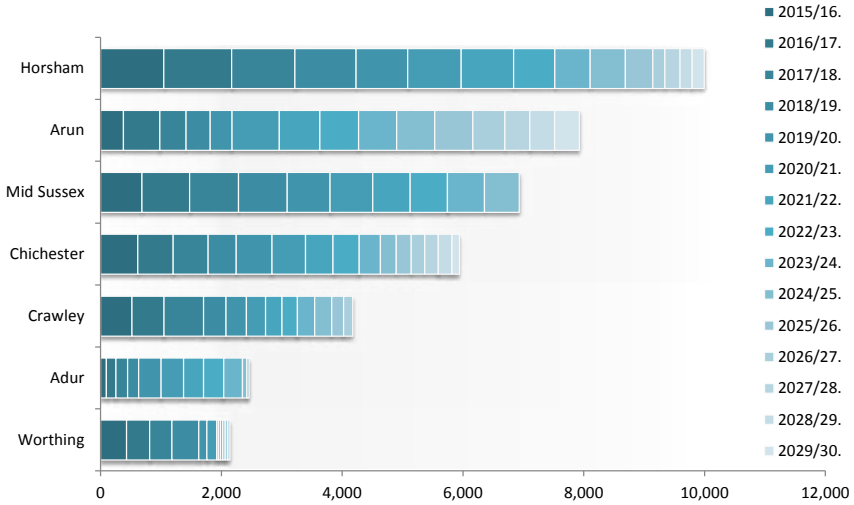


FIGURE 3.17 - PHASING OF IDENTIFIED HOUSING SITES

Source: West Sussex Local Authorities data supplied to Study

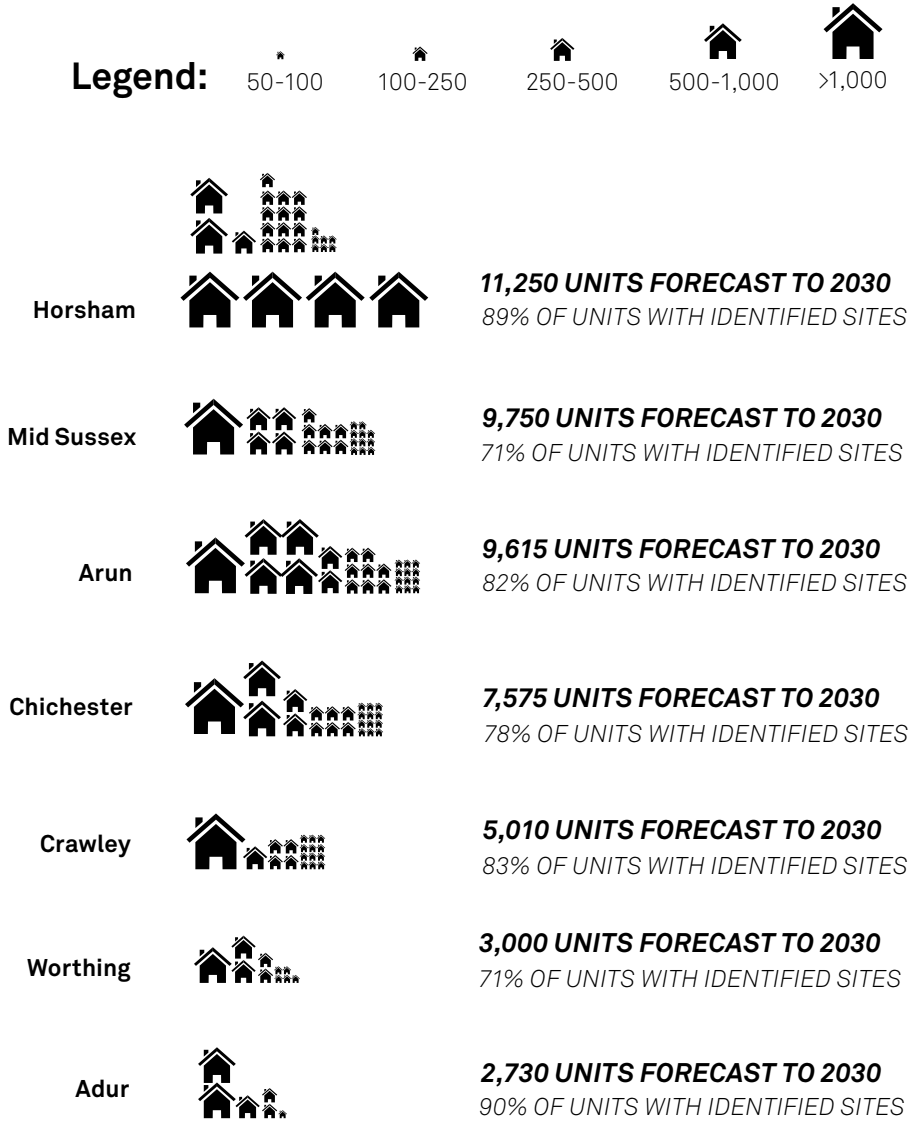


FIGURE 3.18 - NUMBER OF POTENTIAL SITES CURRENTLY IDENTIFIED FOR EACH AUTHORITY

Source: Local Authority data provided to West Sussex County Council for Infrastructure Study

MODELLING FORECAST

As illustrated in Figure 3.18 on the previous page and Figure 3.19 to the right, this study cannot utilise the phased site specific housing data provided by the local authorities for the purpose of population forecasting as the local authorities were not able to identify sufficient sites to accommodate the full housing target (ranging from 71% to 90% of potential sites identified).

Therefore, for the purpose of the Chelmer model population forecasting the annual housing targets identified for the agreed macro target housing trajectory for the local authority as a whole have been used. This results in an equal phasing of housing delivery over the 15 years which is illustrated in Figure 3.20 to the right. In reality the delivery of housing over the 15 year period is likely to resemble more closely the phasing suggested in Figure 3.17.

Technical Note on Housing Trajectories:

As stated in the Study Parameters in Section 1 of this report the housing trajectories presented in this document have been provided by the LPAs but represents only the working assumption on likely housing delivery at July 2015 and do not necessarily represent the latest local plan position.

Importantly, analysis of the latest ONS population forecasts and associated DCLG household forecasts for West Sussex suggests the housing figures presented within this section could underestimate future housing growth to a significant degree. The exact extent of this underestimation is hard to quantify however due to the number of variables of objectively assessed housing need but it is considered reasonable to assume **the forecasts in this study represent a minimum scenario of housing growth**.

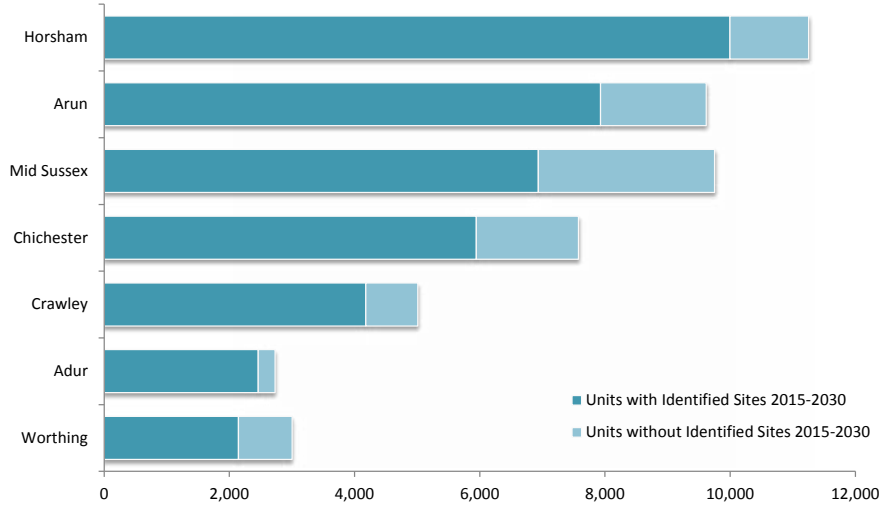


FIGURE 3.19 - PROPORTION OF TRAJECTORY WITH IDENTIFIED SITES

Source: Local Authority data provided to West Sussex County Council for Infrastructure Study

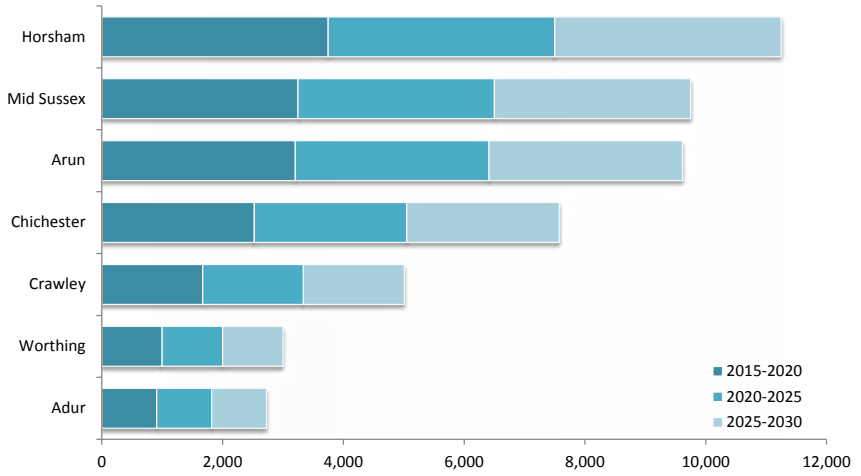


FIGURE 3.20 - PROPOSED HOUSING TRAJECTORIES PHASED OVER 15 YEARS

Source: Local Authority data provided to West Sussex County Council for Infrastructure Study

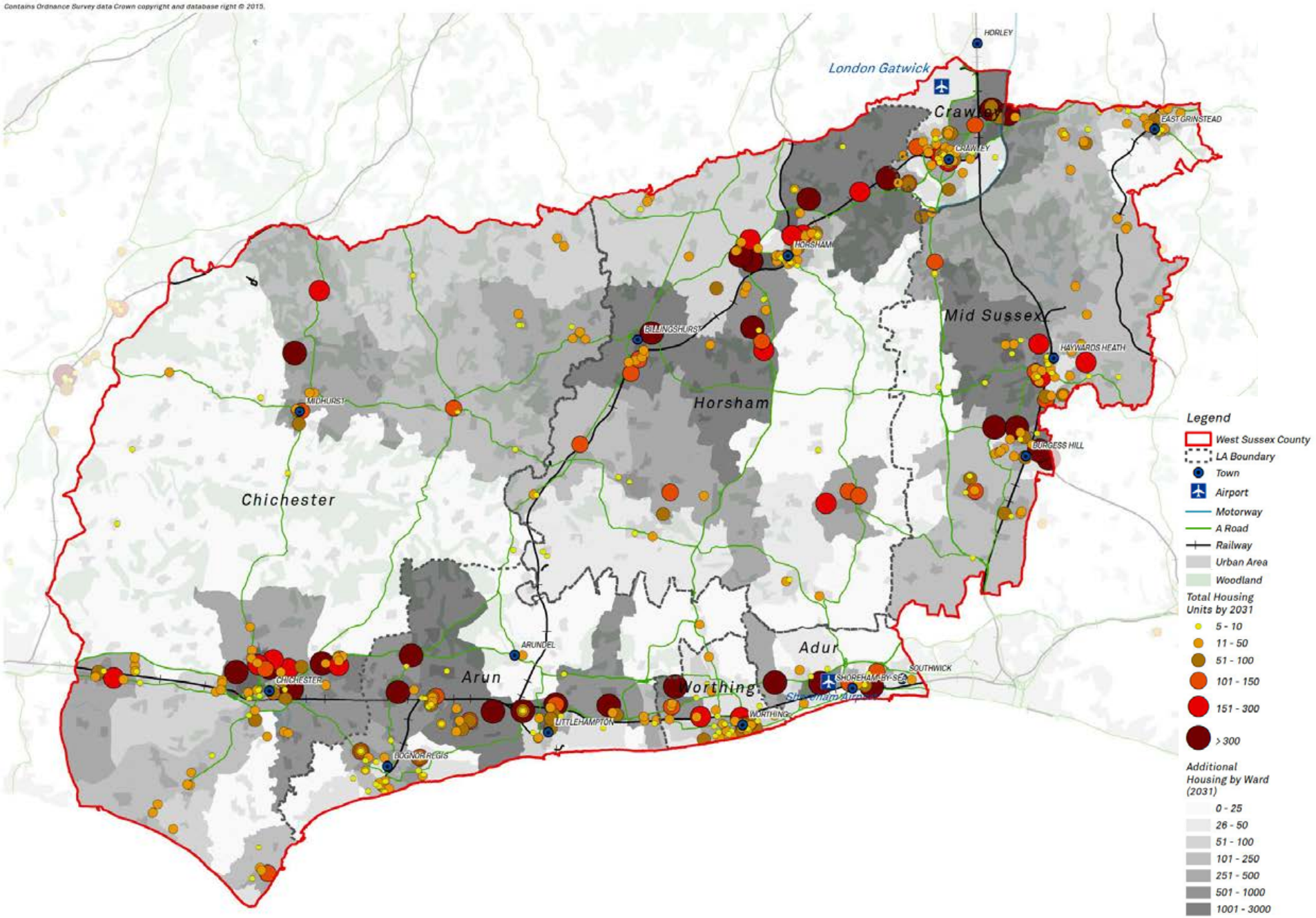


FIGURE 3.21 - MAJOR POTENTIAL HOUSING SITES AND POPULATION GROWTH BY WARD IN WEST SUSSEX TO 2030

* This is based on the most up to date information at the time of publication and could be subject to change, subject to review of planning policy documents

3.3 ECONOMIC PORTRAIT

WEST SUSSEX'S ECONOMIC GROWTH IS DEPENDENT UPON ONGOING INVESTMENT IN INFRASTRUCTURE TO SUPPORT ECONOMIC ACTIVITIES. THIS REQUIRES CONTINUED HOUSING GROWTH TO ENSURE A GROWING WORKFORCE CAN BE ACCOMMODATED LOCALLY. THIS SECTION SEEKS TO SET OUT THE CURRENT AND FUTURE ECONOMIC CONTEXT FOR WEST SUSSEX AND THE IMPLICATIONS FOR INFRASTRUCTURE.

ECONOMIC CONTEXT

Economic growth in West Sussex varies across local authorities, with some areas performing well in many sectors, and others facing economic challenges.

Overall, West Sussex has experienced strong economic growth. This can be somewhat attributed to its proximity to London and the comparative advantage it has with the UK's second largest airport, Gatwick, located within Crawley.

West Sussex is within the Coast to Capital LEP, formed in 2011, that includes all of West Sussex, parts of Surrey and up to Croydon in South London and Brighton and Hove. The LEP has made continued growth around Gatwick a priority as it will improve West Sussex's UK and international connections. Currently, the entire Gatwick Diamond areas creates 50% of the regions Gross Value Added, increasingly becoming the economic hub of West Sussex.

Coast to Capital LEP increasingly sees future growth focused on service industries, where 80% of the economy is focused within the LEP. To meet these targets the LEP is focusing on key sectors to improve the digital economy, enhance the environmental resilience to open up new land for development and enhance educational facilities and research centres.

West Sussex is witnessing changes to its economy with growing strengths in new sectors based around the knowledge economy and education.

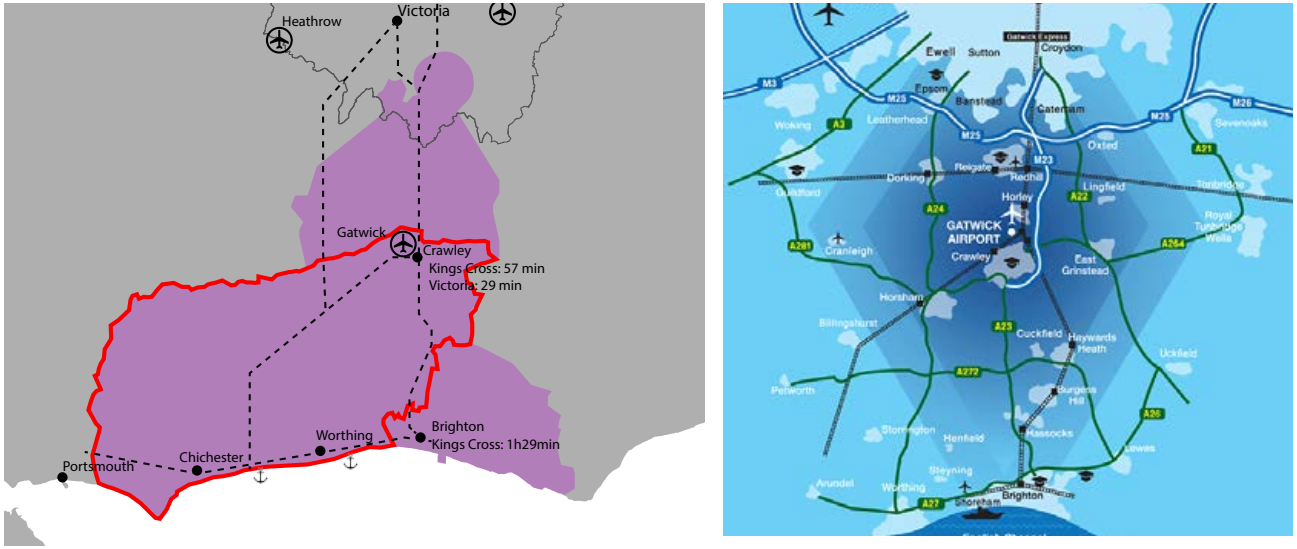


FIGURE 3.22 - WEST SUSSEX ECONOMIC CONNECTIONS & THE GATWICK DIAMOND

Horsham, Crawley and Mid Sussex form part of the Gatwick Diamond, which also covers East Surrey. The Gatwick Diamond Initiative is a business-led partnership, funded by six local authorities (Reigate & Banstead, and Crawley Borough Councils, Mole Valley, Horsham Mid Sussex and Tandridge District Councils), two County Councils (Surrey & West Sussex) and Gatwick Airport, aiming to grow the region's existing jobs base, attract new jobs and secure investments from companies that most closely match local industry strengths and the predominant sectors that drive the local economy.

The Gatwick Diamond has one of the strongest local economies in the UK being just 30 minutes from central London, with London Gatwick Airport at its heart and one hour from Heathrow Airport. An excellent interconnected infrastructure of air, road, rail and sea transport connects the area to London and the UK, mainland Europe and the rest of the world.

Home to 45,000 businesses and 500 international businesses, the Gatwick Diamond offers access to the excellent connectivity, talented labour force, strategic location and developed supply chain. There are six industry sectors which are particularly strong:

- Aviation, Aerospace and Defence,
- Advanced Manufacturing and Engineering,
- Financial and Professional Services,
- Life Sciences, Health Technologies and Medical Devices,
- Environmental Technologies
- Food and Drink

As highlighted earlier this report is accompanied by a more detailed technical assessment of longer term infrastructure impacts across the Gatiwck Diamond area.

A summary of West Sussex economic headlines is shown overleaf on the following pages.

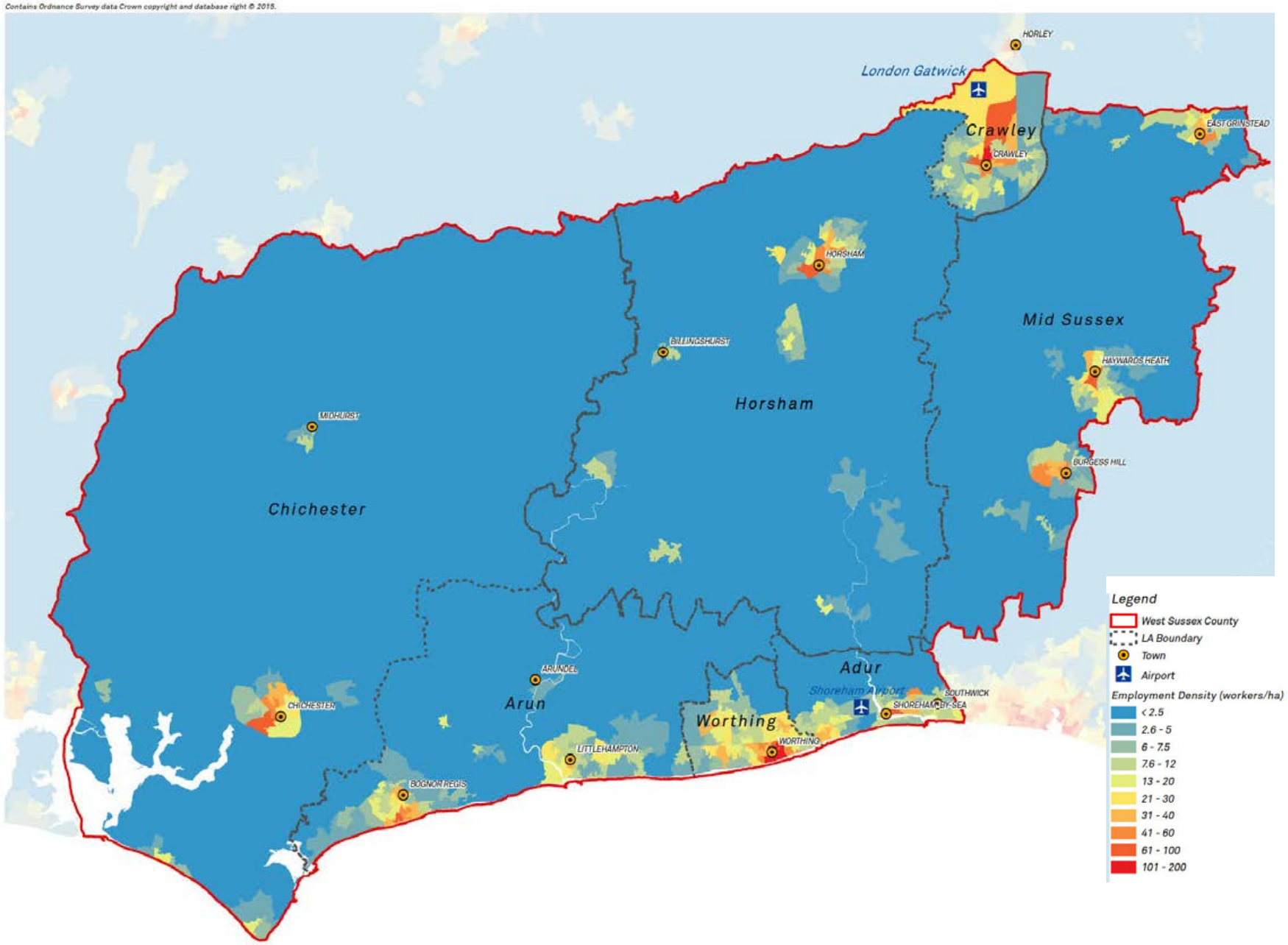


FIGURE 3.23 - EMPLOYMENT DENSITY

Source: ONS 2011

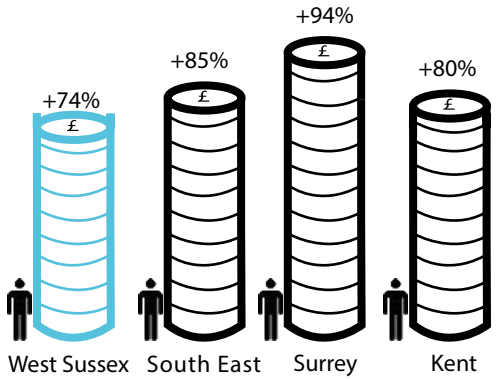
Gross Value Added (GVA) per head

is 96% that of England, but trails the South East region significantly

Source: GVA at 2011 (ONS)

FIGURE 3.24 - GVA PER HEAD

West Sussex's Total GVA growth from 1997 to 2011 has lagged behind the South East Region and other County Authorities



Source: GVA at 2011 (ONS)

FIGURE 3.25 - GVA GROWTH HISTORICALLY

West Sussex GVA growth since 1997 has lagged behind other counties within the South East

What does this mean?

West Sussex will need to continue investing in infrastructure that supports economic growth, emphasising its comparative advantages of Gatwick in order to minimise its current imbalance relative to the rest of the South East

There is an under performing workforce skills profile of NVQ4+

Source: Annual Population Survey (ONS). Data period: Jan 2014-Dec 2014

FIGURE 3.26 - % WORKFORCE WITH NVQ4+

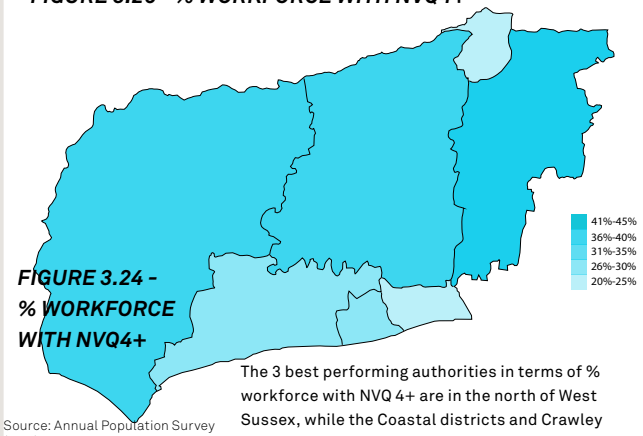


FIGURE 3.24 - % WORKFORCE WITH NVQ4+

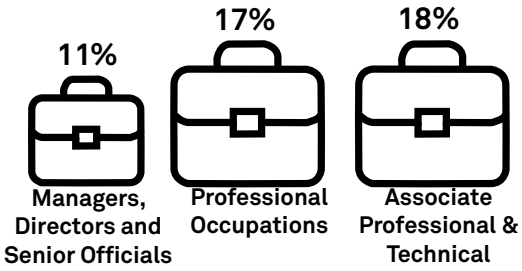
Source: Annual Population Survey (ONS). Data period: Jan 2014-Dec 2014

The 3 best performing authorities in terms of % workforce with NVQ 4+ are in the north of West Sussex, while the Coastal districts and Crawley fall behind

However,

highly skilled occupations

makeup nearly 50% of the occupations



Source: ONS

FIGURE 3.27 - OCCUPATIONAL TYPE 2014

What does this mean?

Future Infrastructure investments will need to support the continued development of a highly skilled, highly qualified workforce, with a focus in the more marginalised Coastal West Sussex local authorities.

Worker Median Salary levels

are higher in West Sussex than the English median

Source: ONS

FIGURE 3.28 - WEST SUSSEX EARNINGS (2014)

West Sussex is a

net exporter of labour

which can impact negatively on GVA figures

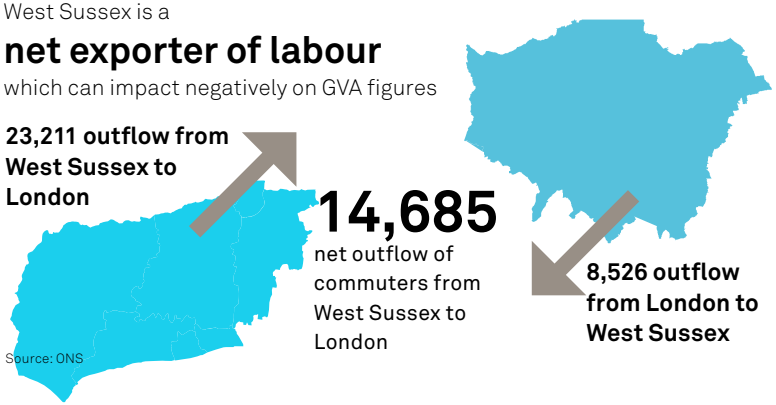


FIGURE 3.29 - EXISTING COMMUTER PATTERNS

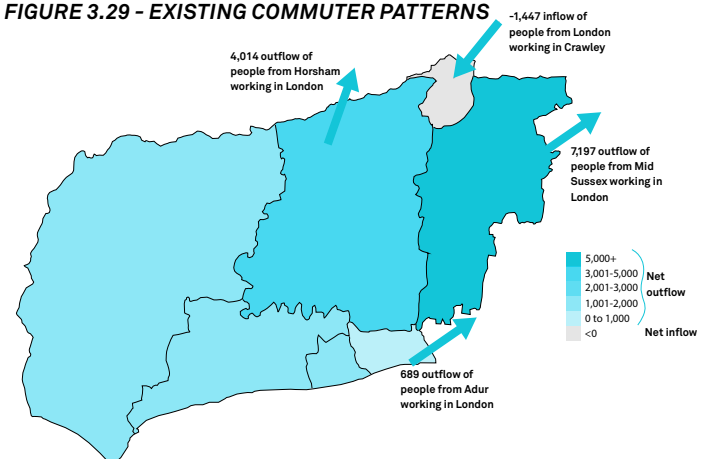


FIGURE 3.30 - NET COMMUTING IN 2011

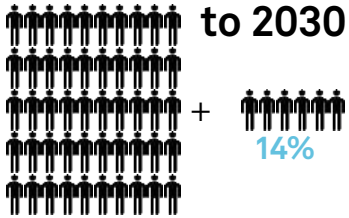
Source: ONS

What does this mean?

There is a massive net outflow of workers from West Sussex to London, in which future investments should look to encourage expanding the employment base in West Sussex

Above average

Workforce job growth forecast to 2030



Source: Experian ©, Feb 2015

FIGURE 3.31 - JOB GROWTH FORECAST TO 2030

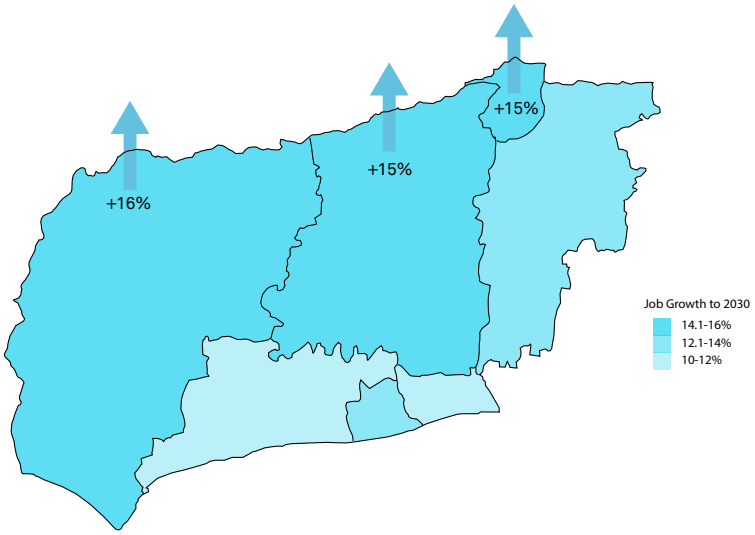
14%

job increase in West Sussex to 2030

Homebased Small-Medium Enterprises in West Sussex and UK as a whole play a very important role in driving growth

There are clear local disparities

in forecast workforce job growth - low growth forecast in more peripheral areas



Source: Experian ©, Feb 2015

FIGURE 3.32 - TOTAL WORKFORCE JOBS GROWTH TO 2030

What does this mean?
While future job growth to 2030 is strong, there is a clear disparity where this is occuring, with the coastal areas struggling.

The largest concentration of jobs is in wholesale, retail & public services

in line with the rest of the country

Source: - BRES (2013)

Wholesale & retail

11%

(37,000 jobs)

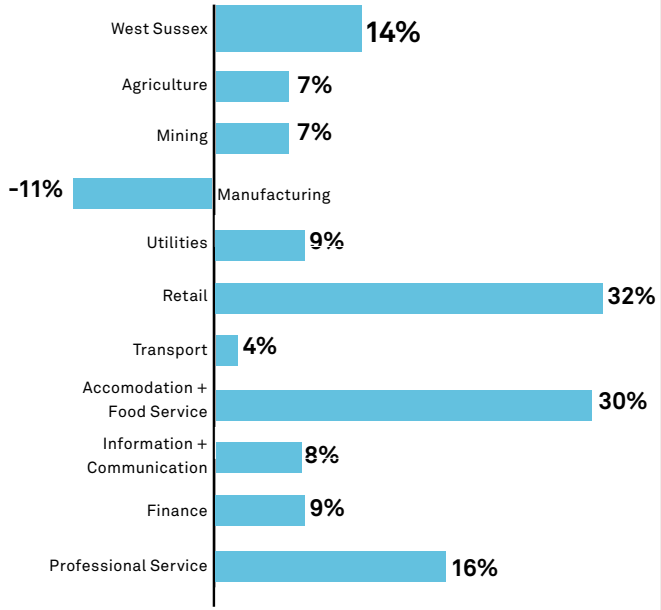
Public-related services

27%

(92,000 jobs)

FIGURE 3.33 - LARGEST EMPLOYMENT SECTORS IN WEST SUSSEX

Employment Growth in the following sub-sectors:



Source: Experian ©, Feb 2015

FIGURE 3.34 - SUB-SECTOR EMPLOYMENT GROWTH TO 2030

What does this mean?
Overall Job growth is West Sussex is at 14%, in which retail, accomodation and food services, and professional services are growing the quickest

West Sussex's knowledge economy is strong relative to England,

but lags behind neighbouring Counties in the South East

Source: Data on employees from the Business Register and Employment Survey (BRES) who are engaged in activities related to the Knowledge Economy 2009-2013. (Original Source: ONS)

This reflects low levels of GVA and past reliance on low-value activities.

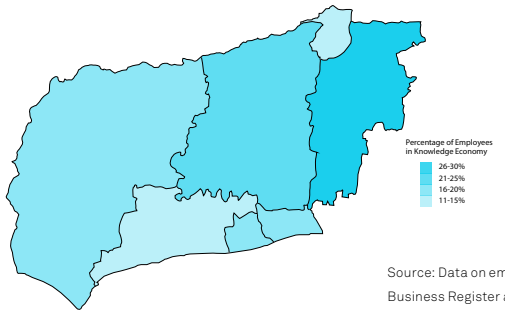
FIGURE 3.35 - % OF EMPLOYEES IN THE KNOWLEDGE ECONOMY

However, there is recent growth...

Source: Data on employees from the Business Register and Employment Survey (BRES) who are engaged in activities related to the Knowledge Economy 2009-2013. (Original Source: ONS)

FIGURE 3.36 - GROWTH IN KNOWLEDGE ECONOMIY EMPLOYEES (2009-12)

The knowledge economy is strongest in Mid Sussex and Horsham, where higher value jobs are located:



Source: Data on employees from the Business Register and Employment Survey (BRES) who are engaged in activities related to the Knowledge Economy. (Original Source: ONS)

FIGURE 3.37 - PERCENTAGE OF EMPLOYEES IN KNOWLEDGE ECONOMY

What does this mean?
West Sussex is falling behind the South East and England in those working in the knowledge economy, an increasingly important sector where future investments should be encouraged.

3.4 SITES TO SUPPORT ECONOMIC GROWTH

In order to ensure ongoing economic growth, a number of key employment sites exist across the Local Authorities of West Sussex.

Planning permissions, Local Plan employment allocations and existing employment sites with identified capacity have been recorded and those sites with over 500 sq.m of additional floorspace have been notes in Tables 3.1 and illustrated in Figure 3.38 and Figure 3.39.

The data presented here does not represent the net position on employment space (including the loss of employment space over the plan periods as well) but instead highlights significant new sites and capacity.

As illustrated, West Sussex will continue to provide a wide range and quantum of commercial accommodation over the coming years and these employment sites will create additional requirements on the local and strategic infrastructure network, in particular the transport network and utility services.

It should be noted that West Sussex accommodates a significant number of smaller businesses and employment sites below the 500 sq.m threshold included here. In fact an estimated 90% of existing businesses in West Sussex employ less than 10 persons.

It should also be noted that the information presented on these two pages includes sites within land safeguarded for a second runway at Gatwick Airport. If safeguarding remains, none of these sites can come forward for development.

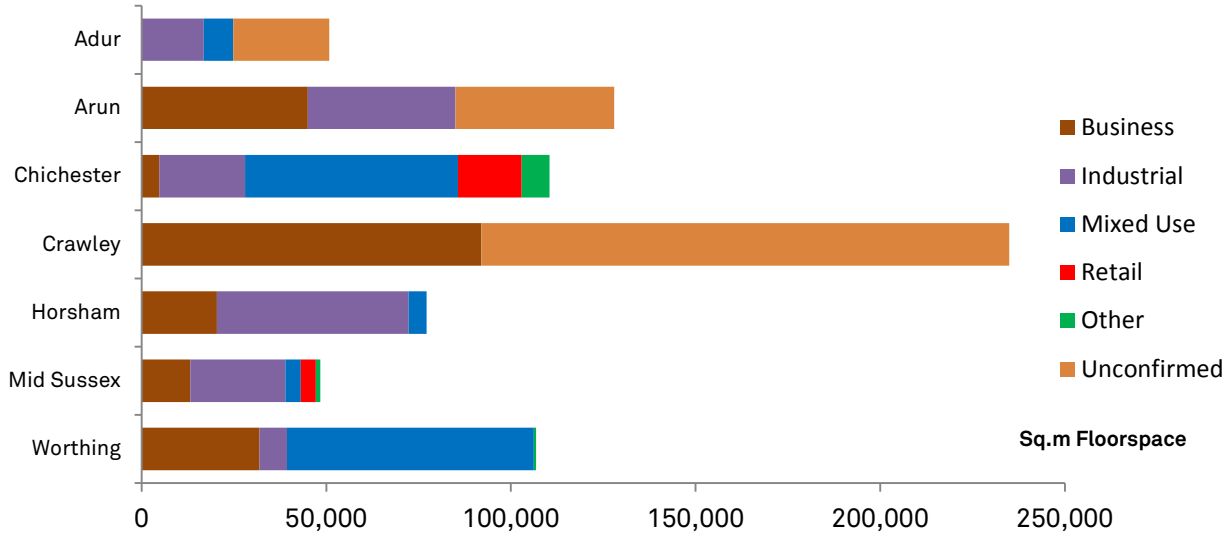


FIGURE 3.38 - QUANTUM OF FUTURE FLOORSPACE (SQ.M) IDENTIFIED FROM KEY SITES IN TABLE 3.37 & FIGURE 3.38

Source: Local Authority data provided to West Sussex County Council for Infrastructure Study

	BUSINESS	INDUSTRIAL	MIXED USE	RETAIL	OTHER	N.A	TOTAL
Adur	0	16,806	7,957	0	0	26,000	50,763
Arun	45,000	40,000	0	0	0	42,950	127,950
Chichester	4,737	23,282	57,634	17,277	7,550	0	110,480
Crawley	91,973	0	0	0	0	143,000	234,973
Horsham	20,381	51,881	4,868	0	0	0	77,130
Mid Sussex	13,183	25,719	4,199	4,095	1,140	0	48,336
Worthing	31,862	7,507	66,840	0	600	0	106,809
WEST SUSSEX	***207,136***	***165,195***	***141,497***	***21,372***	***9,290***	***211,950***	***756,440***

TABLE 3.1- KEY EMPLOYMENT SPACE IDENTIFIED FROM SITES OVER 500 SQ.M - PERMISSIONS, ALLOCATIONS AND EXISTING SITES WITH CAPACITY

(N.A = FUTURE USE UNCONFIRMED i.e. use has not been detailed in local plan)

Source: Local Authority data provided to West Sussex County Council for Infrastructure Study

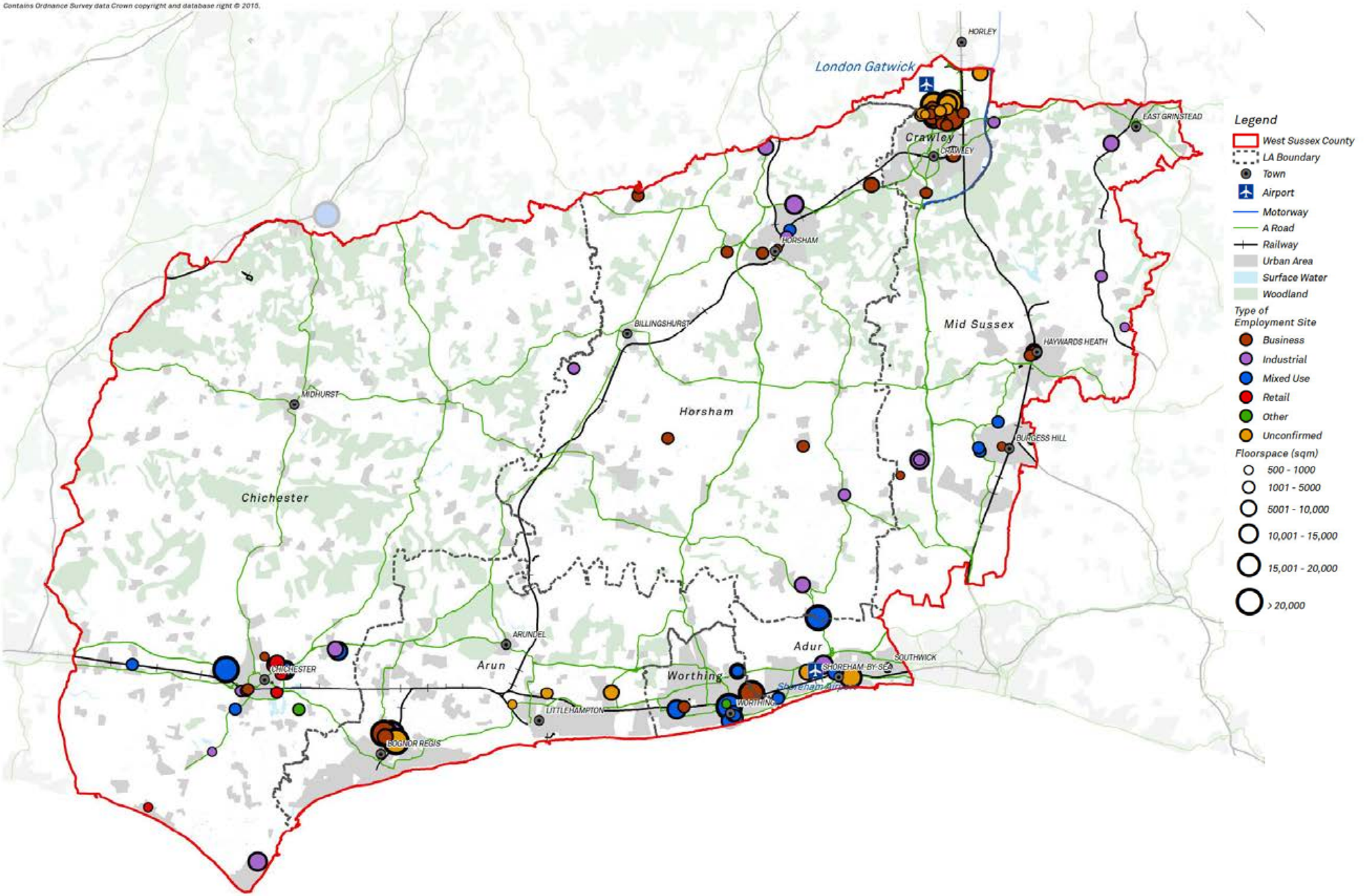


FIGURE 3.39 - EMPLOYMENT SITES BY TYPE IN WEST SUSSEX OVER 500 SQ.M

* This is based on the most up to date information at the time of publication and could be subject to change, subject to review of planning policy documents

04

INFRASTRUCTURE NEEDS AND REQUIREMENTS

THIS SECTION PRESENTS AN ASSESSMENT OF CURRENT INFRASTRUCTURE PROVISION AGAINST GROWTH FORECASTS TO 2030.

This covers the following infrastructure categories:

4.1 TRANSPORT

- Highways and roads
- Rail
- Public transport
- Airports
- Walking & Cycling

4.2 EDUCATION

- Early years and childcare
- Primary education
- Secondary and sixth form education
- HE, FE, Adult Learning

4.3 HEALTH + SOCIAL CARE

- Primary Care Services
- Hospitals and Mental Health
- Adult Social Care

4.4 COMMUNITY

- Library Services
- Youth services
- Community and Leisure
- Outdoor sports and recreation

4.5 GREEN INFRASTRUCTURE

4.6 UTILITIES

- Energy
- Broadband
- Water + Waste Water
- Waste

4.7 FLOOD PROTECTION

4.8 EMERGENCY SERVICES

The following is considered for each type of infrastructure:

- Existing capacity across the County
- An understanding of infrastructure requirements to support forecast growth
- An analysis of current proposed projects and costs
- An understanding of additional projects and funding gaps required to support forecast growth.

Technical Note on Modelling Assumptions:

As stated in Section 3 of the report all infrastructure assessments and associated costs are driven from the Chelmer Model Population Forecasts, based upon housing trajectories presented within this report, which have been produced as a bespoke forecast to inform this study. This forecast is considered likely to be a minimum increase and therefore the infrastructure requirements and costs presented here are also considered to be minimum estimates.

4.1 TRANSPORT

EXISTING CAPACITY

West Sussex	West Sussex	West Sussex
23	**2,800**	**38**
Miles of Motorways	Miles of Highways	Rail Stations

CURRENT SITUATION

West Sussex is a largely rural county with high car mode share. The county's main transport connections comprise north-south connections between London and the coast, east-west connections both along the coast and across the south of the county more generally, and connections to Gatwick Airport. The transport network also provides local connections linking urban centres to each other and the county's rural areas. The existing West Sussex network has capacity, accessibility and connectivity issues.

The county's rail network provides connections east towards Kent, west towards Bournemouth and north towards Gatwick Airport, London and beyond. It also connects the county's major towns, although not all connections are direct. Rail capacity is a major issue, particularly on peak services to or from London. Rail connectivity is poor in some locations (e.g. between Gatwick and the Thames Valley and areas north of London). For public transport more broadly, the accessibility and availability of services is a key issue.

The county has an extensive network of public rights of way which provide pedestrian and cycle connections in rural areas. However, a lack of safe routes for walking and cycling was identified as a key issue by residents and the county is addressing this through infrastructure construction and maintenance.

Gatwick Airport is located in West Sussex. It is a key economic driver in the area and makes a substantial contribution to the economic performance of the wider South East and London.

Addressing congestion issues along the A27 coastal route particularly around Chichester, Arundel and Worthing and safety issues on the A24 between Ashington to Southwater are seen as key priorities for the county to help facilitate sustainable economic growth

HIGHWAYS AND MOTORWAYS

The road network in West Sussex is made up of local roads and the County Strategic Road Network (SRN), which includes all the roads classified as Primary Route Network Roads (PRN) by the government and the most important of the other 'A' roads.

The county SRN links the ten major towns of West Sussex (Bognor Regis, Burgess Hill, Chichester, Crawley, East Grinstead, Haywards Heath, Horsham, Littlehampton, Shoreham and Worthing). The core network comprises the:

- M23 linking the county with the M25 London Orbital;
- A23 (Trunk Road and A road) linking the coastal towns with the M23;
- A27 (Trunk Road) linking the coastal towns between Brighton and Havant;
- A24 (from A27 northwards to the Surrey County boundary);
- A259 (from A27 Chichester to Brighton);
- A264 (from A24 to M23 and to A22 at East Grinstead);
- A272 (From A3 Petersfield to Hayward's Heath)

Between 2001 and 2011, the number of people killed or seriously injured in West Sussex fell by 24%, although there was an increase between 2011 and 2014 of 6%. However, road safety is still perceived as a key issue by people in West Sussex. Air Quality Management Areas (AQMAs) have been declared in Chichester, Hassocks, Shoreham, Cowfold, Worthing and Storrington due to emissions levels which exceed emission standards for Nitrogen Dioxide (NO2). An AQMA is also under consideration by DEFRA within Crawley.

The capacity of the core of the SRN (which comprises the A27, A23, A264, A24 and A259) is under pressure, which reduces the level of service provided to road users along these routes, particularly at peak times. Bottlenecks cause delays and make journey times unreliable. Specific issues on the SRN include:

M23:

- Junctions under pressure (especially junction 10);
- Traffic flow exceeds design capacity along many sections.

A23:

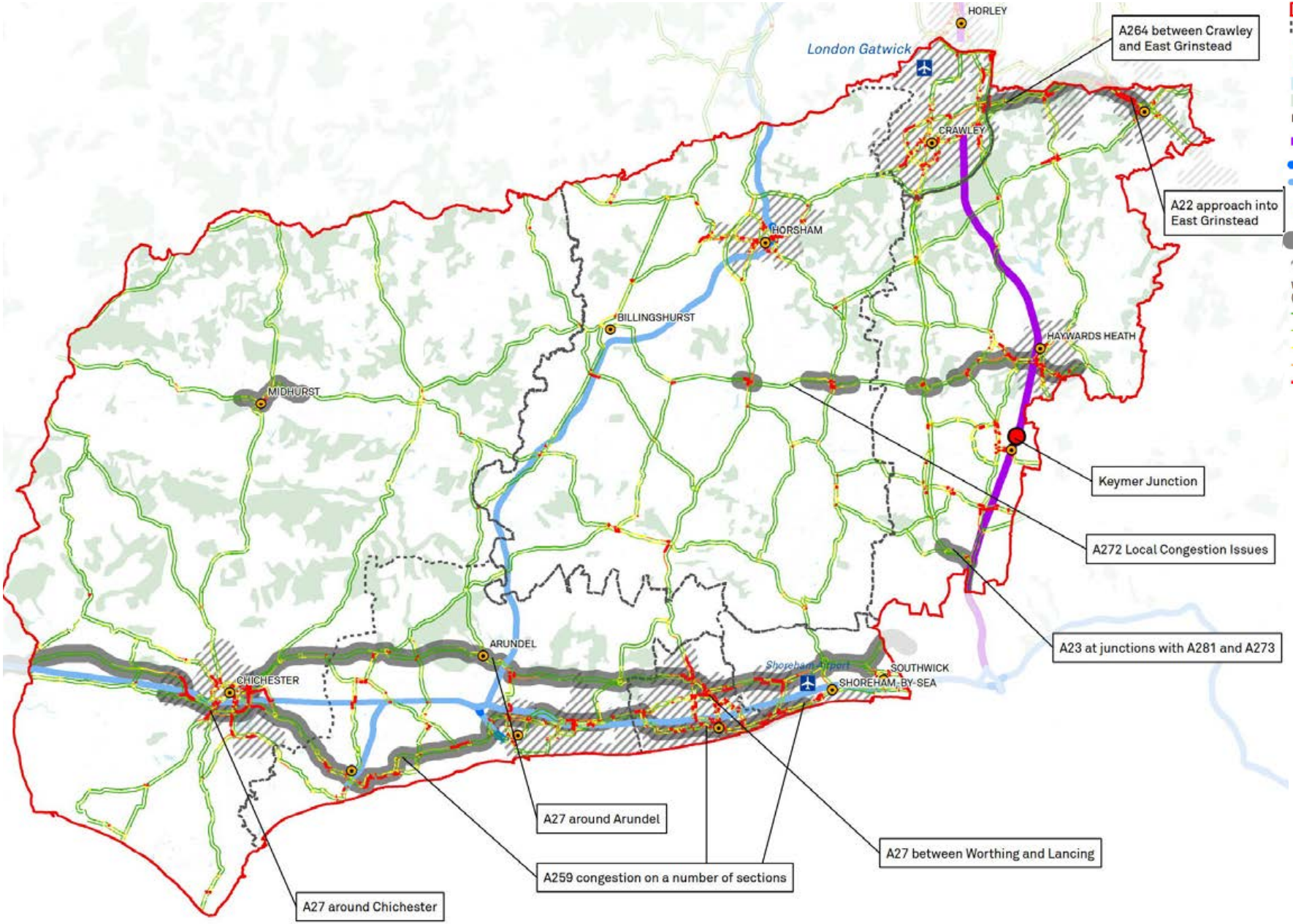
- Traffic flow on the section at Pyecombe (A23/A281/A273 junction) exceeds the capacity in both directions;

A27:

- The most unreliable all-purpose trunk road in England; experiences significant amounts of delay along the length of the route;
- Significant problems at Chichester, Arundel, Worthing and Lancing where bottlenecks cause congestion, high accident rates, severance and diversion onto unsuitable routes;
- AQMA at Chichester due to high traffic levels;

Figure 4.1

Existing major road network and congestion



ARUP

Note:
Calculated using August 2014 to June 2015 Traffic Master data. Delay calculated comparing average weekday 8:00-9:00 journey times with 85th percentile.

Source: West Sussex and Surrey Infrastructure Study – Transport Technical Report. (ARUP 2015)

- Conflict between high levels of A27 traffic and high levels of north-south traffic wishing to cross or join the A27 at Chichester; extensive peak period congestion which in summer is exacerbated by tourist traffic;
- Daily local travel by private and public transport seriously impeded by this congestion;
- Heavy congestion at Arundel which also causes vehicles to divert through local villages to avoid it;
- Creates severance in Arundel which has led to it having a poor safety record due to accidents related to crossing movements;
- Significant peak time congestion at Worthing and Lancing;
- AQMA, noise problems and above average incident rates where it passes through a residential area in Worthing.

A22:

- Rat running on unsuitable rural roads in the East Grinstead area due to delays at junctions with the M23 and problems in parts of Crawley;

A264:

- Traffic flows significantly exceeds capacity for long periods of the day on the A264 from Crawley to East Grinstead.

A24:

- Lack of safe crossing points across A24 limits accessibility for local communities.
- High casualty rates between Ashington and Southwater.

A259:

- Heavy congestion and high casualty rates at some locations.

RAIL

West Sussex is well served by rail connections, with rail forming the backbone of the public transport network. The connections provided to London, the Gatwick Diamond, West Sussex coast, and across rural West Sussex play a key role in economic development and promoting accessibility.

Capacity constraints are a major issue facing the railway, particularly on peak time services to and from London. The Thameslink programme (expected to be completed by 2018) will increase capacity into and across central London between destinations north and south of the capital, including to and from West Sussex. Despite these proposed measures, the need for additional capacity is likely to remain an issue, and major interventions and Government investment are likely to be required to resolve this issue. In addition, there is poor rail connectivity between Gatwick and the Thames Valley and areas north of London, and to the east and west.

PUBLIC TRANSPORT

Due to the county's predominantly rural nature, public transport services are dispersed and can be infrequent or inconvenient. This has an impact on access to key services, especially for people living in rural areas. The majority of public transport services are operated on a commercial basis with little or no public subsidy. The 2014 National Household Travel Survey suggested that there was a generally a good perception of local bus services with 68% of respondents indicating they were satisfied although 36% indicated they were dissatisfied with the fare level.

AIRPORTS

Gatwick Airport is located in the county. It is a key economic driver in the area and makes a substantial contribution to the economic performance of the wider South East and London. It is currently easiest to travel to by car from most parts of West Sussex although access is available via rail from the south coast via the Brighton Main Line, Arun Valley Line and West Coastway. A number of routes into Gatwick experience congestion including the Brighton Main Line and the M25 / M23 and affect the resiliance of the network.

Around 44% of trips to Gatwick in 2012 were by public transport (CAA). A number of measures are under development to improve the accessibility of Gatwick including widening of the M23 and rail improvements along the North Downs Line. In addition, capacity enhancements to the north of Gatwick are enabling additional services to be provided along the Brighton Main Line south of Three Bridges.

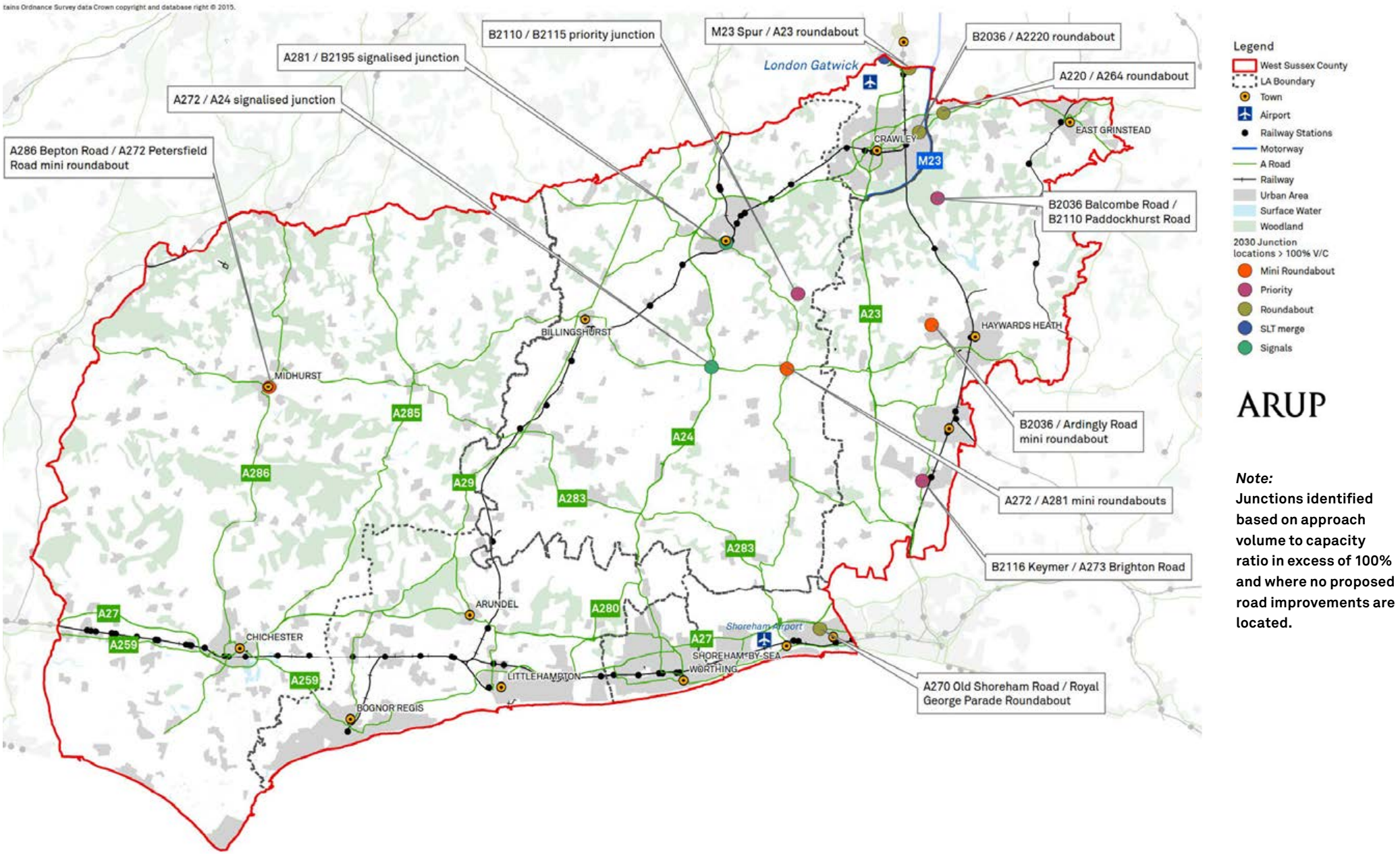
Shoreham Airport is adjacent to the A27 in Adur. The airport is currently used by private owned and light aircrafts.

WALKING, CYCLING AND EQUESTRIANISM

The county has a network of 4,071km of public rights of way, which provides an extensive facility for cyclists to use and makes up a substantial proportion of overall pedestrian infrastructure in rural areas. Horse riding (and to a lesser extent horse carriage driving) is a popular and growing leisure pursuit. As a result, equestrians form a significant but vulnerable road user group. In the 2014 National Household Travel Survey, 43% of respondents reported being fairly of very dissatisfied with cycling safety in the county.

Figure 4.2

Potential capacity improvements required by 2030



Note:
Junctions identified based on approach volume to capacity ratio in excess of 100% and where no proposed road improvements are located.

Source: West Sussex and Surrey Infrastructure Study – Transport Technical Report. (ARUP 2015)

PROJECTS TO SUPPORT GROWTH

MOTORWAYS AND TRUNK ROADS

The main strategic corridors experience congestion in a number of locations and with future development growth this pattern is expected to continue. There are a number of schemes to alleviate current & future conditions including:

- M23 Junctions 8 – 10 - upgrading to Smart Motorway (using the hard shoulder as an additional running lane) helping to improve connections to Gatwick Airport with the M25 expected to be open to traffic by 2018.
- A27 Chichester Bypass - upgrading the six junctions on the Chichester bypass to alleviate congestion around the city and expected to be open by 2020.
- A27 Arundel Bypass – feasibility study has been completed and work is currently underway to review the options identified to ease congestion. A new dual carriageway bypass is under consideration, subject to consultation with the National Parks Authority, local authorities and the publication of this and alternative options.
- A27 Worthing and Lancing Improvements – a feasibility study has been completed and work is currently underway to review the options identified for providing more capacity on the road and for junctions along the A27, this is subject to consultation with West Sussex County Council and the public.

Cost = £585,050,000
Funding Gap = £9,550,000*

HIGHWAYS

A number of WSCC controlled roads are identified for improvements. Much these are to support additional traffic from committed development as well as helping to alleviate existing congestion conditions. Projects include:

- A284 Lyminster Bypass to provide better connections between Arundel and Littlehampton.
- Realignment of the A29 bypassing local villages giving better access between the A27 and Bognor Regis.
- Bognor Regis Relief Road (BRRR) and the Felpham link road.
- Road network improvements within Crawley Town centre.
- A24 Junctions improvements around Horsham.
- Northern Arc Link Road and A2300 dualling at Burgess Hill

Cost = £186,610,000
Funding Gap = £110,720,000*

RAIL

Overcrowding and reliability are key issues for the Brighton Main Line and North Downs Line. Capacity improvements are required to support growth and sustainable travel. A number of upgrades are planned and funded including:

- reductions in Southern high peak operation into London Bridge;
- Thameslink timetable upgrades to include 4 trains per hour between Brighton to Bedford throughout the peak at 12 car service; and Horsham/East Grinstead/ Three Bridges/Caterham/Tattenham to London Bridge services extended.
- various train lengthening proposals including Redhill – London Victoria high-peak services lengthening to 12 car operation;
- new platforms and track at Redhill to enhance capacity;
- a second train per hour Reading to Gatwick Airport on North Downs Line using additional capacity at Redhill.

In addition, a new railway station is proposed on the Arun Valley line between Littlehaven and Ilfield to support future development in the area.

Cost = £155,000,000
Funding Gap = £29,590,000*

** (considering both secured and expected funding)*

PUBLIC TRANSPORT

Improvements to local bus network are needed across the County to improve frequency, journey time, passenger experience and increase accessibility to employment and new development areas. Projects identified to support this include:

- Construction of a road link for buses in Burgess Hill.
- New bus lanes on the A259 at Shoreham Harbour and in Chichester.
- Bus priority measures (Shoreham Harbour, East Grinstead, Burgess Hill, Crawley)
- Real Time Passenger Information (at a number of locations across the county including Crawley, Burgess Hill, Horsham, Haywards Heath).
- Upgrades to bus stations (Horsham and Haywards Heath)

Cost = £17,130,000
Funding Gap = £16,490,000*

WALKING & CYCLING AND OTHER MODES

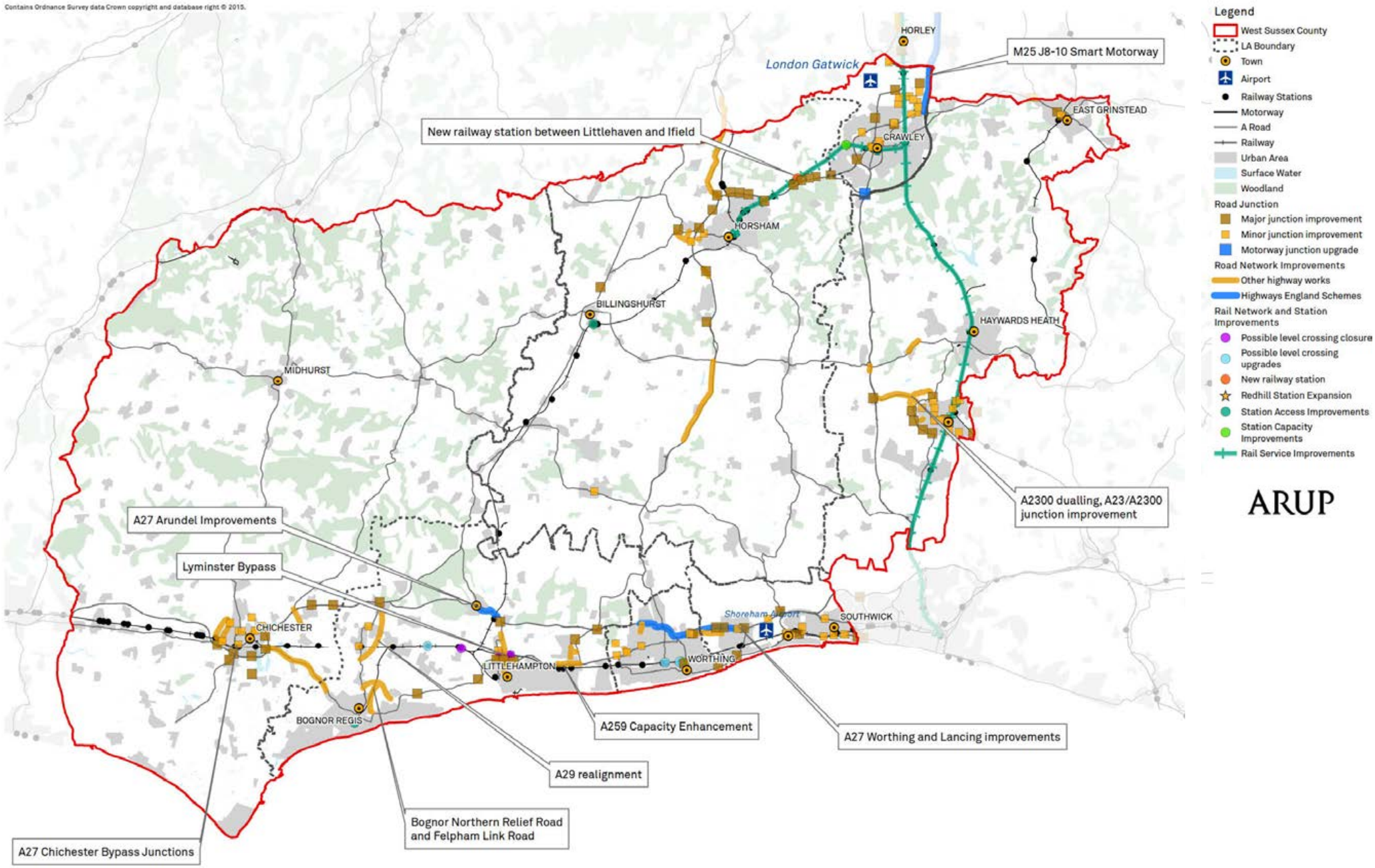
Improving and expanding the walking and cycling network is a key priority across the county ensuring accessible town centres and providing alternatives to car usage where appropriate. A number of enhancements are planned including:

- Wayfinding and information improvements around Crawley as part of the Area Transport Package.
- Cycling / pedestrian bridge across the A24 linking Southwater to Horsham.
- National cycle network Route 2 improvements.

Cost = £37,970,000
Funding Gap = £37,230,000*

Figure 4.3

Current proposed transport projects



Source: West Sussex and Surrey Infrastructure Study – Transport Technical Report. (ARUP 2015)

4.2 EDUCATION

EARLY YEARS & CHILDCARE

West Sussex
1,245
Early Year providers

West Sussex
66%
of providers are Childminders

West Sussex
27%
of providers are Day Nurseries

CURRENT SITUATION

Early Years in West Sussex comprise Childminders, Day Nurseries, and Pre-School Playgroups. Distribution / capacity is shown in Figure 4.4.

HEADLINES

Early Year provision is subject to constant fluctuations, therefore any week the total usage of the service can alter. In June 2015 there was a total capacity of 21,403 Early Year spaces, with a total net surplus of places of 5,377 across West Sussex. All local authorities have a surplus capacity, however there is significant variation in capacity across local authorities. This varies considerably within local authority areas:

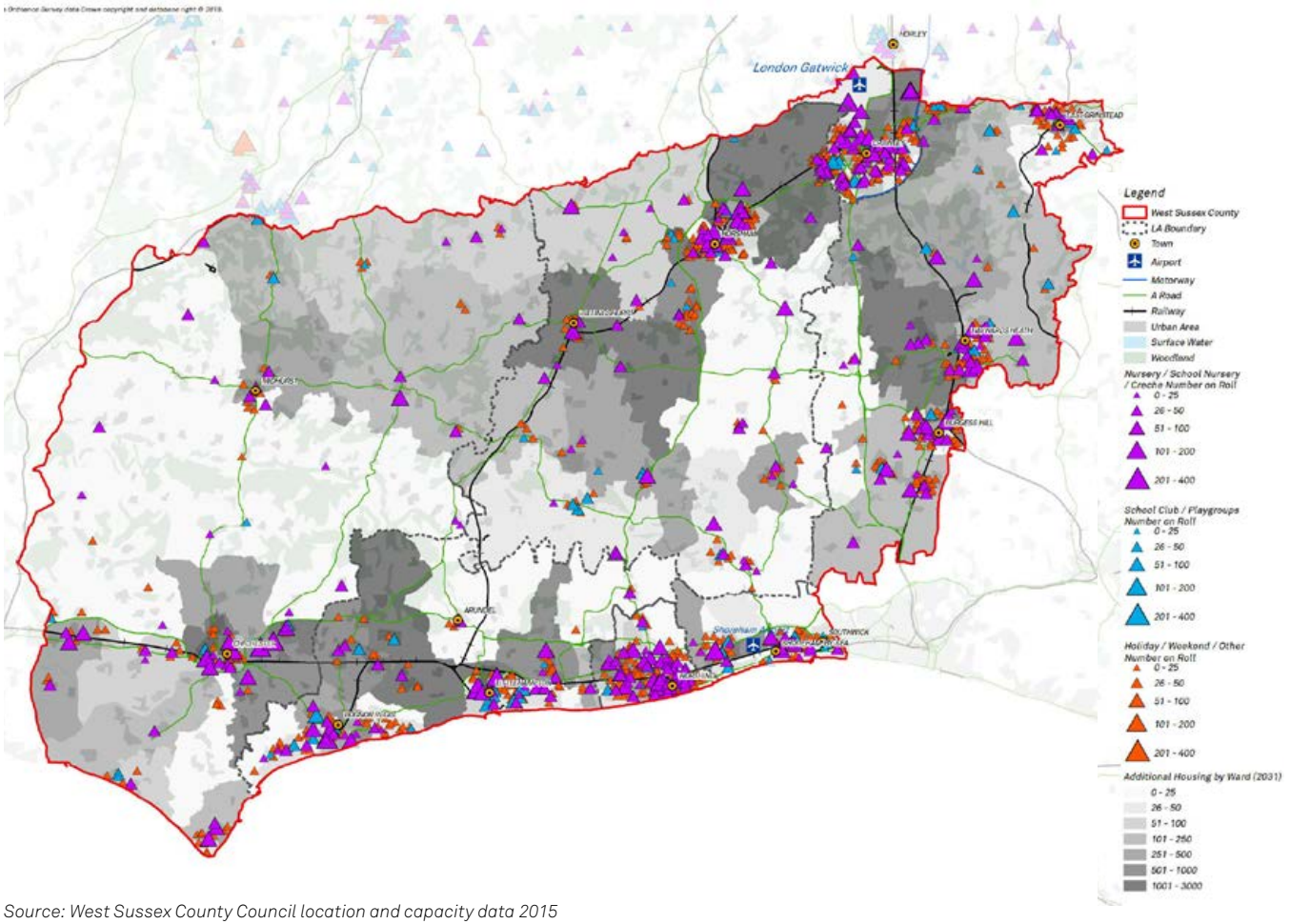
Horsham
1,084
surplus places

Adur
282
surplus places

A shortage in provision is worst in the rural areas, where providing the proper facilities is most difficult, due to smaller demand. This is made more difficult as the majority of planned growth will focus on urban areas where there is greater diversity of facilities across the county.

It should be noted that recent legislation has altered Free Childcare places from 15 hours a week to 30 hours beginning in September 2017. This could have a significant impact on the future provision requirements as potentially more people re-enter the workforce. However, it is too early to fully understand these impacts.

Figure 4.4
Early years capacity against housing growth



Source: West Sussex County Council location and capacity data 2015

Table 4.1

Early years and childcare capacity

	FACILITIES 2015	TOTAL CAPACITY 2015	NUMBER ON ROLL 2015	BALANCE OF PLACES
Adur	82	1,355	1,073	282
Arun	178	3,191	2,480	711
Chichester	142	2,773	2,090	683
Crawley	183	3,369	2,608	761
Horsham	242	3,697	2,613	1,084
Mid Sussex	260	4,158	3,158	1,000
Worthing	158	2,860	2,004	856
WEST SUSSEX	***1,245***	***21,403***	***16,026***	***5,377***

Source: West Sussex County Council

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

Table 4.1 sets out the current capacity in terms of Early Years provision. The projected age specific population forecasts show at the authority level a decline in early year age children to 2030. We cannot therefore show future requirements for facilities. It is acknowledged however that major developments will produce increased demand locally which will need to be catered for and the challenge for adequate cover is greater in the rural parts of the county.

EXAMPLE INFRASTRUCTURE PROJECTS PROPOSED

The local authorities have all prepared IDPs, West Sussex has prepared a Childcare Sufficiency Assessment 2014 and recent discussions with experts at the county has established a list of projects to meet growth projections. These documents highlight the following key points:

- Burgess Hill - Northern Arch development (4,000 proposed homes) - Approximately 200 Early Year places;
- Wickhurst Green - 98 Early Year places;
- Kilnwood Vale (2,500 homes) - Nursery provision
- West of Chichester - Development of 1,600 homes in which1,250 will be delivered in the plan period - 66 Early Year places based on 15hour policy or 125 places based on 30 hour policy.
- Tangmere (1,000 homes) - 26 Early Year places based on 15hour policy or 50 places based on 30hour policy.

COSTS AND FUNDING

The following costs and funding have been identified for West Sussex:

Cost = £17,670,000
Funding Gap = £1,100,000*

Costs are set out for each local authority in Section 5. Funding assumptions are set out in section 6. The majority of early year costs are assumed to be covered by developers and the private sector.

** (considering both secured and expected funding)*

PRIMARY EDUCATION

West Sussex
230
Total Primary Schools

West Sussex
198
are Maintained Schools

West Sussex
32
are Academy/ Free Schools

CURRENT SITUATION

Primary schools in West Sussex comprise state funded/ controlled schools (46%), voluntary schools (39%) and academies (13%). There are two free schools. Distribution / capacity is shown in Figure 4.5.

HEADLINES

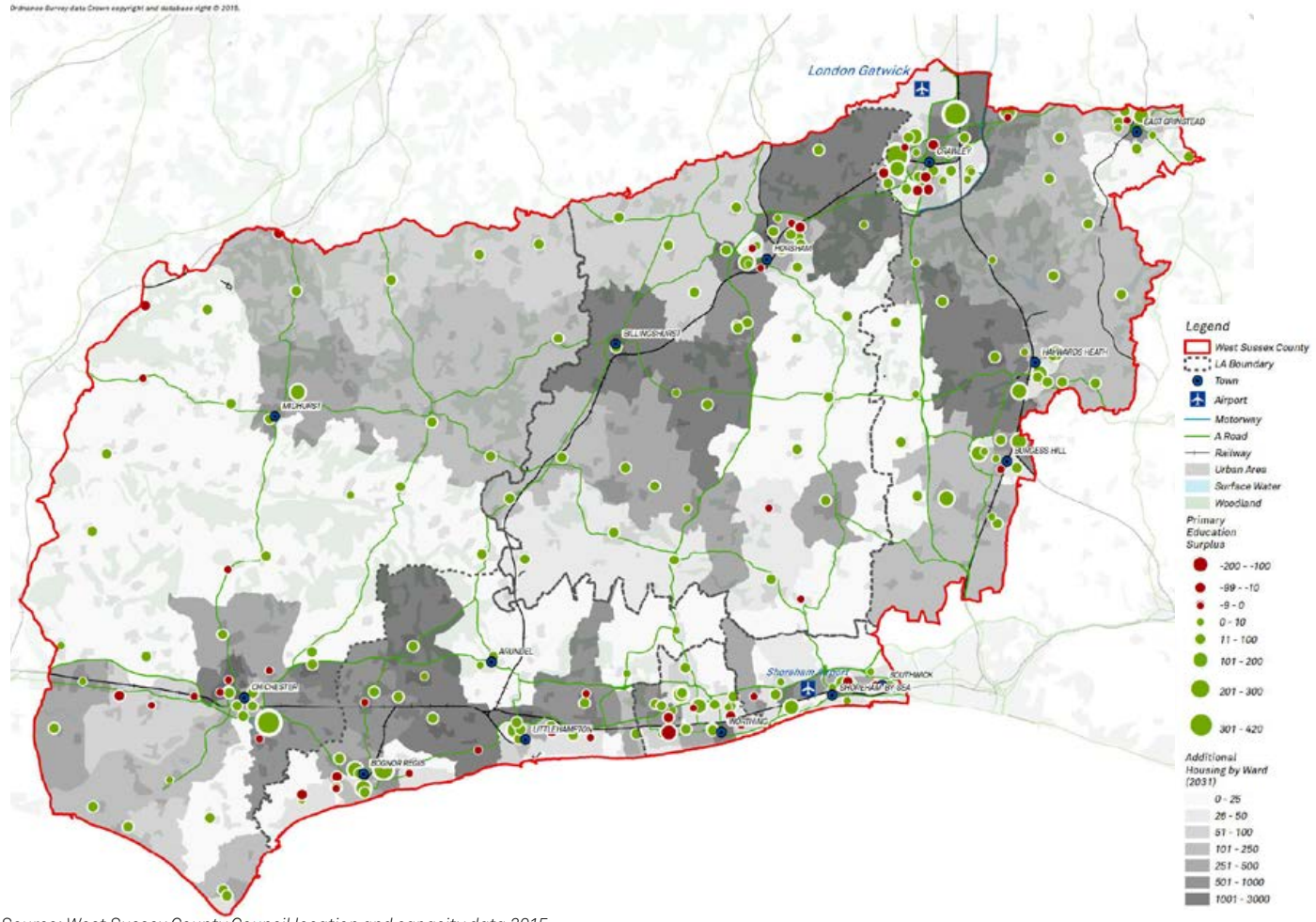
In May 2015 there was a net 6,327 surplus of places (+9.2% of capacity) across West Sussex. All local authorities have a surplus capacity, however there is significant variation in capacity across local authorities. This varies considerably within local authority areas:

Adur
261
surplus places

Mid Sussex
1,383
surplus places

Overall there is a surplus capacity of primary school places across the county. However, spatially there are differences across the local authority. According to Figure 4.5, there is mostly a positive balance of provision in the rural areas, whereas in urban areas such as Crawley, Horsham, Chichester and Worthing have deficit in places. These deficits are hidden within the overall surplus of each local authority. Of note, recent expansion of many schools across the county have resulted in over exaggerating the capacity as the schools grow from the "bottom-up". This is particularly common in Crawley. West Sussex County Council also operates a target of 5% surplus to cater for in-year applications or movers-in.

Figure 4.5
Primary school capacity against housing growth



Source: West Sussex County Council location and capacity data 2015

Table 4.2

Primary school capacity and forecast pupil change

	AUTHORITY WIDE BALANCE OF PUPILS (MAY 2015 DATA)			IDENTIFIED PUPIL GROWTH TO 2030	
	TOTAL PLACES	TOTAL NOR	SURPLUS/DEFICIT	ADDITIONAL PRIMARY PUPILS BY 2030	% CHANGE IN PRIMARY PUPILS BY 2030
Adur	4,755	4,494	261	305	6.8%
Arun	11,282	10,411	871	1,034	9.9%
Chichester	8,486	7,442	1,044	936	12.6%
Crawley	11,207	9,957	1,250	889	8.9%
Horsham	11,420	10,219	1,201	1,894	18.5%
Mid Sussex	12,369	10,986	1,383	1,098	10.0%
Worthing	9,256	8,939	317	-48	-0.5%
WEST SUSSEX	***68,775***	***62,448***	***6,327***	***8,137***	***13.0%***

Source: Capacity & Pupil Roll: WSCC May 2015, Pupil forecasts: WSCC May 2015

**Surplus depicted in green , Deficit depicted in red*

Education Analysis Notes:

- WSCC pupil forecasts beyond 2020 should be treated with caution and the longer term forecasts to 2030 have been included in this study only because of the scope of the study to 2030.
- Table of district level capacity and pupil numbers masks local areas of pressure shown in figures 4.5 and 4.6.
- Analysis represents a snapshot in time. Detailed WSCC education planning underway to address pupil capacity.
- Analysis excludes impacts from bordering counties which will have an impact of service demands within West Sussex particularly along border areas.

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

Table 4.2 sets out forecast growth in terms of primary school places to 2030. This highlights the following key points:

- There are a large number of proposed new build and expansion projects by 2020 for West Sussex;
- Overall the county will experience a increase in pupil places to 2030, in which primary aged pupils will increase by 13%;
- Pupil forecasts in Adur and Worthing have been forecast to peak around 2020;
- Horsham will have the largest pupil increases to 2030;
- Overall pupil numbers are expected to peak around 2030 as demonstrated earlier through the population forecasts but WSCC pupil projections do not extend beyond 2030.

EXAMPLE INFRASTRUCTURE PROJECTS PROPOSED

The local authorities have all prepared IDPs, West Sussex has prepared a Planning School Places 2015 document and recent discussions with experts at the county has established a list of projects to meet growth projections. These documents highlight the following key points:

- Primary school provision at North Horsham development - £18,000,000
- Expansion of primary schools at Crawley - £4,600,000

COSTS AND FUNDING

Based upon information provided by West Sussex County Council the following costs and funding have been recorded:

Cost = £223,750,000
Funding Gap = £153,070,000*

Costs are set out for each local authority in Section 5. Whilst developer funding has been estimated in the funding gap above we have not included Basic Needs funding which requires clarification from WSCC.

** (considering both secured and expected funding)*

SECONDARY, SIXTH FORM & SEN

West Sussex
41
Total Secondary Schools

West Sussex
23
are Maintained Schools

West Sussex
18
are Academy/ Free Schools

CURRENT SITUATION

Secondary schools in West Sussex comprise independently run academies (39%), state schools (56%) and free schools (5%). Distribution/capacity is shown in Figure 4.6.

HEADLINES

In May 2015 there were 8,625 surplus places (16% of capacity) across all secondary school years.

There is significant variation between local authorities:

Chichester
2,724
surplus places

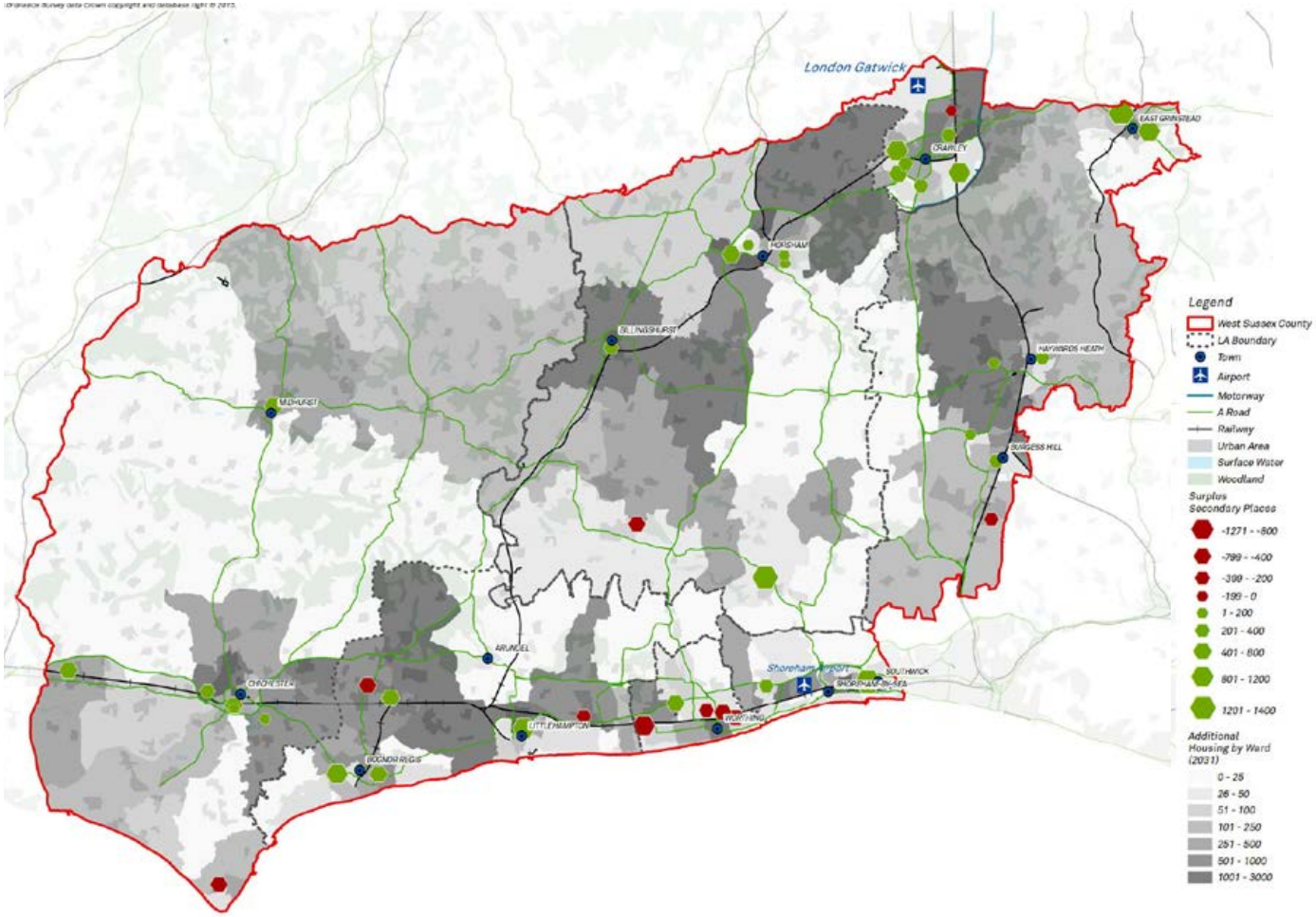
Horsham
496
surplus places

Overall, there is a surplus of capacity within West Sussex, however this ignores several significant disparities. Worthing is currently running at a deficit in places, in which four of the secondary schools are running at a deficit.

Deficits and small surpluses in school places is also noticeable in the rural and small town areas of West Sussex. There is however a strong surplus capacity within Crawley, with just one school showing a deficit in places.

It should also be noted that the county council is currently undertaking a second stage of consultation on the future organisation of schools in the STARS area (Storrington and related areas), the last remaining locality in West Sussex that still has an educational system where the age of transfer does not match the Key Stages within the National Curriculum.

Figure 4.6
Secondary school capacity against housing growth



Source: West Sussex County Council location and capacity data 2015

Table 4.3

Secondary school capacity and forecast pupil change

	AUTHORITY WIDE BALANCE OF PUPILS (MAY 2015 DATA)			IDENTIFIED PUPIL GROWTH TO 2030	
	TOTAL PLACES	TOTAL NOR	SURPLUS/DEFICIT	ADDITIONAL SECONDARY PUPILS BY 2030	% CHANGE IN SECONDARY PUPILS BY 2030
Adur	3,028	2,532	496	186	7.4%
Arun	8,635	7,300	1,335	991	13.6%
Chichester	8,078	5,354	2,724	653	12.2%
Crawley	9,119	7,560	1,559	1,194	15.8%
Horsham	8,398	7,902	496	1,890	23.9%
Mid Sussex	9,885	8,556	1,329	956	11.2%
Worthing	5,256	4,570	686	1,486	32.5%
WEST SUSSEX	***52,399***	***43,774***	***8,625***	***7,356***	***16.8%***

Source: Capacity & Pupil Roll: WSCC May 2015, Pupil forecasts: WSCC May 2015

**Surplus depicted in green , Deficit depicted in red*

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

Table 4.3 sets out forecast growth in terms of secondary school places to 2030 as set out in the Planning School Place 2015 document. This highlights the following key issues:

- The County as a whole will accomodate an increase of 16.8% in pupil numbers between 2015 and 2030;
- Adur will see the smallest level of total pupil increases;
- Horsham and Worthing are forecast to experience high levels of total pupil increases from 2015 to 2030 and also currently have lower suplus places within existing schools.
- Pupil numbers are expected to peak around 2030 as demonstrated earlier through the population forecasts but WSCC pupil projections do not extend beyond 2030.

EXAMPLE INFRASTRUCTURE PROJECTS PROPOSED

The local authorities have all prepared IDPs, West Sussex has prepared a Planning School Places 2015 document and recent discussions with experts at the county has established a list of projects to meet growth projections, key issues:

- New Secondary School in South Chichester District - £30,000,000
- New Secondary School in Horsham District - £35,000,000
- New Secondary School in Burgess Hill, Mid Sussex - £35,000,000
- All Secondary Schools in Crawley to be expanded

COSTS AND FUNDING

Based upon information provided by West Sussex County Council the following costs and funding have been recorded:

Cost = £235,610,000
Funding Gap = £174,650,000*

Costs are set out for each local authority in Section 5. Whilst developer funding has been estimated in the funding gap above we have not included Basic Needs funding which requires further assessment from WSCC.

** (considering both secured and expected funding)*

POST 16 EDUCATION AND SKILLS (AE / COMMUNITY LEARNING / FE / HE)

West Sussex
6
FE Colleges

West Sussex
1
HE Institution

West Sussex
17
Adult Education Centres

CURRENT SITUATION

Post-16 education within West Sussex County Council can be divided into two sectors: 1) Further and Higher Education including vocational training; 2) Community Learning - this emphasises teaching and classes within the community rather than through formal institutions.

HEADLINES

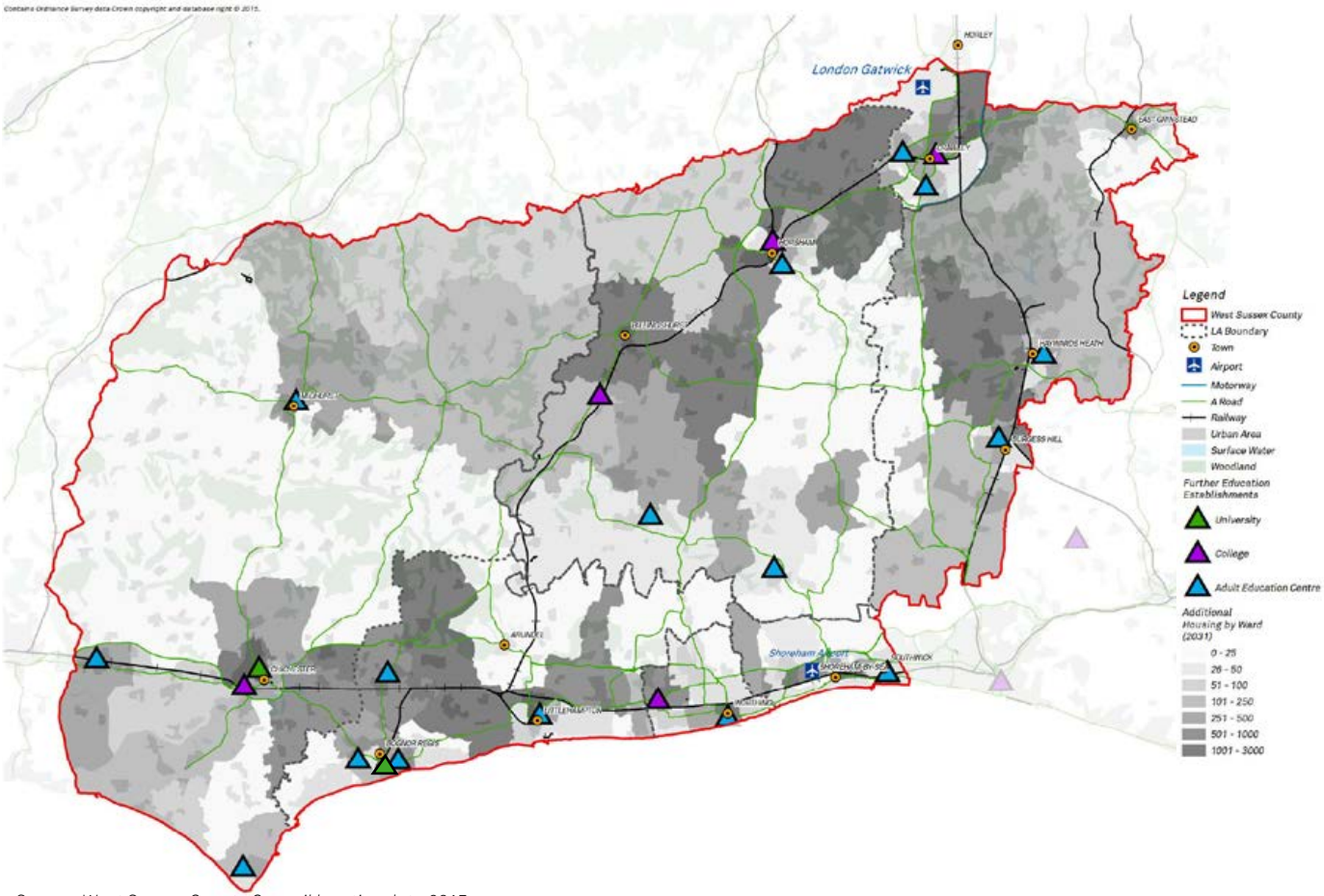
Chichester is home to the only university within West Sussex, while Worthing has the most college campuses.

In assessing Community Learning capacity, an assessment of the existing skills gap needs to be undertaken. The skills gap needs to be identified in conjunction with future housing developments that train the population and support growth. Moving forward a bespoke model needs to be developed to assess this, in which physical infrastructure to support community learning will become less important, while online training will play a larger role.

Community Learning in West Sussex is run through Aspire, a charity that plans, promotes and delivers Adult Education facilities. Facilities are dispersed throughout West Sussex, with significant concentrations in Arun, Crawley, Horsham and Chichester. All of which are significant growth areas in the future.

In terms of University provision, while people generally travel longer distances to attend a university, there is a lack of university offer in the Gatwick Diamond area. Considering the areas economical importance and future growth prospects, there appears to be a significant opportunity for the development of this type of Higher Education institution.

Figure 4.7
Post-16 education facilities against housing growth



Source: West Sussex County Council location data 2015

Table 4.4

Post 16 education facilities

	UNIVERSITY CAMPUS	COLLEGE CAMPUS	ADULT EDUCATION CENTRES
Adur	0	1	2
Arun	1	0	4
Chichester	1	1	3
Crawley	0	1	2
Horsham	0	2	3
Mid Sussex	0	1	2
Worthing	0	3	1
WEST SUSSEX	**1**	**7**	**17**

Source: West Sussex County Council and AECOM web-based research

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

West Sussex
320
Additional Adult Learning clients

West Sussex
747
Additional Adult Learning sqm of space

EXAMPLE INFRASTRUCTURE PROJECTS PROPOSED

The local authorities IDPs do not identify any significant Further Education projects moving forward, therefore a theoretical calculation of future requirements was conducted. This is done solely for Adult Education, as this is a County Council responsibility.

The investment requirements from the Higher Education organisations in West Sussex have not been established as part of this study.

COSTS AND FUNDING

Based upon information contained within the local authority IDPs and theoretical benchmark modelling where no IDP analysis was undertaken, the following costs and funding have been recorded for community learning:

Cost = £6,660,000
Funding Gap = £0*

Costs are set out for each local authority in Section 5. Funding assumptions are set out in section 6. The majority of community learning costs are assumed to be covered by developer contributions.

** (considering both secured and expected funding)*

4.3 HEALTH + SOCIAL CARE

PRIMARY CARE SERVICES

West Sussex
496
FTE GPs

West Sussex
165
dentists

West Sussex
181
pharmacies

CURRENT SITUATION

The Health and Social Care Act 2012 has radically changed the way that primary care services are planned and organised. This has facilitated a move to clinical commissioning, a renewed focus on public health and allowing healthcare market competition for patients.

HEADLINES - GPS

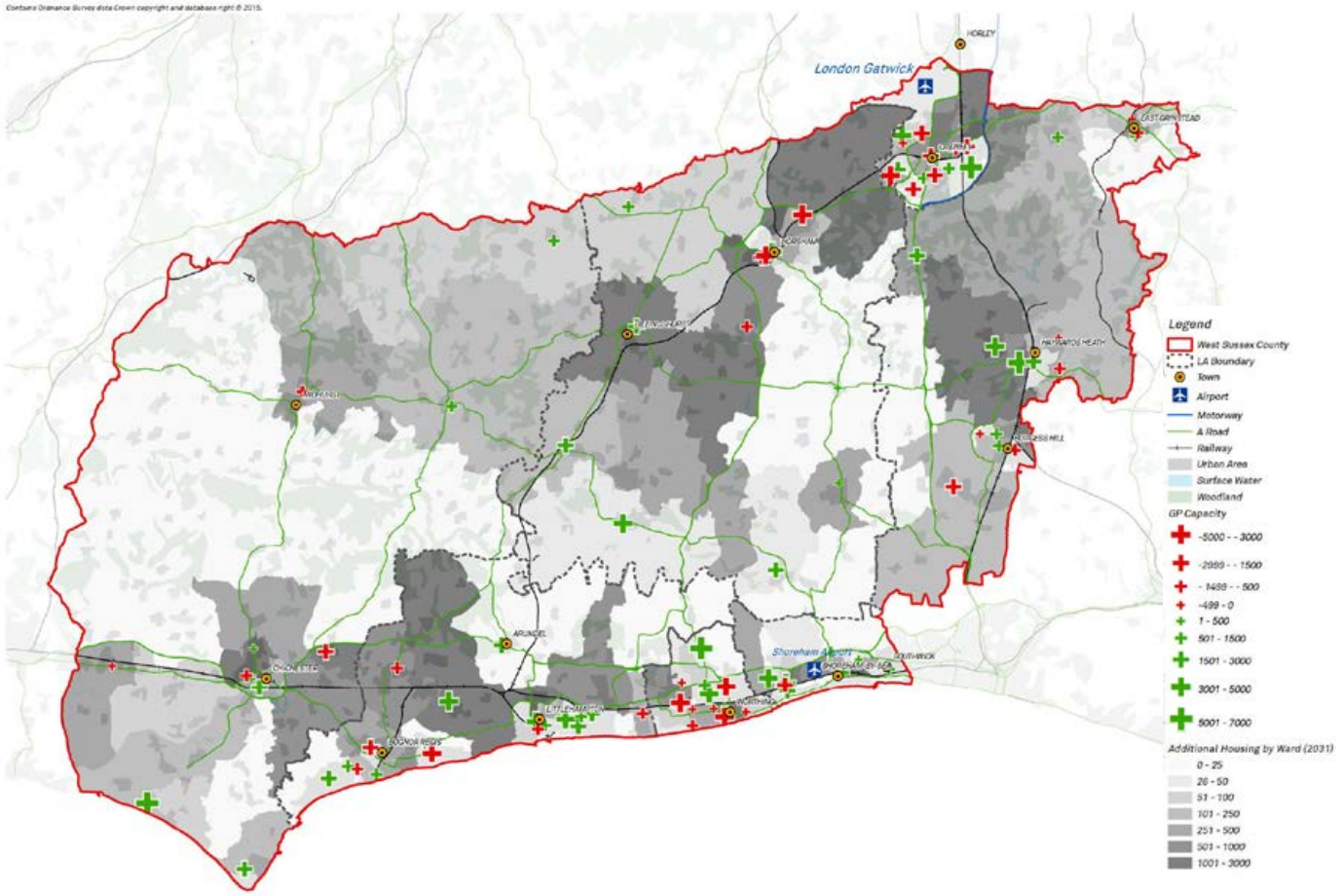
- Worthing and Crawley have the worst theoretical balance of patients to GPs, with both suffering from a deficit in GP capacity;
- According to the mapping of provision and GP numbers there is a lack of capacity in proposed growth areas - particularly between the Horsham and Crawley Corridor;
- There are significant deficits in GP capacity around Crawley and along the coast;
- Mid Sussex currently has a strong surplus capacity that should help accommodate future growth.

HEADLINES - DENTISTS

- The poorest provision in West Sussex is in Arun with 2,300 people per dentist. Adur, Chichester and Horsham also have a limited capacity.
- Mid Sussex has the most capacity at present with 1,830 people per dentist. Worthing and Crawley also have good provision.

Figure 4.8

Primary healthcare capacity against housing growth



Source: MY NHS Website for location, workforce and patient list data 2015

Table 4.5

Primary healthcare capacity & theoretical future needs

	EXISTING PRIMARY CARE PROVISON 2015					2015-2030 ADDITIONAL REQUIREMENTS	
	NUMBER OF FTE GP	PATIENT LIST SIZE	THEORETICAL BALANCE PATIENTS*	POPULATION PER DENTIST	POPULATION PER PHARMACY	GPS	DENTISTS
Adur	41	63,175	11,111	2,198	1,786	1	1
Arun	95	158,132	12,004	2,300	2,045	7	6
Chichester	60	98,896	8,258	2,173	2,354	6	5
Crawley	71	128,549	-1,595	2,056	1,966	3	3
Horsham	80	137,488	6,224	2,083	2,158	10	8
Mid Sussex	89	150,472	10,538	1,830	2,074	8	7
Worthing	61	112,215	-2,253	1,903	2,061	0	0
WEST SUSSEX	**496**	**848,927**	**44,287**	**2,066**	**2,077**	**36**	**29**

Source: Primary healthcare capacity and patient list size according to mynhs 2015 data, Dentists and Pharmacy data from HSCIC 2015 Data

Shading of Patient / GP provision according to UK benchmark of 1800 patients to 1 GP
Shading of Pharmacy provision according to higher or lower than Surrey average

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

West Sussex
5,875
Additional sqm of primary healthcare space by 2030

West Sussex
1,474
Additional sqm of dental healthcare space by 2030

Future requirements are based on the application of best practise standards against population growth forecasts. Important caveats to note include:

- The benchmarks are high level and do not reflect the significant variation in usage of health facilities and services of communities with differing levels of older residents or the varying health needs caused by factors such as deprivation and poverty.

EXAMPLE INFRASTRUCTURE PROJECTS PROPOSED

The list below sets out key investments expected to support population growth:

- Replacement of Shoreham Health Centre in Adur - £4,000,000
- Re-provision of Littlehamption Health Centre - £4,000,000
- NHS Medical Centre in Chichester - £3,500,000

COSTS AND FUNDING

Based upon information contained within the local authority IDPs and theoretical benchmark modelling where no IDP analysis was undertaken, the following costs and funding have been recorded for West Sussex:

Cost = £30,010,000
Funding Gap = £3,250,000*

Costs are set out for each local authority in Section 5. Funding assumptions are set out in section 6. The majority of NHS healthcare costs are assumed to be delivered by the NHS.

** (considering both secured and expected funding)*

HOSPITALS AND MENTAL HEALTH

West Sussex
1,346
NHS Acute hospital beds

West Sussex
286
mental health hospital beds

CURRENT SITUATION

West Sussex is principally covered by five NHS Trusts which overlap into neighbouring counties in places. These trusts deliver hospital services across a number of General acute hospitals, community hospitals, mental health only hospitals, and one hospital focusing on learning disabilities. These are all commissioned by NHS England and the four CCGs and are illustrated in figure 4.9 to the right.

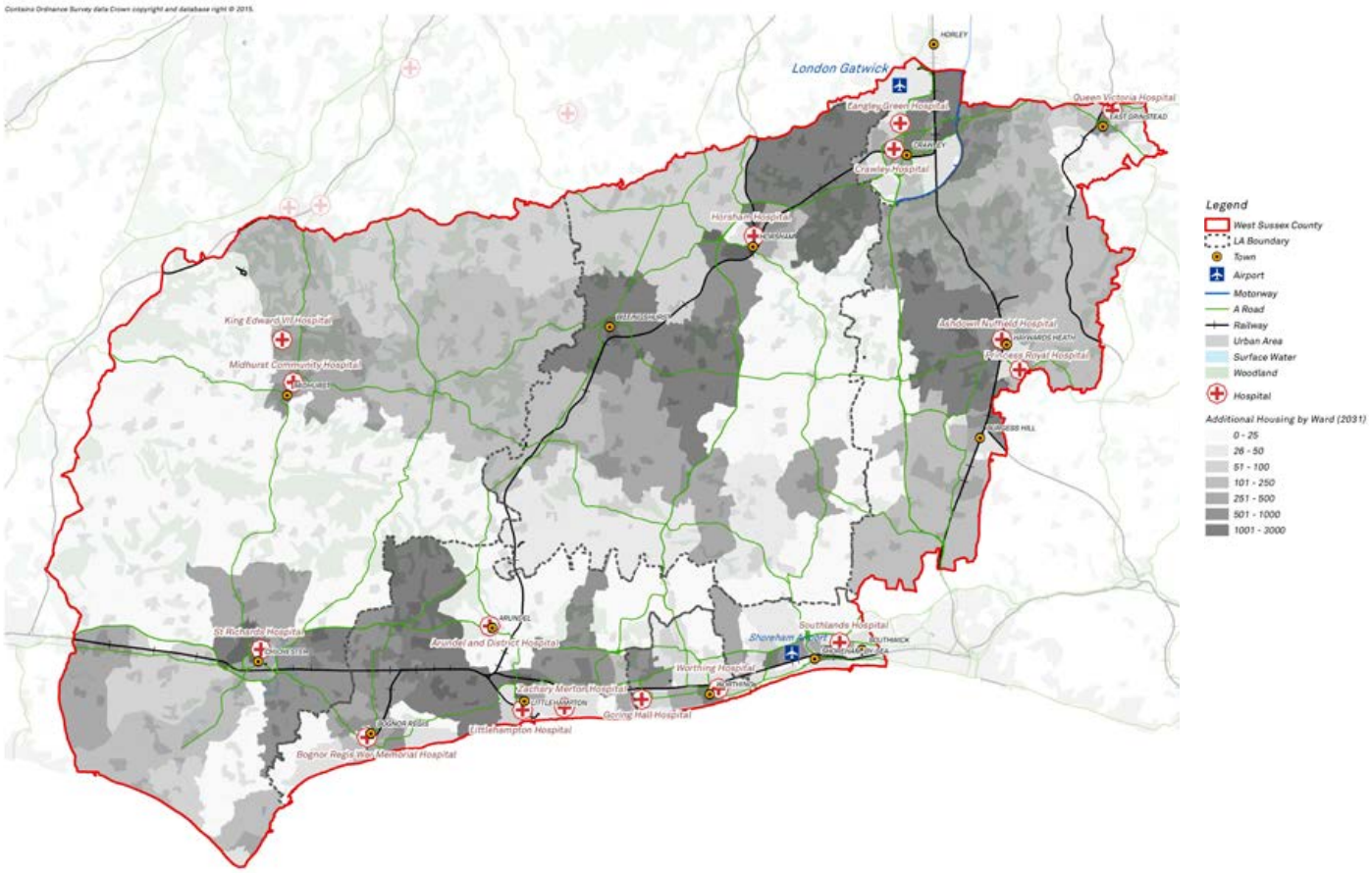
The Sussex Partnership NHS Foundation Trust provides community, inpatient and social care services for psychiatric and psychological illnesses.

HEADLINES - HOSPITALS

- West Sussex hospital bed capacity varies significantly across the County with Horsham and Adur noted to have access to fewer hospital beds
- This highlights potential capacity issues within Horsham, where a significant amount of population growth will take place from 2015-2030
- Mid Sussex and Chichester acute hospital facilities are well placed relative to future housing growth and current bed capacity
- Generally access to hospital facilities is much higher in urban areas than in rural areas, particularly for acute facilities.

Figure 4.9

NHS hospitals against housing growth areas



Source: SCC using NHS SHAPE Tool. Mapping shows all General Acute and Community Hospitals listed on NHS Shape Tool Database

Table 4.6

NHS hospital capacity & theoretical future need

	EXISTING HOSPITAL BED CAPACITY (2015)			
	GENERAL ACUTE	MATERNITY	MENTAL ILLNESS & LEARNING DISABILITY	TOTAL
SUSSEX COMMUNITY NHS TRUST	122	-	-	122
QUEEN VICTORIA HOSPITAL NHS FOUNDATION TRUST	63	-	-	63
SURREY AND SUSSEX HEALTHCARE NHS TRUST	633	42	-	675
BRIGHTON AND SUSSEX UNIVERSITY HOSPITALS NHS TRUST	803	74	-	877
WESTERN SUSSEX HOSPITALS NHS FOUNDATION TRUST	881	60	-	941
SUSSEX PARTNERSHIP NHS FOUNDATION TRUST	-	-	598	598
TOTAL*	***2,501***	***176***	***598***	***3,275***

	2015-2030 ADDITIONAL REQUIREMENTS	
	ACUTE HOSPITAL BEDS	MENTAL HEALTH BEDS
Adur	5	1
Arun	25	5
Chichester	20	4
Crawley	11	2
Horsham	36	7
Mid Sussex	28	6
Worthing	1	0
WEST SUSSEX	**126**	**26**

Source: NHS England: Unify2 data collection - KH03 - Average daily number of available and occupied beds open overnight by sector (April to June 2015)

Source: Future Requirements based on AECOM Analysis of population change and continuation of ratio of beds to population.

Note - Existing Hospital Bed capacity data is not available at the site specific level (and therefore local authority level) but available at NHS Trust level as presented above.

** The NHS Trusts presented above in some cases cover wider areas outside West Sussex County (such as Brighton amd Sussex University Hospitals NHS Trust). Therefore the total figure provides a figure which covers a wider area than West Sussex exclusively.*

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

West Sussex
20,000
Additional sqm of acute hospital bed space by 2030

West Sussex
2,198
Additional sqm of mental health bed space by 2030

Future requirements are based on the application of best practise standards against population growth forecasts. Important caveats to note include:

- Both health and social care services are moving away from bed based care for both physical and mental health with a greater emphasis in avoiding hospital admissions and nursing/residential home placements. The focus is on managing people in their own communities. It is unlikely that the current benchmarks used reflect the planned move towards fewer acute beds with more and increasingly complex people being managed in the community and supported, medically, by general practice.

COSTS AND FUNDING

Based upon information contained within the local authority IDPs and theoretical benchmark modelling where no IDP analysis was undertaken, the following costs and funding have been recorded for West Sussex:

Cost = £70,570,000
Funding Gap = £16,690,000*

Costs are set out for each local authority in Section 5**.** Funding assumptions are set out in section 6. The majority of NHS healthcare costs are assumed to be delivered by the NHS.

** (considering both secured and expected funding)*

ADULT SOCIAL CARE

West Sussex
10,107
Nursing & Residential beds

West Sussex
23
Extra Care Facilities

CURRENT SITUATION

County social care services are the statutory responsibility of the Care, Well-being and Education Team. Adult Social Care client groups include: People with learning disabilities; people with mental health needs; people with physical disabilities; and older people (over 65 years).

HEADLINES

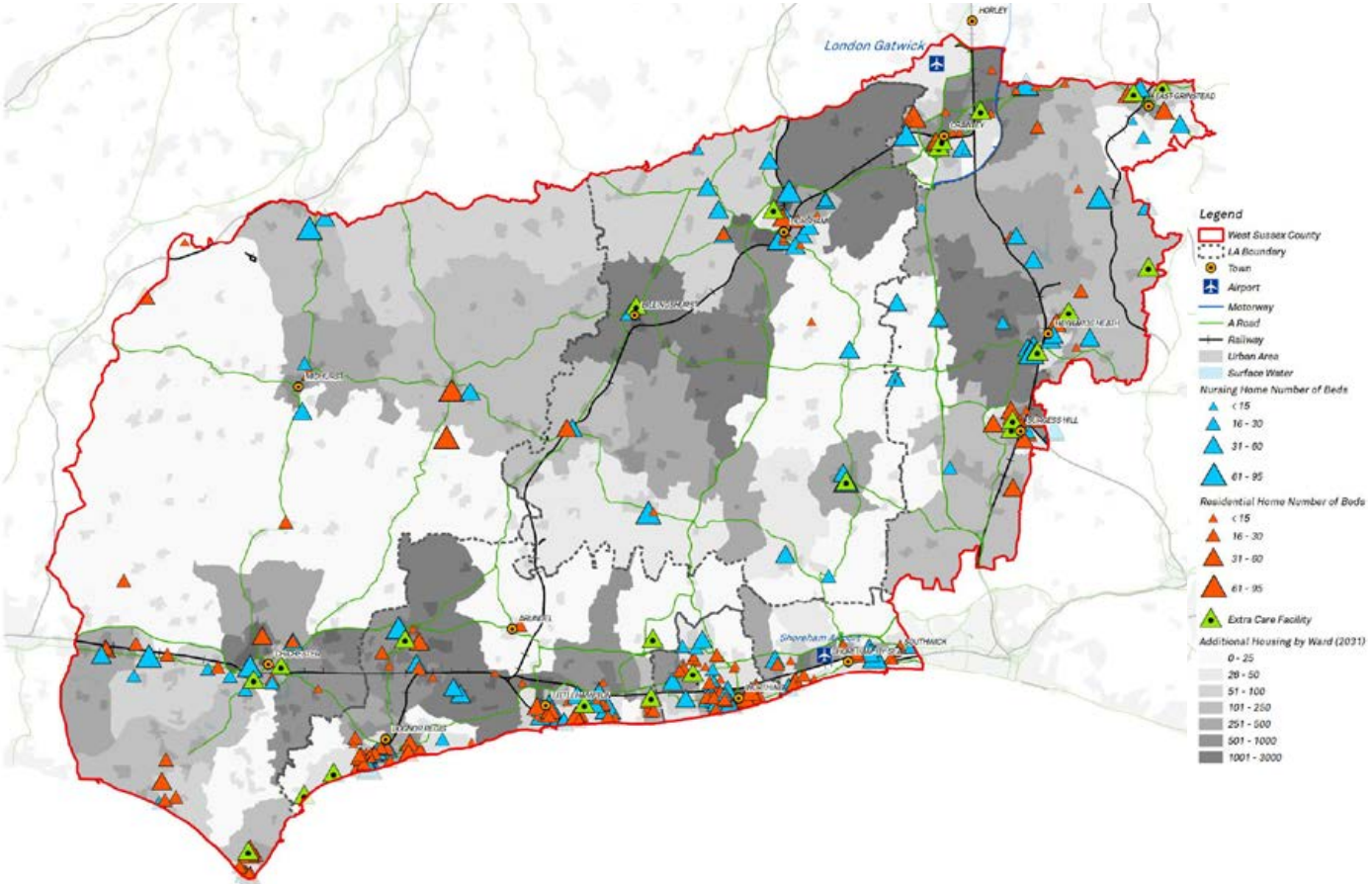
West Sussex
90-95%
Current capacity of bed stock

West Sussex's elderly population will continue to age throughout the county, there are several key areas where the population and service stresses will be the highest.

- Southwater
- SE Crawley
- Billinghurst
- Barnham
- Worthing

The highest concentration levels of adult social care services are along the coast and towards the northeast of the county. This closely aligns with where the greatest growth will occur. The exception of this is Billinghurst where there is a lot of projected growth with few existing facilities. This has been identified as a key capacity issue by West Sussex.

Figure 4.10
Social care accommodation against housing growth areas



Source: WSCC location and capacity data 2015

Table 4.7

Social care accomodation & theoretical future need

	EXISTING NURSING & RESIDENTIAL CARE					2015-2030 ADDITIONAL REQUIREMENTS		
	NURSING HOME	NURSING BEDS	RESIDENTIAL CARE HOME	RESIDENTIAL CARE BEDS	EXTRA CARE FACILITY	NURSING CARE BEDS	RESIDENTIAL CARE BEDS	EXTRA CARE BEDS
Adur	6	300	12	273	0	123	108	77
Arun	28	1,183	84	1,571	6	421	372	269
Chichester	16	681	32	834	3	301	266	190
Crawley	4	165	13	210	3	179	158	90
Horsham	23	1,047	15	278	3	401	354	230
Mid Sussex	27	1,044	30	617	7	327	289	199
Worthing	24	889	58	1,078	1	247	218	141
WEST SUSSEX	**128**	**5,309**	**244**	**4,861**	**23**	**1,999**	**1,765**	**1,196**

Source: West Sussex County Council & AECOM Analysis of Future Demands using The Housing Learning and Improvement Network (LIN) SHOP TOOL

Note: Whilst outside the assessment scope of this study the future requirements of children and young persons social care requirements must also be acknowledged and this represents a further challenge in terms of securing sufficient capacity and support as the population increases.

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

West Sussex
28
Additional Nursing Care Facilities (72 bed)

West Sussex
25
Additional Residential Care Facilities (72 bed)

West Sussex
16
Additional Extra Care Facilities (77 bed)

EXAMPLE INFRASTRUCTURE PROJECTS PROPOSED

The list below sets out key investments expected to support population growth:

- Supported Accommodation in Mid Sussex - £1,900,000

COSTS AND FUNDING

AECOM has estimated accommodation costs based upon benchmark planning standards and the forecast age specific population forecasts. UK benchmark costs have been applied to those forecasts. This identifies the following costs for West Sussex:

Cost = £360,040,000
Funding Gap = £36,000,000*

Costs are set out for each Local Authority in Section 5. Funding assumptions are set out in section 6.

It is important to caveat that the majority of supported housing costs have been assumed to be delivered by the private sector which would be expected to deliver a considerable investment as identified here.

** (considering both secured and expected funding)*

4.4 COMMUNITY

LIBRARY SERVICES

West Sussex
36
libraries

CURRENT SITUATION

Figure 4.11 illustrates the existing library provision in West Sussex. Library services are organised by the County Council's Library Service. Library provision is a statutory requirement of the County Council, in which there is a current trend towards developing a new model for library provision based on multi-use space with other community uses. This "hub based model" where libraries are part of a larger facility that provides a wide range of services will likely be the model of future growth across the county.

HEADLINES

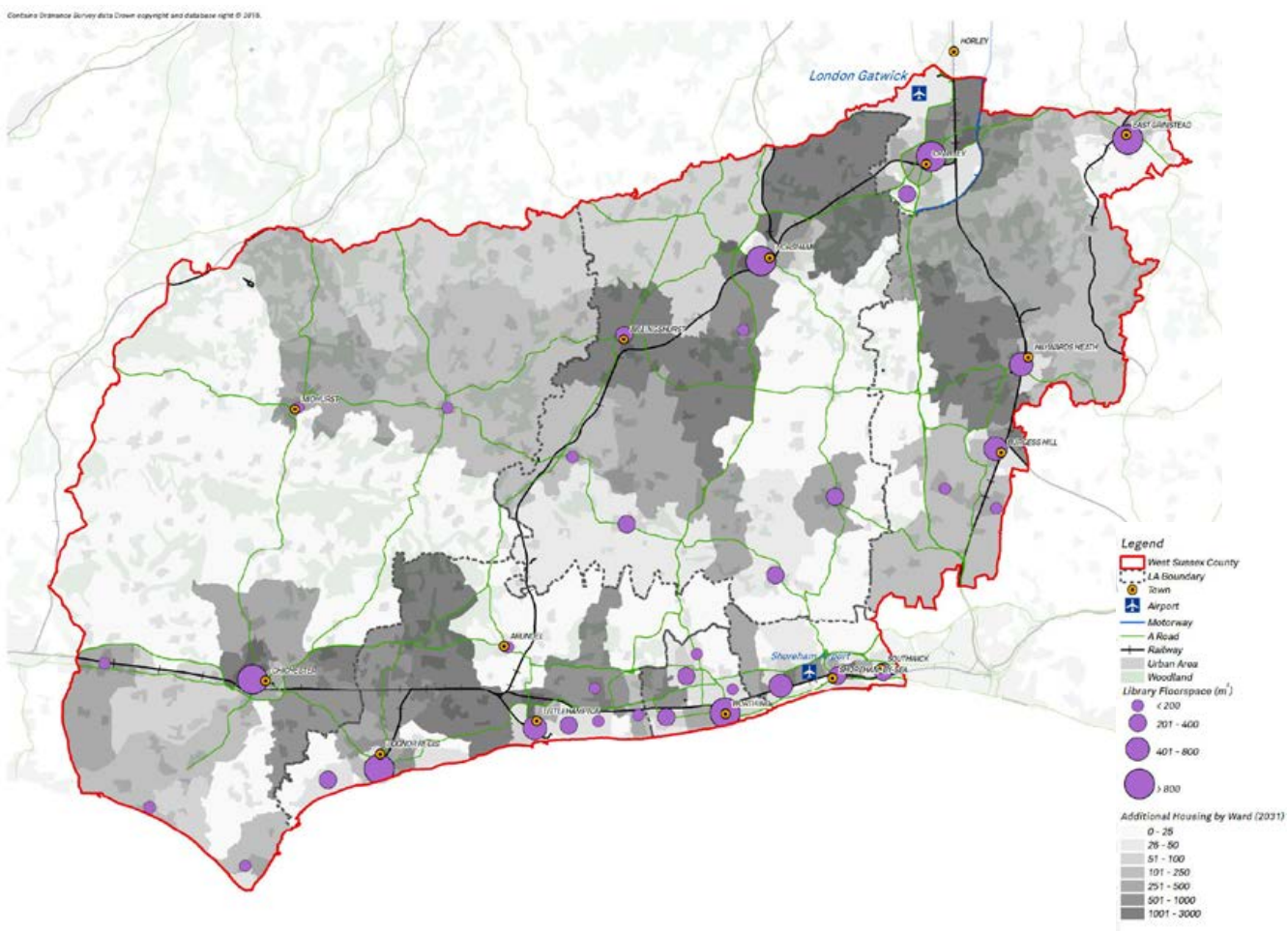
West Sussex
48 sqm
per 1,000 people library provision across the County

Chichester
35 sqm
per 1,000 people library space across the Authority

Worthing
69 sqm
per 1,000 people library space across the Authority

Spatially the library provision is spread out fairly evenly, with the largest facilities in Crawley, Horsham, and Chichester. There is also an abundance of smaller facilities along the coast, with many in smaller and more rural towns. There do appear to be several gaps around Billinghurst and East of Chichester where future housing growth does not match facility location.

Figure 4.11
Library capacity against housing growth areas



Source: West Sussex Councty Council for location and capacity data 2015

Table 4.8

Library capacity & theoretical future need

	NUMBER OF LIBRARIES	FLOORSPACE (SQM)	FLOORSPACE PER 1000 PEOPLE (SQM)	2015-2030 ADDITIONAL LIBRARY SPACE (SQM) REQUIREMENT
Adur	3	1,127	39	76
Arun	8	2,784	38	412
Chichester	6	1,984	35	323
Crawley	2	2,932	65	182
Horsham	7	2,993	50	590
Mid Sussex	5	2,666	43	459
Worthing	5	3,430	69	9
WEST SUSSEX	**36**	**17,916**	**48**	**2,051**

Source: West Sussex County Council & AECOM Analysis of Future Demands using arts council benchmark

Green/Red indicates local authorities that have a higher than average sqm of library floorspace per person compared to West Sussex average.

Floorspace per 1,000 is calculated based on the peak year of demand

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

West Sussex

2,051

Sqm of additional library space required by 2030

EXAMPLE INFRASTRUCTURE PROJECTS PROPOSED

The list below sets out key library investments expected to support population growth:

- Contribution to support library provision for development of Western Harbour Arm & Southwick Waterfront
- Library upgrades in Horsham to meet new development requirements

COSTS AND FUNDING

Based upon information contained within the local authority IDPs and theoretical benchmark modelling where no IDP analysis was undertaken, the following costs and funding have been recorded for West Sussex:

Cost = £3,210,000

Funding Gap = £520,000*

Costs are set out for each local authority in Section 5. Funding assumptions are set out in section 6. The majority of library costs are assumed to be covered by developer contributions.

** (considering both secured and expected funding)*

YOUTH SERVICES

West Sussex
37
youth service providers in total
Includes hubs, youth centres and commissioned services

West Sussex
16
Youth Facilities operated by West Sussex in 2014/2015

CURRENT SITUATION

Youth services in West Sussex are organised by the Youth Support and Development Service, comprised of three major service areas: youth work, intensive support & information, advice and guidance and youth justice. In 2013, the YSDS provided services to 23,601 youths. In recent years the YSDS has had to cut its budget by approximately 1/4, resulting in the closure of some facilities across West Sussex.

HEADLINES

West Sussex
0.47
youth service providers per 1,000 young people

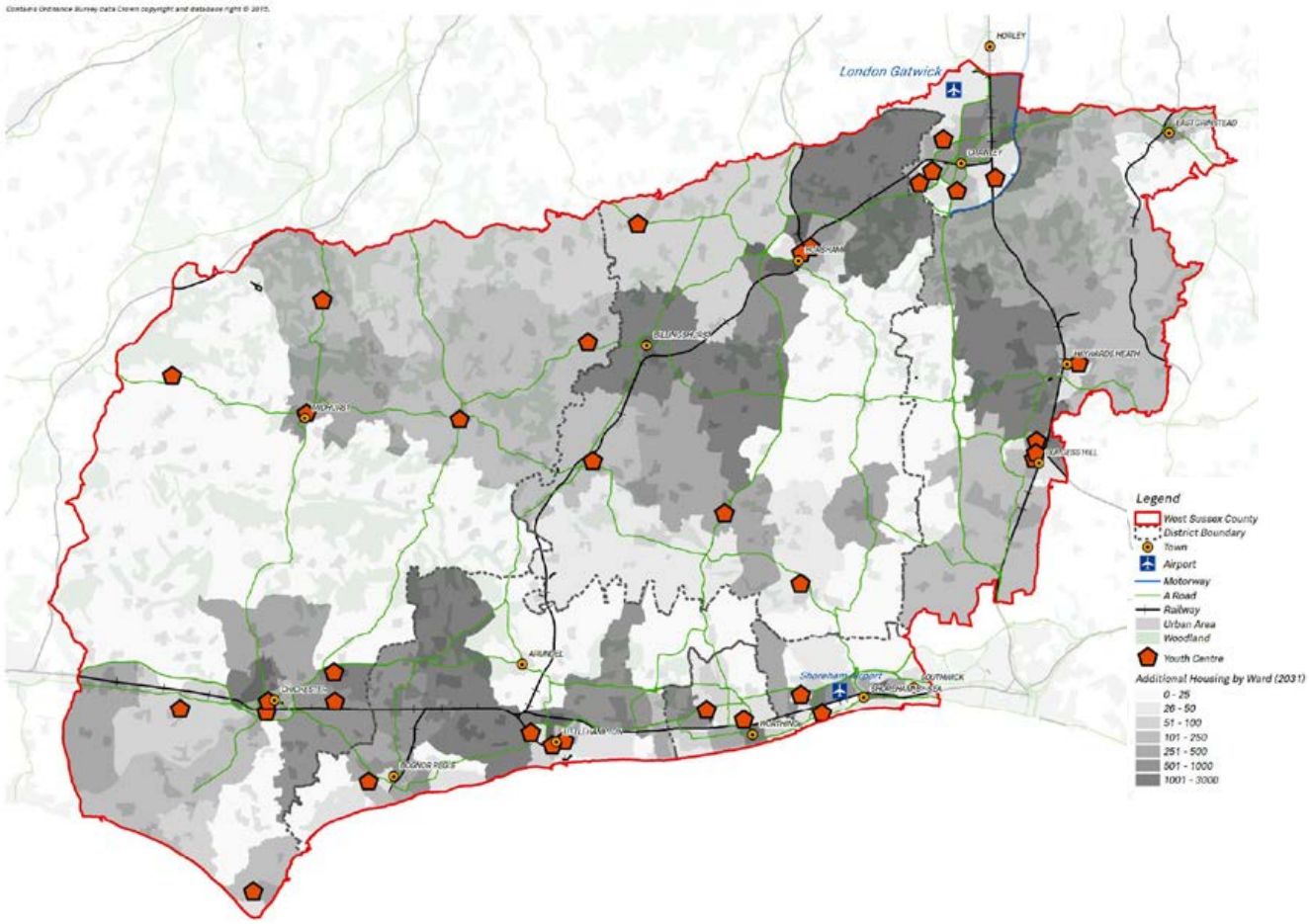
Chichester
1.12
youth service providers per 1,000 young people

Crawley also rates well in comparison to the West Sussex.

Mid Sussex
0.27
youth service providers per 1,000 young people

Worthing and Arun also rate poorly in comparison to the West Sussex average.

Figure 4.12
Youth service provision against housing growth areas



Source: West Sussex County Council for location data 2015

Table 4.9

Youth services capacity & theoretical future need

	YOUTH CENTRE	YOUTH CLUB	YOUTH HUB	YOUTH THEATRE	TOTAL YOUTH FACILITIES	SERVICES PER 1,000 YOUNG PEOPLE	2015-2030 ADDITIONAL YOUTH FACILITY CLIENTS
Adur	0	1	1	0	2	0.34	2
Arun	2	0	2	0	4	0.31	31
Chichester	1	12	0	0	13	1.22	23
Crawley	1	1	3	0	5	0.46	19
Horsham	2	3	1	0	6	0.44	49
Mid Sussex	1	2	1	0	4	0.27	26
Worthing	0	0	2	1	3	0.31	0
WEST SUSSEX	**7**	**19**	**10**	**1**	**37**	**0.47**	**150**

Source: West Sussex County Council AECOM analysis of future demands

Shading based on whether the local authority has a service provision higher or lower than the West Sussex average population to supply ratio

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

West Sussex

3

additional youth facilities (50 youth clients per facility)

EXAMPLE INFRASTRUCTURE PROJECTS PROPOSED

The list below sets out youth facility investments expected to support population growth:

- New Youth provision at Forge Wood in Crawley - £1,400,000
- New youth building provision at Sports Pavilion Bramble Hall in Mid Sussex - £350,000

COSTS AND FUNDING

Based upon information contained within the local authority IDPs and theoretical benchmark modelling where no IDP analysis was undertaken, the following costs and funding have been recorded for West Sussex:

Cost = £6,570,000

Funding Gap = £5,170,000*

Costs are set out for each local authority in Section 5. Funding assumptions are set out in section 6. The majority of youth service costs are assumed to be covered by developer contributions.

** (considering both secured and expected funding)*

COMMUNITY & INDOOR SPORTS FACILITIES

Community Facilities

Sports Facilities

CURRENT SITUATION

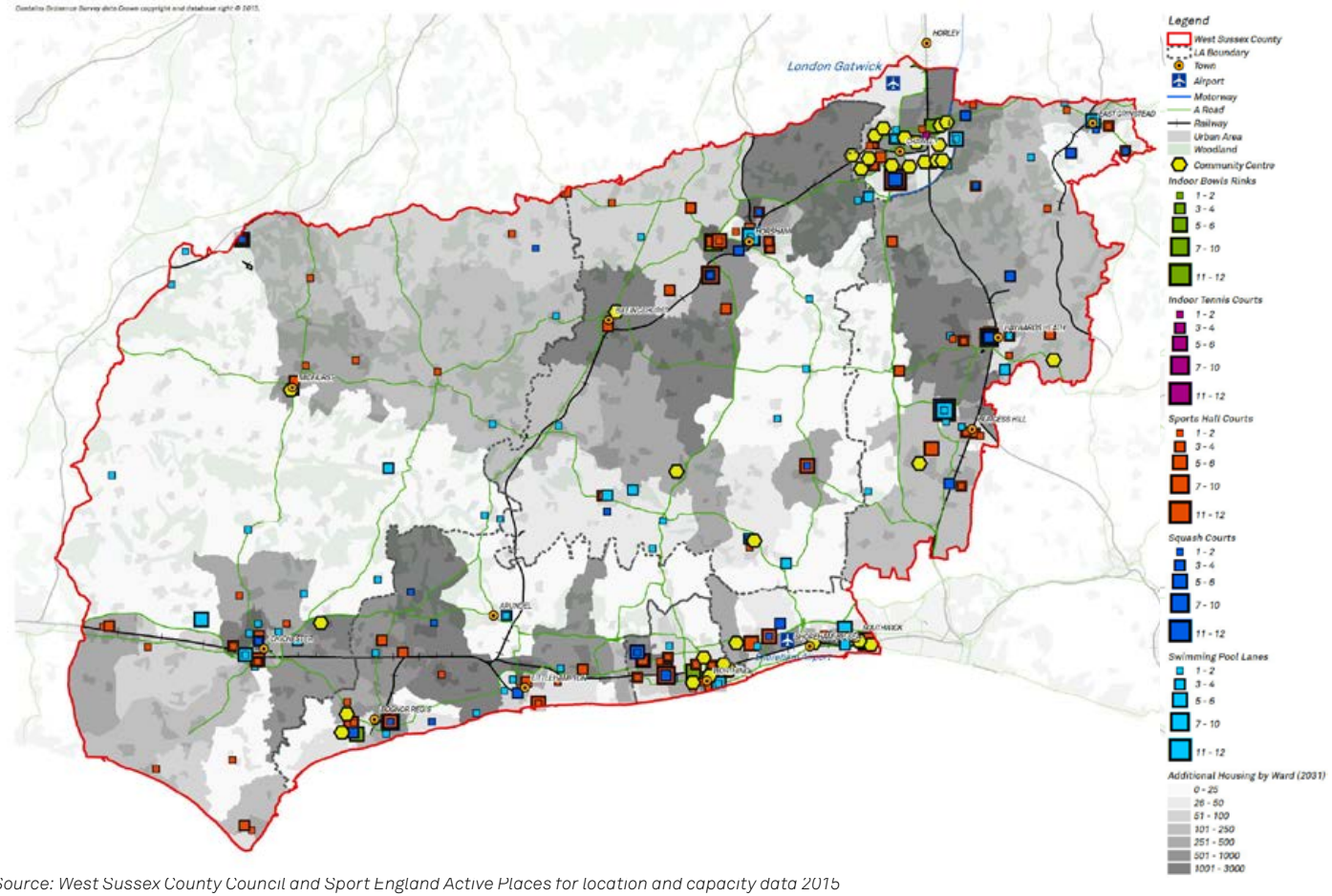
Community and Indoor Sports facilities in West Sussex comprise both public and private facilities. Public facilities are provided and funded by the individual authorities. This allows for anyone to access the facilities. Private facilities often require membership and payment for the use of those facilities.

HEADLINES

- Arun have the largest gaps in indoor sports provision, with the supply below the West Sussex average in all of the 6 categories, followed by low supply levels in Adur, Worthing and Crawley relative to other local authorities.
- There are gaps in current facility distribution against the areas of housing growth. This can be seen in Billinghurst, as well as to the West of Crawley.
- Horsham has a relatively strong provision of indoor sports provision where future housing growth is projected, as well as Arun.
- Chichester and Mid Sussex also have a relatively strong provision of indoor sports, in which they have a strong supply that could accommodate future growth.

Figure 4.13

Community & leisure provision against housing growth



Source: West Sussex County Council and Sport England Active Places for location and capacity data 2015

Table 4.10

Community and leisure provision

	COMMUNITY CENTRES	SPORTS HALL COURTS	SWIMMING POOL LANES	SQUASH COURTS	HEALTH AND FITNESS SUITE	INDOOR BOWLS RINKS
Adur	4	9	5	2	5	1
Arun	2	24	17	7	15	1
Chichester	2	32	23	8	19	0
Crawley	15	22	7	1	14	2
Horsham	3	31	20	9	17	1
Mid Sussex	2	46	25	12	21	0
Worthing	5	21	10	3	11	2
WEST SUSSEX	33	185	107	42	102	7

Source: West Sussex County Council and Sport England Active Places

Shading indicates whether supply is above or below West Sussex average supply to population ratio.

Table includes all provision recorded by Sport England and does not differentiate between Public and Private access

Community centres presented is limited to those defined specifically as community centres and does not include wider provision of community facilities and halls for hire.

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

West Sussex
4,166
sqm of new flexible community space

West Sussex
13
new swimming pool lanes

West Sussex
20
new sports halls

West Sussex
4
new indoor bowl centres

The above infrastructure requirements have been identified based on a combination of those actual planned projects according to the Local Authorities and further AECOM analysis using Sport England and best practice standards.

EXAMPLE INFRASTRUCTURE PROJECTS PROPOSED

The list below sets out community and leisure investments expected to support population growth:

- Community facility improvements in Horsham - £3,300,000
- Enhancement of existing swimming facilities in Horsham - £3,000,000
- New community centre in Arun - £1,300,000

COSTS AND FUNDING

Based upon information contained within the local authority IDPs and theoretical benchmark modelling where no IDP analysis was undertaken, the following costs and funding have been recorded for West Sussex:

Cost = £77,190,000
Funding Gap = £63,600,000*

Costs are set out for each local authority in Section 5. Funding assumptions are set out in section 6. The majority of community and sport costs are assumed to be contributed towards by developer contributions.

** (considering both secured and expected funding)*

OUTDOOR SPORT AND RECREATION

Outdoor Sport & Recreation

Children's Play Space

CURRENT SITUATION

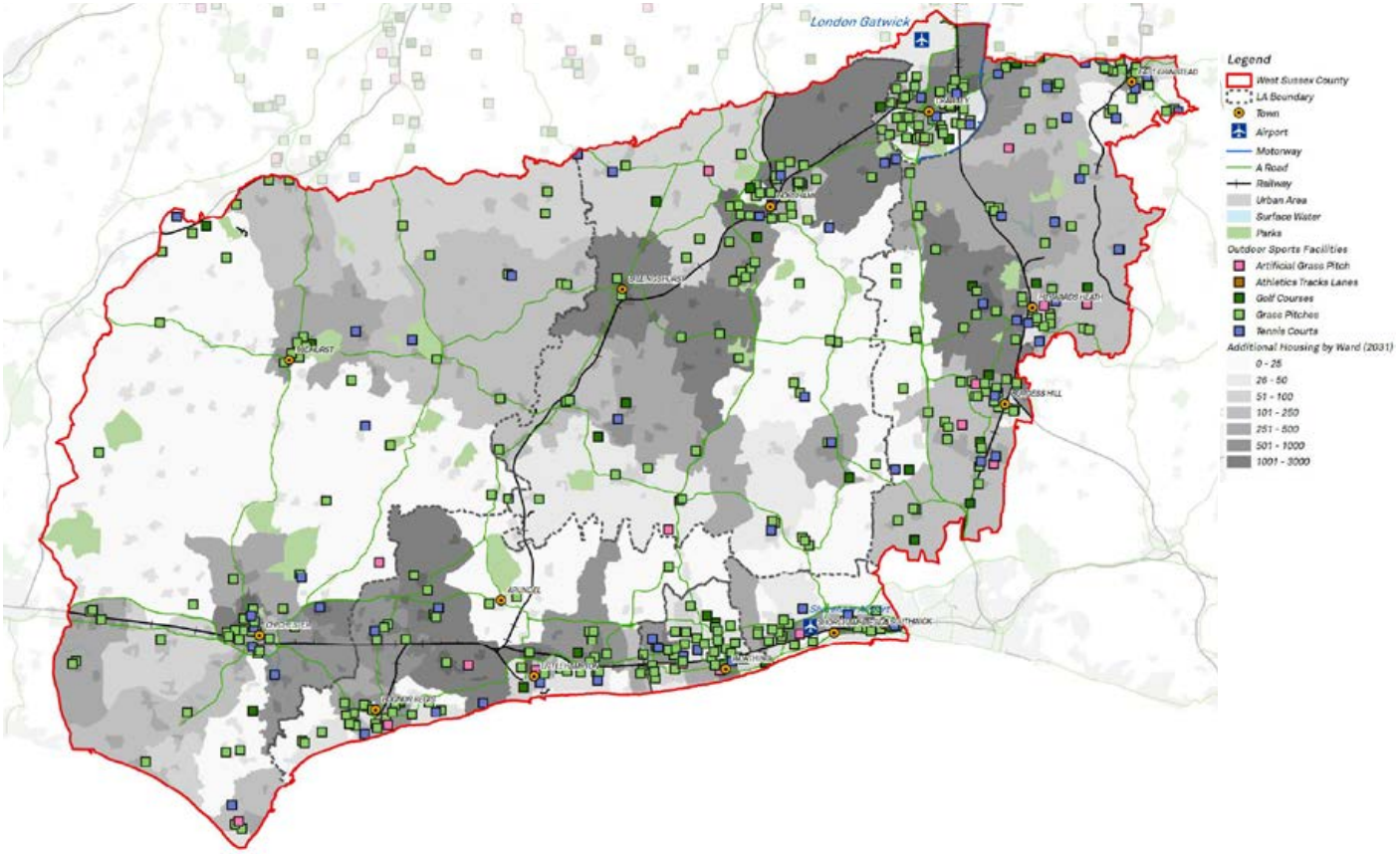
Within West Sussex, the operation of outdoor sports and playspaces are through a mix of private sector, voluntary organisations and local authority provision. As a result the current spatial provision of sport and recreation can vary significantly by area.

HEADLINES

- Adur has the lowest supply of outdoor sport provision of any authority in West Sussex, with a below average provision in each category. This is similar to its community and indoor sports provision. Worthing similarly has a low level of supply relative to the West Sussex average in four of the five categories.
- Chichester has the highest level of capacity within West Sussex in outdoor sport and recreation provision, with capacity above the West Sussex average in every category.
- There are several gaps in outdoor sports provision around future housing development sites, this can be seen east of Chichester and North of Bognor Regis, as well as in the more rural areas of Billinghurst where there is expected to be significant growth.

Figure 4.14

Outdoor sport and recreation against housing growth



Source: West Sussex County Council and Sport England Active Places for location and capacity data 2015

Table 4.11

Outdoor sport and recreation capacity

	GRASS PITCHES	ARTIFICIAL TURF PITCHES	TENNIS COURTS	ATHLETICS TRACKS	GOLF COURSES
Adur	46	3	3	0	0
Arun	98	10	8	0	4
Chichester	125	8	15	1	11
Crawley	75	6	5	1	3
Horsham	131	8	15	2	18
Mid Sussex	183	12	27	1	16
Worthing	64	5	6	1	4
WEST SUSSEX	722	52	79	6	56

Source: West Sussex County Council and Sport England Active Places

Shading indicates whether supply is above or below West Sussex average supply to population ratio.

Table includes all provision recorded by Sport England and does not differentiate between Public and Private access

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

West Sussex
2
Artificial Turf Pitches

West Sussex
77ha
Playing fields

West Sussex
5.7ha
Children's Playspace

The above infrastructure requirements have been identified based on a combination of those actual planned projects according to the District Authorities and further AECOM analysis using Sport England and Fields in Trust best practice standards.

EXAMPLE INFRASTRUCTURE PROJECTS PROPOSED

The list below sets out outdoor sport and recreation investments expected to support population growth:

- Contribution to new sports pitch in Adur - £2,400,000
- Child play area improvements in Horsham - £3,300,000
- New synthetic turf pitch in Crawley - £1,500,000
- New pavilion and pitches at Palatine Park - £1,600,000

COSTS AND FUNDING

Based upon information contained within the local authority IDPs and theoretical benchmark modelling where no IDP analysis was undertaken, the following costs and funding have been recorded for West Sussex:

Cost = £65,810,000
Funding Gap = £22,110,000*

Costs are set out for each local authority in Section 5. Funding assumptions are set out in section 6. Outdoor sports and recreation costs are assumed to be contributed towards by developer obligations and council funding streams.

** (considering both secured and expected funding)*

4.5 GREEN INFRASTRUCTURE

GREEN INFRASTRUCTURE

Natural Green Space & Strategic Projects

Parkland

CURRENT SITUATION

The high quality of the natural and semi natural environment in West Sussex has been recognised, with around 40% of the county designated as National Park. In addition to this area of important and distinct character, the wider environment and landscape supports a number of valuable ecosystem services, including food production, air quality and climate regulation, and flood risk management as well as space for recreation and leisure.

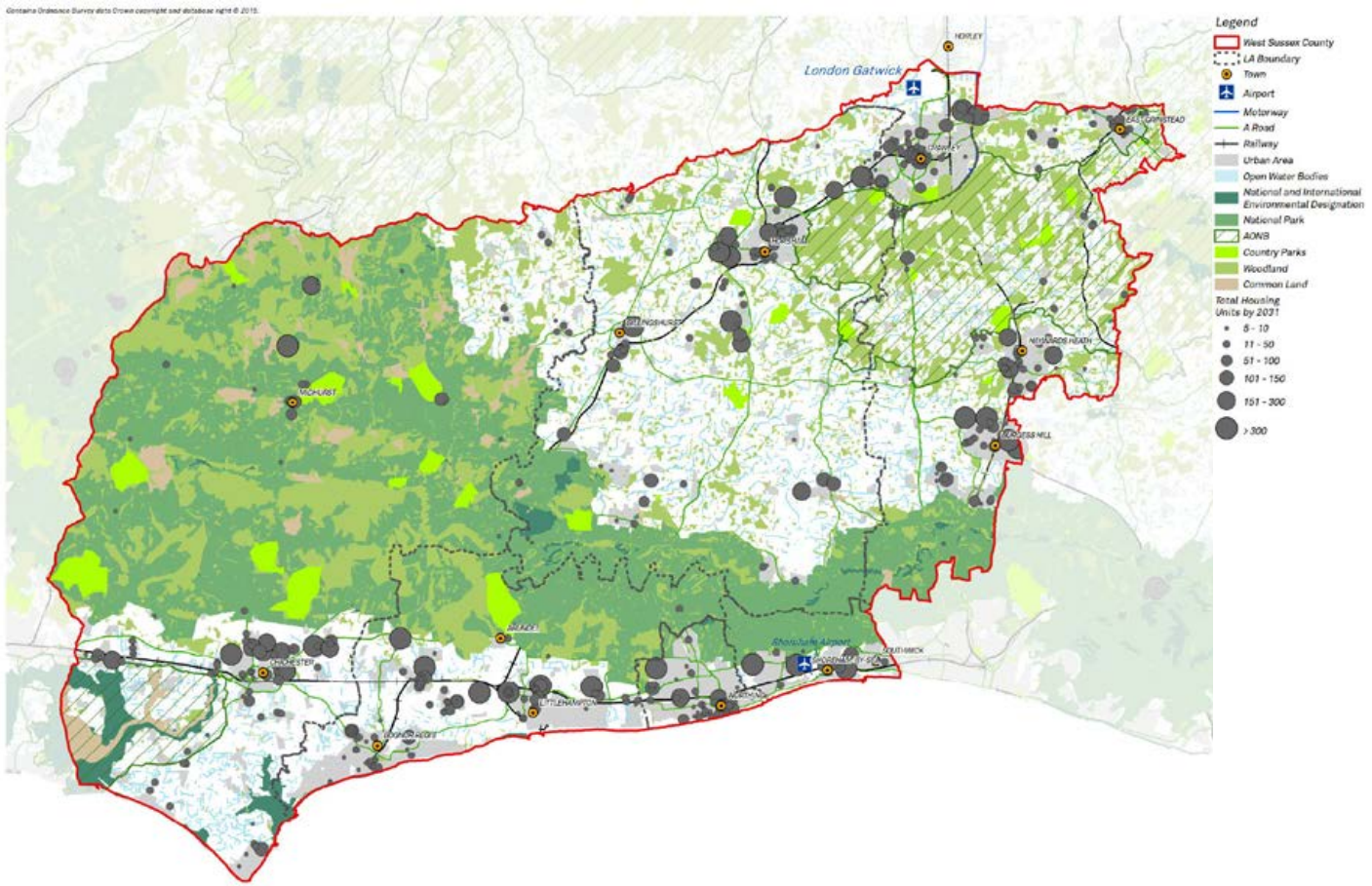
The broader natural environment is supported by a network of more formal green infrastructure (GI) assets. Natural England defines GI as strategically planned and delivered network comprising a broad range of high quality green spaces and other environmental features including natural and semi natural green space, parks and gardens, amenity space, green and blue corridors (verges and rivers), as well as a range of other greenspaces including allotments and cemeteries

HEADLINES

- 3 AONB in West Sussex - Chichester harbour, Surrey Hills, High Weald
- 50,462ha of woodland
- South Downs National Park covers approximately 40% of the county.
- Over 8,310 ha of West Sussex have received National and International designations (not including AONB, County or National Parks, Woodland or common land) such as Brighton & Lewes Downs Biosphere.

Figure 4.15

Green Infrastructure & proposed housing sites



Source: West Sussex County Council, Historic England, Natural England, OS Meridian, Forestry Commission

Table 4.12

Existing green infrastructure provision

GI TYPE	AREA (HA)
AONB	25,959
National and International Designations	8,311
Country Parks	4,789
National Park	81,248
Surface Water	1,723
Woodland	50,461
Common Land	4,263
TOTAL	**176,755**

GREEN INFRASTRUCTURE AND THE NATURAL ENVIRONMENT

The NPPF identifies the planning system as having an environmental role that contributes to, protection and enhancement of the natural and local environment. This includes improving biodiversity, for mitigation and adaptations to climate change and moving from a net loss of biodiversity to achieve net gains for nature. It seeks to establish coherent, ecological networks that are more resilient to current and future pressures while recognising the 'wider benefits' ecosystems services can have.

There is a further statutory requirement for planning to minimise impacts of development on biodiversity, while maximising the net benefits as identified in the Planning Practice Guidance. As such local authorities are encouraged to develop approaches to ensuring appropriate GI is delivered that both mitigates the impact of growth and derives greater community and economic benefit.

EXAMPLE SPECIFIC PROJECTS IDENTIFIED

There are 42 Green Infrastructure projects identified within the local authority Infrastructure Delivery Plans. These cover new natural and semi-natural green space, amenity green space, parks and gardens, and allotments in relation to growth requirements across West Sussex. Some strategic projects include:

- Green Grid enhancements to improve connectivity from the North of Horsham to the town centre - £2.5m
- Enhancement of Green link to provide public footpath and cycle way along Pagham to Medmerry Trail - £200K

Table 4.11

Green infrastructure theoretical future need

	NATURAL GREEN SPACE (HA)	PARKLAND (HA)	ALLOTMENTS (HA)
Adur	2.4	1.0	0.5
Arun	12.9	5.1	2.6
Chichester	10.1	4.0	2.0
Crawley	5.7	2.3	1.1
Horsham	18.4	7.4	3.7
Mid Sussex	14.4	5.7	2.9
Worthing	0.3	0.1	0.1
WEST SUSSEX	64.1	25.6	12.8

FUTURE REQUIREMENTS TO MEET GROWTH

West Sussex
64ha
Alternative Natural Green Space

West Sussex
26ha
New Parkland

West Sussex
13ha
Allotments

The above infrastructure requirements have been identified based on a combination of those actual planned projects according to the District Authorities and further AECOM analysis using Natural England and Fields in Trust best practice standards.

COSTS AND FUNDING

Based upon information contained within the local authority IDPs and theoretical benchmark modelling where no IDP analysis was undertaken, the following costs and funding have been recorded for West Sussex:

Cost = £31,330,000
Funding Gap = £17,880,000*

Costs are set out for each local authority in Section 5. Funding assumptions are set out in section 6. Green Infrastructure costs are assumed to be contributed towards by developer contributions and council funding streams.

** (considering both secured and expected funding)*

4.6 UTILITIES

ENERGY

ELECTRICITY

CURRENT SITUATION

SSE/Southern Electric Power Distribution plc (SEPD) provides the vast majority of electricity network distribution services in West Sussex with UKPN supplying the eastern parts of the County.

- SEPD deliver electricity to approximately 3 million customers in central southern England and others Out-of-Area.
- The UK Power Networks (UKPN's) Bolney Regional Development Plan (RDP) reviews Bolney Grid Supply Point (GSP) which has an aggregated group winter peak demand of circa 930MW increasing to 1GW by 2023. The supply area encompasses large settlements in the southern and central areas including Crawley, Horsham and Haywards Heath, the strategically important Gatwick Airport and southern coastal towns between Littlehampton, Newhaven and the city of Brighton and Hove.
- Plans for the proposed off shore 700MW Rapion wind farm are at an advanced stage which requires a new 400kV cable connection between Bolney GSP and the Sussex coast.

Current Capacity issues

SEPD Long Term Development Statement (LTDS), 2015 suggests that there are no constraint areas for accepting new generation or load, however, background fault levels at most voltages are generally high.

UKPN does not propose any major redesign or reconfiguration of the network for the period 2015-2023 with the strategy formulated to maintain compliance with security of supply criteria and operational reliability with targeted asset replacement. UKPN identify the following network constraints;

- *Worthing Cable Bridge* - Worthing Cable Bridge contains the Steyning number 1 and 2 132kV cables. One of these circuits is to be decommissioned in ED1 (2015-2023). The other circuit is being replaced in DR5 (2015). Worthing has alternative supplies from Southern Cross via a double circuit 132kV overhead tower line.
- *Gatwick Stream South, Central and North* - The Smallfield Gatwick Airport numbers 1, 2 and 3 circuits cross Gatwick stream at three points on small cable bridges. The third circuit is on a slightly different route from numbers 1 and 2 circuits providing a degree of segregation. Gatwick Airport has an alternative 33kV supply via two cable circuits to the Gatwick Airport B station from Three Brides Local 33kV substation providing an alternative supply.

FUTURE REQUIREMENTS

SEPD and UKPN do not propose any major redesign or reconfiguration of the network for the period 2015-2023.

SEPN plans to support growth

SEPD confirm that there is currently approximately 990 MW of embedded generation connected to their distribution system at various voltages across the whole area served by SEPD. Approximately 450 MW is concentrated around the areas supplied by Fawley and Nursling 400/132kV substations resulting in high fault levels. SEPD confirm that all distribution system reinforcement proposals have been financially approved. These schemes are either under construction or are in the design stage.

UKPN plans to support growth

UKPN estimate that annual average power increase West Sussex is 7.76MW. UKPN note that Bolney substation area offers both challenges and opportunities for network development. A combination of Asset Replacements and Reinforcements has been proposed that will enhance the network performance. This in brief includes; switchgear replacement that will maintain the integrity of the network and where possible increase the firm capacity due to higher utilization of the incoming circuits; firm capacity increase through transformer replacement; interventions in ancillary equipment which strengthens the available firm capacity and interventions in OHLs and cable circuits.

Table 4.13

UKPN Long Term Development Strategy (fully funded)

LOCAL AUTHORITY	ASSET REPLACEMENT / REINFORCEMENT PROJECTS	FUNDED INVESTMENT
Adur	3	£1,636,000
Arun	3	£8,151,000
Chichester	0	£0
Crawley	5	£647,000
Horsham	6	£3,250,000
Mid Sussex	12	£1,920,000
Worthing	4	£1,584,000
West Sussex	***33***	***£17,188,000***

Source: UK PN SPN Regional Development Plan - Bolney - Version: 2.3 March 2014

GAS SUPPLY

Gas is transmitted through a National Transmission System (NTS), in which it is then supplied to towns and villages through Local Distribution Zones (LDZ). The Gas Distribution Network Operator for West Sussex is Southern Gas Networks (SGN).

CURRENT SITUATION

- SGN has a duty to extend or improve the National Transmission System (NTS), where necessary, to ensure an adequate and effective network for the transportation of gas.
- No specific upgrades have been identified within the county but future works may be required to respond to the wider demand for gas.
- No Current Capacity issues have been identified

FUTURE REQUIREMENTS

Impacts of growth on supply

- SGN forecast a small decrease in annual and peak day demands over the 2014-2024 period (albeit a small increase is expected in 2014-2015 due to economic recovery) due to increased efficiencies and renewable incentives.

Summary of plans to support growth

- Installation of infrastructure on a speculative basis to serve potential development areas is not supported by regulator OFGEM.
- Reinforcement projects for the LDZs are planned for on a reactive basis, Network reinforcement is determined on an application by application basis when new loads connect to the network, rather than planned for in advance.
- Agreements need to be reached with developers prior to investment in new infrastructure being made.
- It cannot be assumed that the existing network has sufficient capacity to supply all proposed development proposals across West Sussex. It can however be assumed that the necessary capacity will be developed on a reactive basis by the gas Distribution Network Operator.

COST OF CONNECTING THE GROWTH SITES

UKPN and SEPN strategic Investments have been taken into account but no strategic Gas Network investment data has been made available to this study.

AECOM are considering the whole cost of utilities and have therefore also considered the cost of connecting the planned housing and employment sites to the existing network.

Per dwelling and commercial floorspace benchmark energy connection costs have been applied to the growth forecasts and based on these assumptions, AECOM estimates the following costs associated with energy provision to support growth across West Sussex to 2030

Cost = £95,150,000
Funding Gap = £0*

It is assumed that these costs will be borne by the developer and service providers. Costing caveats apply to all AECOM estimates presented within this document. See Costing assumptions at end of document

** (considering both secured and expected funding)*

BROADBAND

West Sussex
5%
Of properties are unlikely to receive highspeed broadband in next 3 years

West Sussex
1%
Of properties are unlikely to receive basic broadband in the next 3 years

CURRENT SITUATION

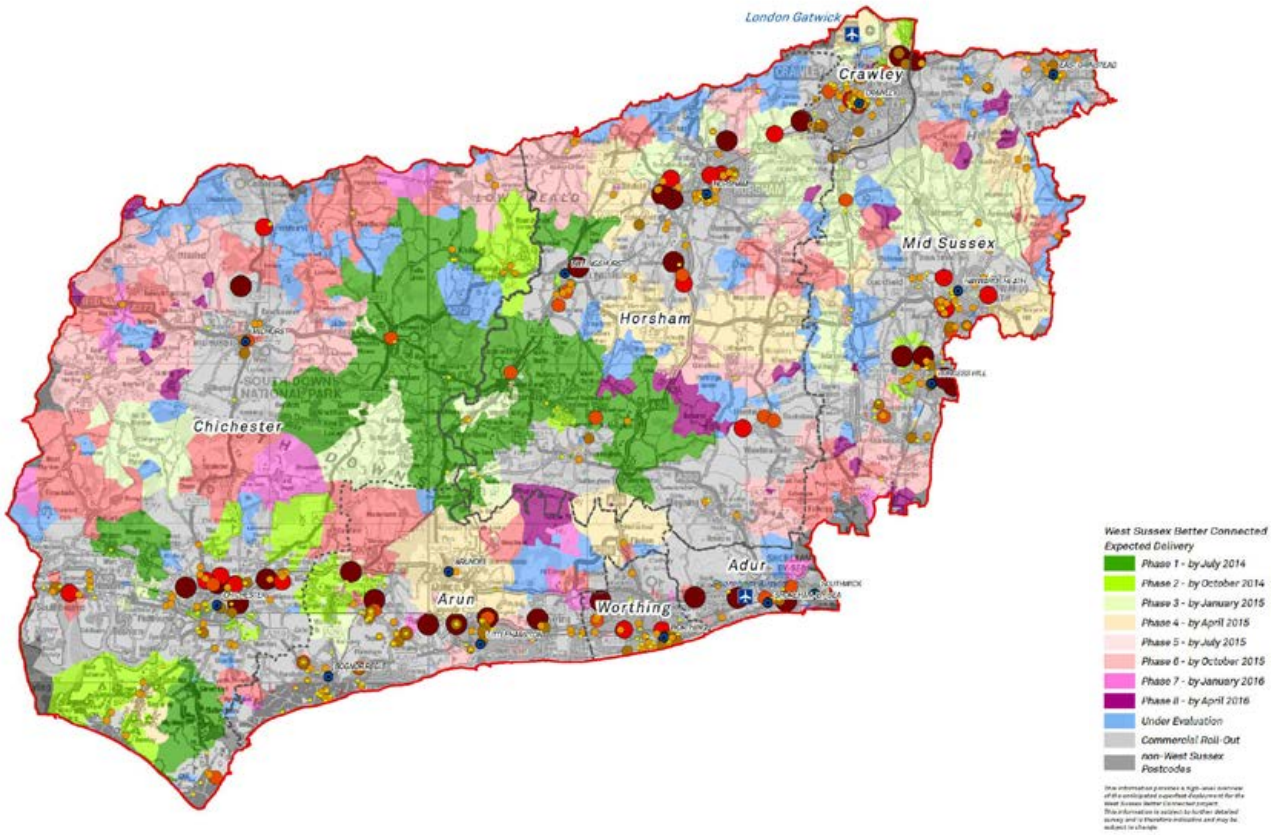
Broadband Delivery UK (BDUK) have set 95% provision of superfast broadband to all UK premises, with universal basic broadband to all. Within West Sussex this will be provided by 2016, however 5% of premises will remain commercially unviable.

HIGHLIGHTS

Figure 4.16 illustrates the spatial roll-out of the BDUK plan. As can be seen, the Grey areas are those that have been commercially rolled out by broadband providers such as Virgin or BT. The remaining colours are those areas that are part of the BDUK program within West Sussex. These are areas where it is commercially not viable for providers to connect with.

The parts of the map that are coloured in blue, identified as “under evaluation”, are those areas that will likely make up the 5% of unviable properties to connect, however the remaining areas should receive superfast connection by April 2016.

Figure 4.16
West Sussex better connected broadband roll-out



Source: West Sussex County Council, BDUK Programme

BROADBAND DELIVERY UK (BDUK) - SUPERFAST BROADBAND PROGRAMME

- BDUK looks to provide superfast broadband (speeds of 24Mbps or more) for at least 95% of UK premises and universal access to basic broadband (speeds of at least 2Mbps).
- Government funding is stimulating private sector investment in broadband to ensure that the benefits are available to all.

The programme is being delivered in three phases:

- Phase 1 aims to provide superfast broadband to 90% of premises in the UK
- Phase 2 will seek to further extend coverage to 95% of the UK
- Phase 3 will test options to roll-out superfast broadband beyond 95%.

BDUK IN WEST SUSSEX

Broadband Delivery UK (BDUK) Phase 1 programme:

- Provide broadband to 90%+ of West Sussex by March 2016
- £6.26 million Government Funding

Broadband Delivery UK (BDUK) Phase 2 programme:

- Provide broadband (24Mb per second) to 95% of West Sussex by end 2017
- £1.25 million Government Funding
- £1.25 West Sussex Funding to match Government funding
- Phase II will emphasise rural properties

COST OF CONNECTING THE GROWTH SITES

Per dwelling and commercial floorspace benchmark communication connection costs have been applied to the growth forecasts and based on these assumptions, AECOM estimates the following costs associated with broadband provision to support growth across West Sussex to 2030:

Cost = £19,900,000
Funding Gap = £0*

The new dwelling connection costs are assumed funded by the developer and service providers. Costs are set out for each local authority in Section 5. This does not include the 5% of premises that unviable.

The costs associated with the BDUK Phase 2 programme set out to the left have been included in the cost estimates above and are assumed fully funded.

However, the future costs associated with ensuring 100% of premises across the county (i.e the remaining 5% of premises post BDUK Phase 2 programme) have not been attempted as part of this study.

** (considering both secured and expected funding)*

WATER & WASTE WATER

CURRENT SITUATION

Southern Water (SW) operates as the principal Water and Sewerage Company (WaSC) in West Sussex. Thames Water also operates waste water coverage in the north of the County. Portsmouth Water (PW), South West Water and Sutton and East Surrey Water also provide potable water to the County.

- All water companies have prepared Water Resource Management Plans (WRMPs) for 2015 to 2040. These are updated every five years with the current review completed in 2014. These seek to accommodate the potential increase in demand from new development, manage the existing supply of water and take account of likely future changes due to climate change.

Table 4.14

Water Company Coverage

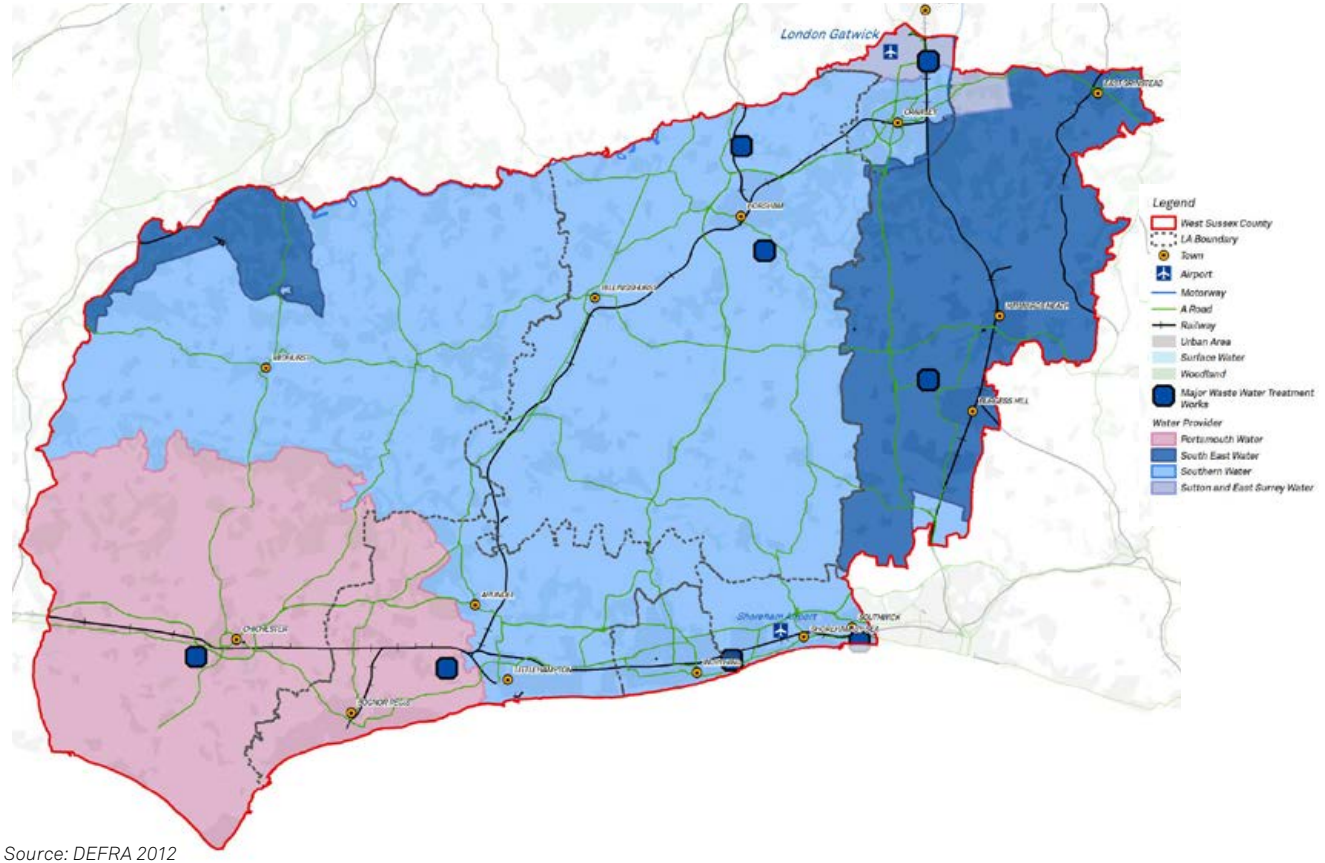
	PW	SW	SEW	SESW	TW
Adur		■			
Arun	■	■			
Chichester	■	■	■		■
Crawley		■	■	■	■
Horsham		■			■
Mid Sussex		■	■	■	■
Worthing		■			

SW - SOUTHERN WATER / SEW - SOUTH EAST WATER
PW - PORTSMOUTH WATER / SESW - SUTTON & EAST SURREY WATER
TW - THAMES WATER

- SW own and operate 13,800 kilometres of water mains, 39,600 kilometres of sewers and 2,385 wastewater pumping stations.
- As a result of new housing and business developments by 2020, SW expects to connect an extra 75,000 properties to their wastewater network and serve an extra 171,000 people
- Southern Water's Sussex North WRZ has dry year demand typically around 60 Ml/d. The WRZ's own internal sources are supplemented by a bulk import from Portsmouth Water of 15 Ml/d. However, the WRZ also provides a supply of 5.4 Ml/d from Weir Wood to South East Water.

Figure 4.17

Water companies & waste water treatment works



Source: DEFRA 2012

Current Capacity issues

- Environment Agency have identified Crawley as suffering from current Water stresses requiring a stringent water policy. This has been reinforced through the Crawley Local Plan.

FUTURE REQUIREMENTS

Impacts of growth on supply

- Over the next 25 years SW will make sure they can meet increased demand from a growing population and new housing and business developments. SW proposes to do this by working closely with local councils and other organisations involved in planning. This will enable SW to create the extra capacity in their system when and where it's required.
- SW intend to use new technology, such as live monitoring systems which will allow SW to pinpoint and solve problems in the sewer network before they cause problems, as well as giving warnings about the risk of flooding.
- Portsmouth Water WRMP 2014 confirms that water available for use (WAFU) is in excess of total demand + headroom which means the company is in surplus for the whole planning period, presenting further opportunities for bulk supplies to neighbouring companies. A surplus also exists for the Baseline Peak Week and the Baseline Minimum Deployable Output scenarios.

Water Supply - Water Resource Management Plans

Each water company has prepared Water Resource Management Plans (WRMPs) for 2015 to 2040. These are updated every five years with the current review completed in 2014. These seek to accommodate the potential increase in demand from new development,manage the existing supply of water and take account of likely future changes due to climate change.

Key actions to 2030 as highlighted in each plan are shown in Table 4.15.

Table 4.15

Water Supply Provider Plans

PROVIDER	INFRASTRUCTURE INVESTMENT PLANNED	TIME FRAME
Southern Water	Reduce leakage to 76Ml/d	2022
	Invest in improved treatment processes at a number of sites where the levels of nitrates from fertilisers or pesticides in the water being treated have already increased.	2015-2020
	Winter transfer stage 1 in 2018 (replacing mains to relieve pressure issues and allow Weir Wood to enter a 'non consumptive mode' during the winter / spring s)	2015-2020
	Well field reconfiguration	2015-2020
	Water efficiency Schemes	2015-2020
	10Ml/d water reuse scheme	2026
	Asset enhancement scheme	2034
Portsmouth Water	Developing groundwater source at Maytham Farm	2015-2020
	Developing a water re-use scheme at Aylesford (37.5 Ml/d)	2020-2030
South East Water	Developing groundwater source at Maytham Farm	2015-2020
	Developing a water re-use scheme at Aylesford (37.5 Ml/d)	2020-2030
	Building a new reservoir at Broad Oak (13.5 Ml/d)	2030-2035
	Developing six water transfer schemes to share water with adjioning areas	2020-2040
	Creation of 3 new WRZ transfers.	-
Sutton & East Surrey Water	Selective Metering across East Sutton & Surrey	2015-2020
	Increase Water Treatment Works capacity	2021-2030

Waste Water

Southern Water and Thames Water are not permitted to discharge treated effluent from wastewater treatment works in excess of the environmental permit provided by the Environment Agency or breach imposed levels of quality standards. A number of wastewater treatment works are operating at or near to current capacity. To resolve these constraints the local authorities must continue to work with the Water companies and the Environment Agency to inform the next AMP investment plans covering 2020-2025 (prepared between 2018-2019) and provide the planning certainty required to support investment proposals to Ofwat.

Summary of Water Company Plans to Support Growth

- SW proposes to develop a 'mini grid' in the South East by connecting more of their water network to other water companies. This will make it easier to move water around the region and share supplies
- SW proposes to adopt new approaches to how they manage water, including water re-use, underground storage and desalination, and to make water supplies more resilient.

COST OF CONNECTING THE GROWTH SITES

Per dwelling and commercial floorspace benchmark water supply and waste connection costs have been applied to the growth forecasts and based on these assumptions, AECOM estimates the following costs associated with provision to support growth across West Sussex to 2030:

Cost = £115,190,000

Funding Gap = £0*

These costs are assumed funded by the developer and service providers. Costs are set out for each local authority in Section 5

** (considering both secured and expected funding)*

WASTE

West Sussex
14
Permanent household waste facilities operated by West Sussex

CURRENT SITUATION

West Sussex has established the goal to achieve self-sufficiency and zero waste-to-landfill by 2031. The County Council, as Waste Disposal Authority (WDA),is statutorily required to arrange:

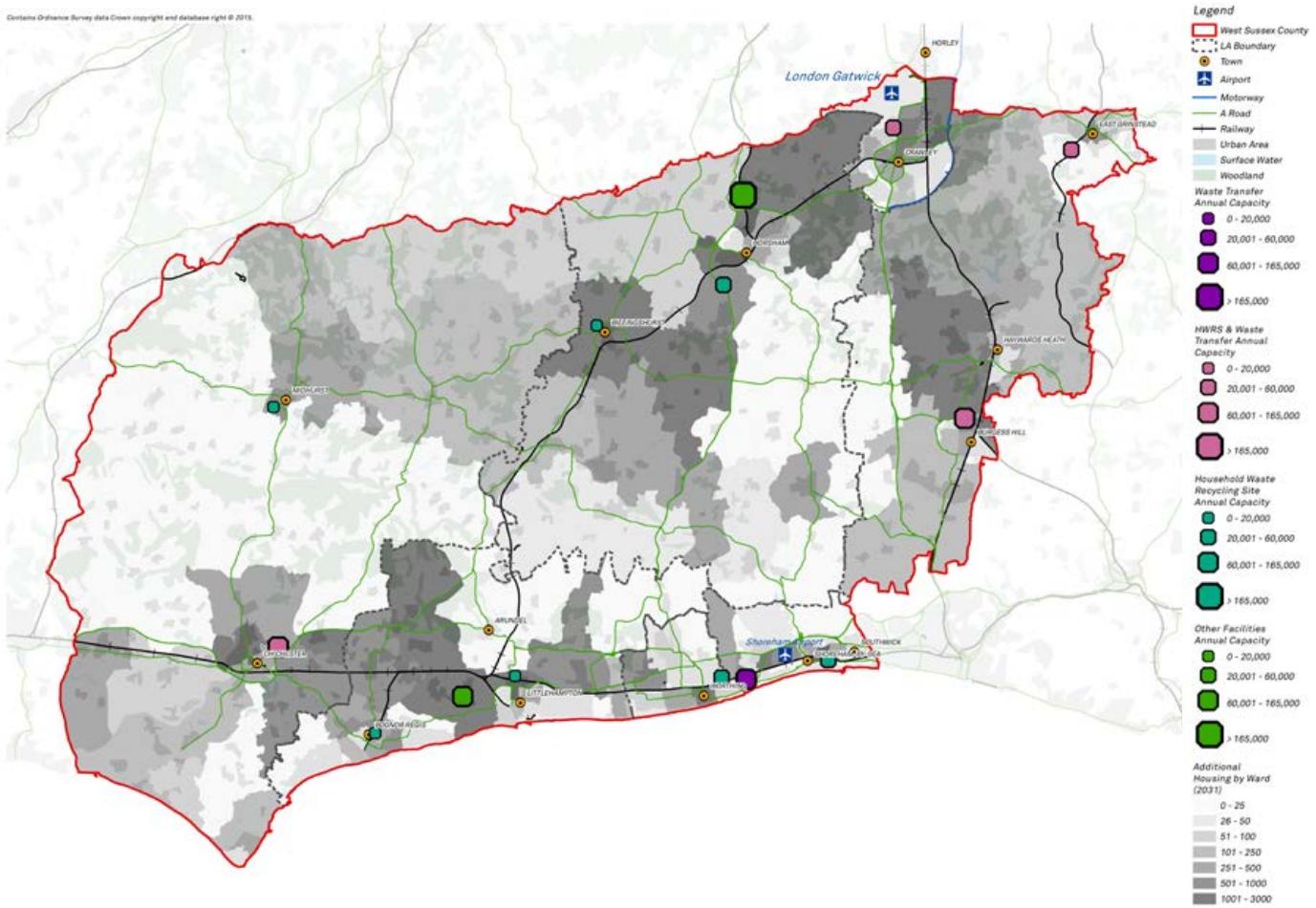
- (a) for the disposal of the controlled waste collected in its area by the waste collection authorities (WCAs); and
- (b) for places to be provided at which persons resident in its area may deposit their household waste and for the disposal of waste so deposited.

To help meet this requirement, the County Council provide waste transfer stations (WTS - local facilities where the WCAs can deliver collected material for bulking and transfer to reprocessing, disposal, etc. facilities) and Household Waste Recycling Sites (HWRS - places where the public can deliver their own waste and recyclables). Both WTS and HWRS facilities are very sensitive to the initial impact of housing growth as they are required early on in the development process.

In addition to these front line facilities WSCC have a Materials Recycling Facility (MRF) at Ford and a Mechanical Biological Treatment (MBT) Facility north of Horsham.

A review of the maximum operating capacities of WSCC sites is to be undertaken to update the figures currently in use and presented in this document. The updated figures will reflect changes in operation and material streams handled over the past 10 or more years and as anticipated into the future, including for the statutory target to recycle at least 50% of household waste by 2020.

Figure 4.18
Waste processing capacity against housing growth



Source: West Sussex County Council

Table 4.16

Waste capacity 2014/15

	HOUSEHOLD WASTE RECYCLING SITE (HWRS) 2014/15			WASTE TRANSFER SITE (WTS) 2014/15			OTHER MUNICIPAL WASTE	
	HWRS 2014/15 THROUGHPUT (TONNES)	CURRENT INDICATIVE CAPACITY OF HWRS (TONNES)	INDICATIVE SPARE CAPACITY	WTS 2014/15 THROUGHPUT (TONNES)	CURRENT INDICATIVE CAPACITY OF WTS	INDICATIVE SPARE CAPACITY	MOBILE SITE	OTHER RECYCLING
Adur	12,894	22,000	41%	59,292	110,000	46%	-	-
Arun	23,669	28,500	17%	-	-	-	-	100,000
Chichester	20,601	57,500	64%	82,001	110,000	25%	3,000	-
Crawley	17,934	22,000	18%	15,776	17,500	10%	-	-
Horsham	17,194	33,000	48%	-	-	-	-	-
Mid Sussex	21,918	46,500	53%	64,016	132,000	52%	-	-
Worthing	21,575	44,000	51%	-	-	-	-	-

Source: West Sussex County Council

HEADLINES

- Mid Sussex currently has an indicative spare capacity in terms of Household Waste Recycling Sites (HWRS) across 2 sites.
- The facilities at Chichester and Mid Sussex have the two largest capacities in terms of HWRS. This capacity aligns well with future housing growth, as both authorities are growth areas.
- West Sussex currently has an indicative spare capacity in terms of Waste Transfer Sites (WTS) across five sites.
- The WTS at Mid Sussex have the largest capacity in terms of WTS. This capacity aligns well in terms of Mid Sussex, which will receive significant growth to 2030.
- There are two other facilities:
- 1) Ford Materials Recycling Facility MRF that has consent to handle 100,000 tonnes of waste annually; and
- 2) A Mechanical Biological Treatment (MBT) Facility north of Horsham that has consent to handle 327,000 tonnes of waste annually.
- The site capacity estimates are however under review currently and could be altered based on the evolving level of service each facility provides, particularly the increasing number of recycling streams required and recycling targets. The outcome will inform how West Sussex is placed to accomodate housing growth.
- Waste facilities are currently well distributed across the County in terms of population and areas forecast for major growth.
- There are also currently eight mobile household waste sites all located in Chichester, with a nominal indicative capacity of 3,000 tonnes of household waste annually across that service.
- In addition to its own infrastructure the County Council uses a number of 3rd party sites to process and dispose of municipal waste.

EXAMPLE SPECIFIC PROJECTS IDENTIFIED

As explained earlier, WSCC are currently in the process of reviewing the existing and future waste requirements across the County.

Any waste projects included in the local authority IDPs are not firm proposals and therefore no specific future projects are presented here pending the outcome of the review.

FUTURE REQUIREMENTS IN CAPACITY

Based upon the projects set out as required within the local authority IDPs, the following cost and funding estimates have been recorded:

Cost = £5,720,000
Funding Gap = £1,430,000*

As stated above however this simply reflects the content of the current local authority IDPs and will be superseded by the WSCC review of waste facility requirements when complete.

Costs are set out for each local authority in Section 5

** (considering both secured and expected funding)*

4.7 FLOOD PROTECTION

FLOODING

CURRENT SITUATION

Flooding across West Sussex is not as severe within the county as other surrounding areas. The primary risk of flooding in West Sussex is from the sea, though there is still a high risk across the county from fluvial flooding. The main rivers which run through the county include the River Arun, River Rother, River Adur and River Ouse.

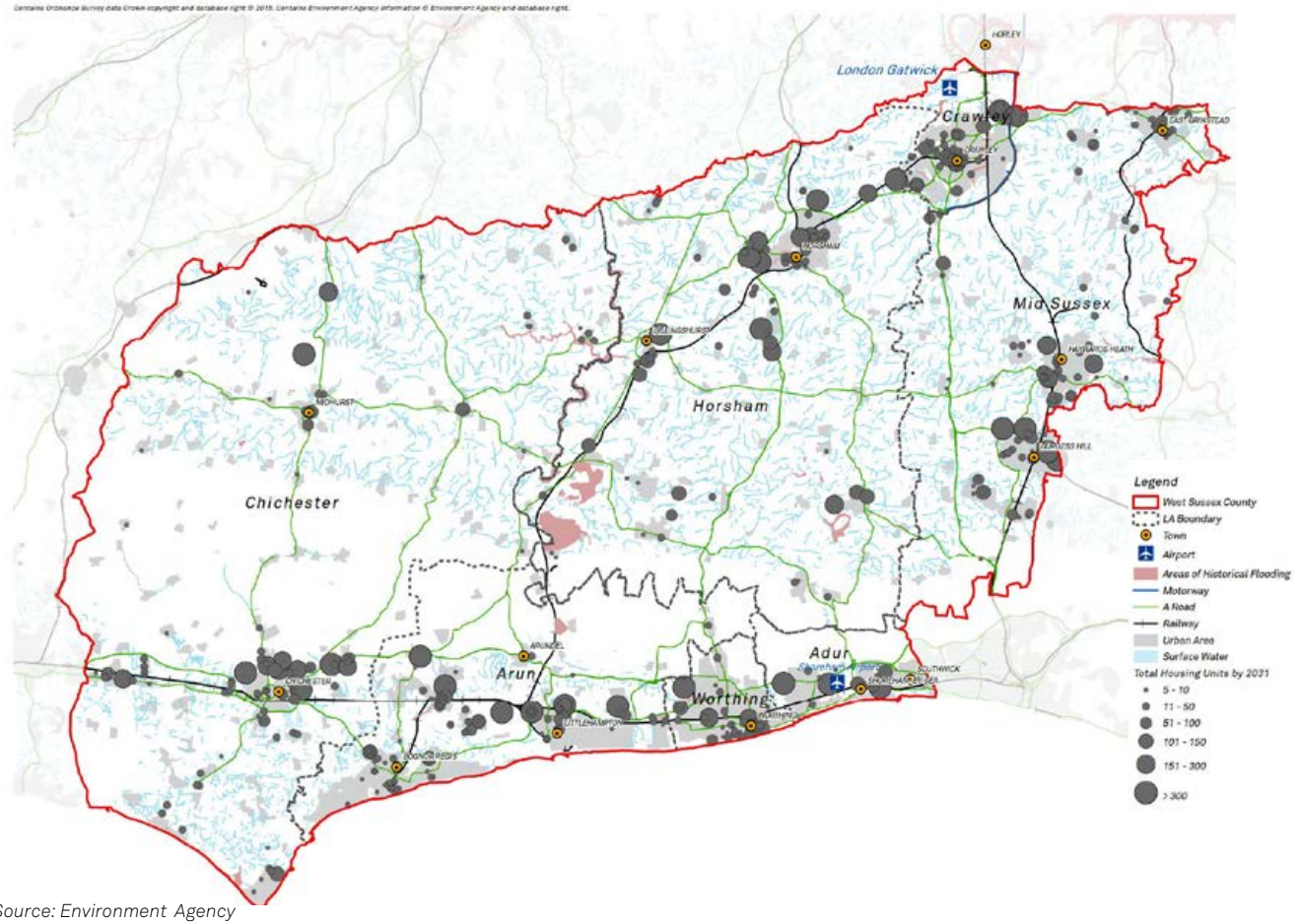
The highest risk of flooding is along the south coast of West Sussex where the majority of planned projects are to be located, in which Adur and Worthing experience significant surface water flooding.

The most high profile projects are on tidal defences/ protection, one in Shoreham where an investment of approximately £25.8million on tidal walls is planned and the Medmerry Managed Realignment with a cost in the region of £21million.

On review of the Flood Risk Management Infrastructure planned, there are a limited number of projects currently proposed for the northern part of the county and there are no flood alleviation projects in Crawley, though the risk of flooding is perceived to be lower in these areas.

Figure 4.19

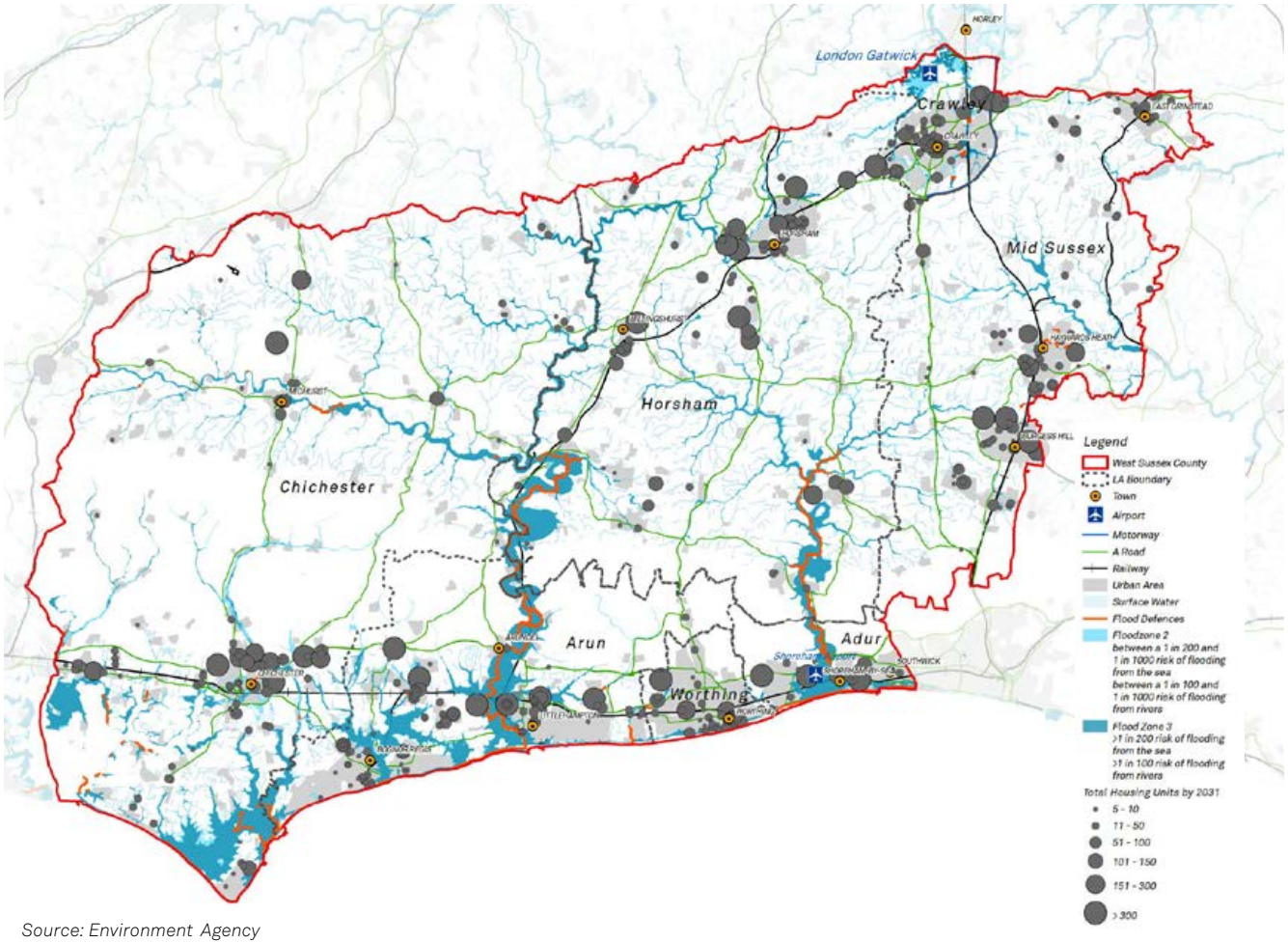
Historical flooding against proposed housing sites



Source: Environment Agency

Figure 4.20

Risk of flooding against proposed housing sites



Source: Environment Agency

SHORELINE MANAGEMENT PLANS

Shoreline Management Plans (SMP) are also in place to manage the protection of the West Sussex Coastline through maintaining existing defences, allowing natural erosion or through monitoring:

- North Solent Shoreline Management Plan
- Lancing Surface Water Management Plan

FUTURE REQUIREMENTS TO MEET GROWTH TO 2030

The following projects represent examples of key investment identified within the local authority IDPs and from West Sussex County Council and the Environment Agency:

- Shoreham Adur Tidal Walls - £25.8m
- Shoreham Western Harbour Arm Flood Defence - £12m
- Arundel Tidal Defence Improvements Phase - £10m
- Littlehampton Tidal Defences West Bank - £9m

COSTS AND FUNDING

Based upon information received from WSCC and the Environment Agency, the following costs and funding have been identified:

Cost = £103,020,000
Funding Gap = £42,730,000*

Costs are set out for each Local Authority in Section 5

** (considering both secured and expected funding)*

4.8 EMERGENCY SERVICES

EMERGENCY SERVICES

Ambulance Service | Police | Fire Service

WEST SUSSEX POLICE SERVICES

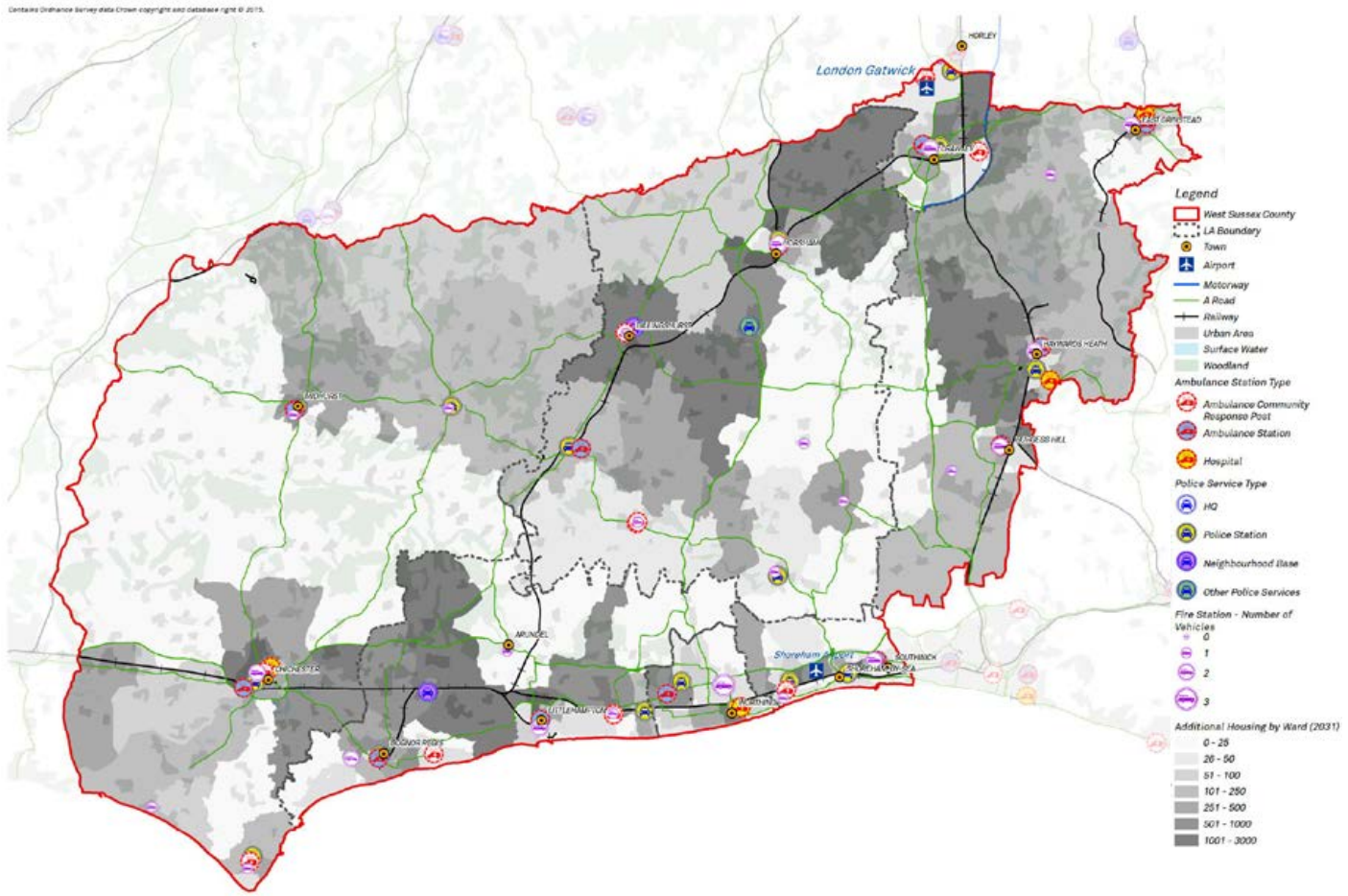
West Sussex is policed by Sussex Police, which also oversees Surrey, East Sussex, Brighton and Hove and Kent. Currently, the police services are looking to reduce their estate by 30%, in which there is a move towards a more modern and flexible approach that will include greater emphasis towards Neighbourhood Policing where police can work flexibly through shared facilities rather than standalone police stations. There are currently 20 police stations across West Sussex, with a further two community outposts that provide flexible police space.

WEST SUSSEX FIRE SERVICES

West Sussex Fire and Rescue Service is a statutory service by West Sussex. There are currently 25 stations across the county. Similar to the police services, there is an increasingly flexible approach to fire services being promoted, in which physical infrastructure in the form of a fire house is seen as less necessary. Instead a shared facility approach that encourages greater investment in fire trucks to meet gaps in existing coverage. Key issues regarding fire service coverage are the following:

Figure 4.21

Emergency services facilities against housing growth



Source: West Sussex County Council, Sussex Police website, South East Coast Ambulance Service NHS

Table 4.17

Emergency service capacity

	POLICE SERVICES		FIRE SERVICES			AMBULANCE SERVICES		
	POLICE OUTPOST	POLICE STATION	IMMEDIATE RESPONSE	RETINED	CREWED & RETAINED	AMBULANCE STATIONS	COMMUNITY RESPONSE	HOSPITALS
Adur	-	2	-	1	1	1	1	
Arun	1	3	2	2	-	2	3	
Chichester	-	4	1	4	-	2	1	1
Crawley	-	2	1	-	-	1	2	
Horsham	1	4	1	5	-	2	2	
Mid Sussex	-	3	-	2	3	3		2
Worthing	-	2	1	-	-	1	2	1
WEST SUSSEX	2	20	6	14	4	12	11	4

Source: West Sussex County Council and AECOM desk-based research

- Areas with highest risk of fire are similar to a deprivation map, with hot spots in most urban areas, along the coast around Littlehampton, Bognor Regis, Worthing, Lancing and Shoreham.
- Areas of high risk include Chichester, Horsham and Crawley where future housing growth will take place and therefore there could be capacity issues to meet future demand.
- There are currently 6 immediate response and retained fire units that provide 24/7 fire services; 14 retained services that provide on call service; and four day crewed and retained services that provide 0700-1900 service.

AMBULANCE SERVICES

Ambulance services are run by South East Coast Ambulance Service NHS Foundation Trust. This is one of twelve ambulance trusts working across England. Within West Sussex there are 27 Ambulance station, community response posts and hospitals where ambulances are located.

EXAMPLE SPECIFIC PROJECTS IDENTIFIED

There are 17 Emergency Service projects identified within the local authority Infrastructure Delivery Plans. These cover new and expanded facilities for each service type in relation to growth requirements across West Sussex. Some strategic projects include:

- New Fire Station in Crawley – £7m
- New Police Infrastructure Provision including the redevelopment of Bognor Regis station in Arun - £3.2m
- No ambulance projects listed in county

COSTS AND FUNDING

Based upon information contained within the local authority IDPs the following costs and funding have been recorded:

Cost = £11,560,000

Funding Gap = £11,560,000*

Costs are set out for each Local Authority in Section 5

** (considering both secured and expected funding)*

05

DEVELOPMENT SUITABILITY ANALYSIS

Each local authority within West Sussex has been analysed in detail to generate the summary pages which precede this page. The development suitability section which follows allows us to present by area the following:

- Major development sites and forecast demographics
- Key infrastructure capacity issues across each infrastructure topic explored
- Topic specific summary of all identified infrastructure projects, associated cost and estimated funding
- Spatial mapping of the developments against identified transport and social infrastructure capacity issues.
- Mapping of key infrastructure projects

It is important to note that the projects and subsequent costings presented on the following pages are populated from a number of sources and some variation exists across the different authorities based on the status of their own infrastructure planning work.

Tables 5.1 and 5.2 on the facing page summarise the main sourced used to populate the project list and the current status of infrastructure delivery plans for each authority.

Each area plan should be reviewed in conjunction with the universal legend below.

Universal Legend

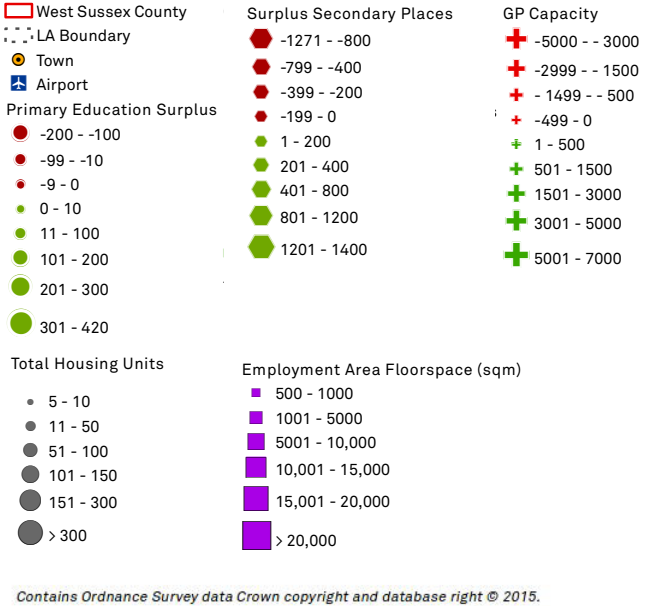


Table 5.1

Project List Source

		Key Source: **LA IDP Project Schedules**	Key Source: **West Sussex County Council**	Key Source: **AECOM Benchmark Modelling**	**Additional Sources**
Transport	**Motorways**	Yes	Yes		Highways England Road Investment Strategy - December 2014
	Highways	Yes	Yes		Crawley Borough Council Local Plan Transport Strategy (LPTS Stage 2 Report) – August 2014 Mid Sussex Transport Study (MSTS Stage 2 Report) – Sept 2013 Arun Transport Study for Strategic Development (Options and Sustainable Transport Measures) – March 2013 Adur Local Plan and Shoreham Harbour Transport Study (Final Report) – August 2013 Horsham District Transport and Development Study (Final report and addendum) – April 2014 Chichester District Council Local Plan (Transport Study of Strategic Development Options and Sustainable Transport Measures – Final Report) – March 2013. Worthing LDF Core Strategy Testing Technical Note – May 2010)
	Public Transport	Yes	Yes		
	Rail	Yes	Yes		Network Rail – Sussex Area Route Study - Sept 2015
	Other Strategic	Yes	Yes		West Sussex Local Transport Plan – February 2011 Gatwick Airport – 2nd Runway Airport Surface Strategy – May 2014
Education	**Primary Education**	Yes	Yes		
	Secondary Education	Yes	Yes		
	AE / FE / HE	Yes		Yes	
	Early Years	Yes	Yes	Yes	
Health and Social Care	**Primary Healthcare**	Yes		Yes	
	Acute Healthcare	Yes		Yes	
	Mental Healthcare	Yes		Yes	
	Adult Social Services	Yes	Yes	Yes	
Community and Recreation	**Libraries**	Yes	Yes	Yes	
	Youth Services	Yes		Yes	
	Community Facilities	Yes		Yes	
	Sports Facilities	Yes		Yes	
	Open Space & Recreation	Yes		Yes	
Green Infrastructure		Yes	Yes	Yes	
Utilities & Waste	**Energy (Electricity & Gas)**	Yes		Yes	Service Provider Investment Plans
	Water and Sewage	Yes		Yes	Service Provider Investment Plans
	Waste	Yes	Yes		
	Broadband	Yes	Yes	Yes	Broadband Provider Plans
Flood Defences		Yes	Yes		Environment Agency
Emergency Services		Yes	Yes		

Table 5.2

Local Authority Project Schedule Source Documents

Authority	**LA IDP Schedule sourced from**
Adur	Infrastructure Delivery Plan (October 2014)
Arun	Infrastructure Delivery Plan (January 2015)
Chichester	Infrastructure Delivery Plan (October 2014)
Crawley	Infrastructure Delivery Schedule (2015)
Horsham	Infrastructure Delivery Plan (May 2014)
Mid Sussex	Infrastructure Delivery Plan (June 2015)
Worthing	IInfrastructure Delivery Plan (September 2010)+ Infrastructure Funding Gap Review: 2013

Technical Note on Local Authority figures on following pages:

As stated in Section 3 of the report all the population figures presented on the following pages represent the outputs of the Chelmer Model Population forecasts, based upon housing trajectories presented within this report, which have been produced as a bespoke forecast to inform this study.

Refer to Study Parameters in Section 1 of this report for a full explanation of the inputs, assumptions and exclusions related to the infrastructure costs and funding presented on the following pages.

5.1 ADUR

2,730 new homes (+10%)

2,384 new people (+4%)

to 2030

INFRASTRUCTURE HIGHLIGHTS

- ***Coastal nature of Adur means transport access to certain locations is problematic.***
- ***Many highways junctions operating over capacity***
- ***Rail travel issues of capacity at peak times, long journey times and level crossing downtimes.***
- ***Bus services at risk of financial viability decisions.***
- ***Key flood defences required from Shoreham Adur Tidal Walls scheme***
- ***Increasing secondary school capacity across Adur***
- ***Fishergate area requires youth services***

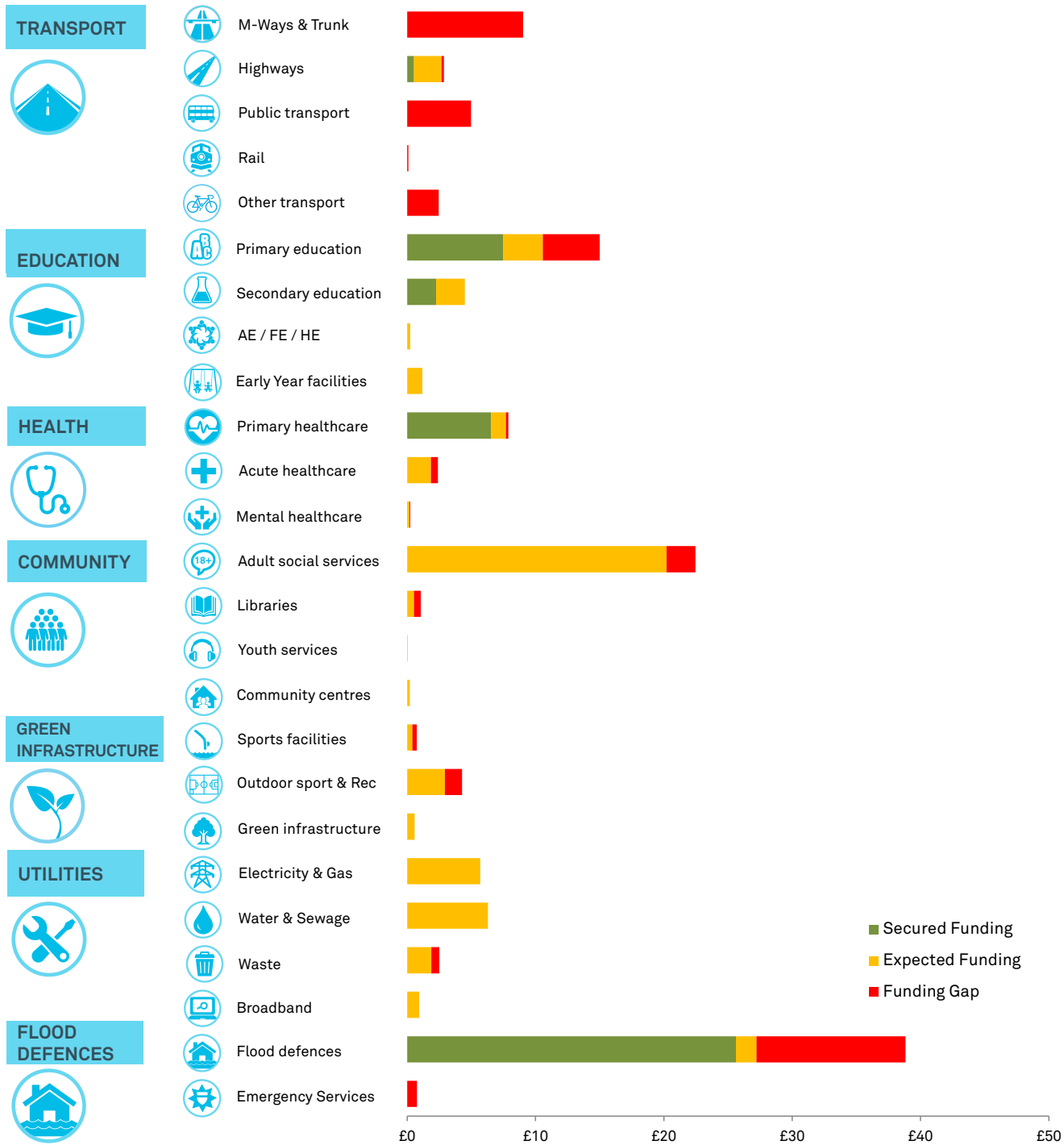
Total Infrastructure Costs: **£135,190,000**

Total Secured Funding: **£42,420,000**

Total Expected Funding: **£53,300,000**

Total Funding Gap: **£39,470,000**

% of Infrastructure Funded: **71%**



SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2015-2030)

KEY EMPLOYMENT SITES WITH CAPACITY

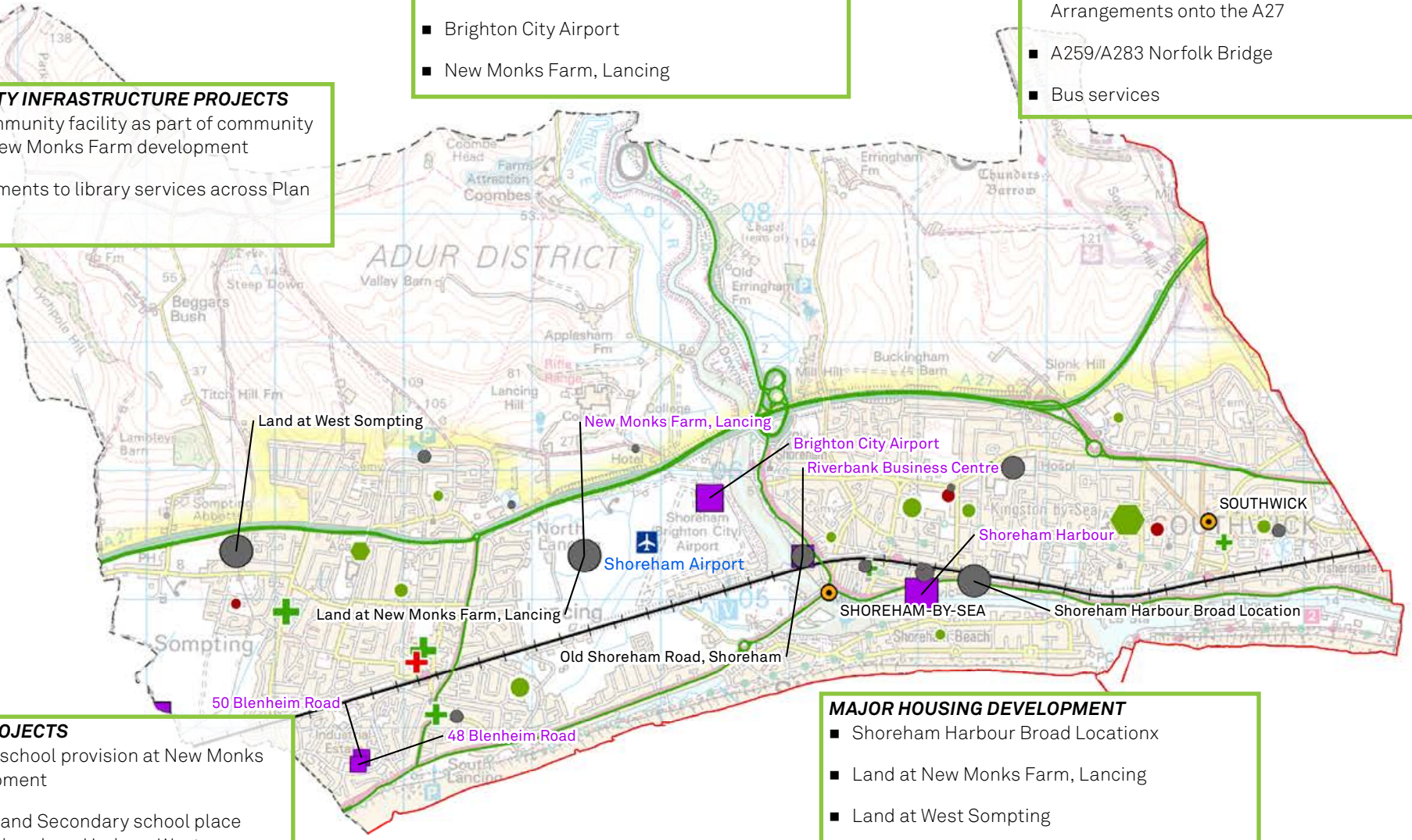
- Shoreham Harbour
- Brighton City Airport
- New Monks Farm, Lancing

TRANSPORT PROJECTS

- New Monks Farm / Shoreham Airport - Access Arrangements onto the A27
- A259/A283 Norfolk Bridge
- Bus services

COMMUNITY INFRASTRUCTURE PROJECTS

- New community facility as part of community hub at New Monks Farm development
- Improvements to library services across Plan Area



EDUCATION PROJECTS

- New primary school provision at New Monks Farm development
- New Primary and Secondary school place provision at Shoreham Harbour Western harbour Arms

MAJOR HOUSING DEVELOPMENT

- Shoreham Harbour Broad Locationx
- Land at New Monks Farm, Lancing
- Land at West Sompting
- Old Shoreham Road, Shoreham
- Southlands Hospital

SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN ADUR

Refer to Universal Legend at start of Chapter 5 to interpret Map icons

Projects Note - Any Strategic Projects Listed in Table 5.3 and affecting this local authority are not included in local costs and funding on facing page.

5.2 ARUN

9,615 new homes **(+13%)**

12,868 new people **(+8%)**

to 2030

INFRASTRUCTURE HIGHLIGHTS

- ***Congestion a problem on strategically important A259 between Littlehampton and Goring.***
- ***Traffic Delays result from crossing barrier down time at Woodgate crossing, A29 between Bognor Regis and A27 at Fontwell.***
- ***East-West bus services generally good but varying level of bus stop access in residential estates.***
- ***Three villages area does not have sufficient capacity in primary school places to support growth.***
- ***Potential for a new secondary school to serve east Chichester and west Arun at the end of the plan periods.***
- ***Need for additional secondary and community care services throughout the Plan period.***
- ***improvements to swimming facilities a priority.***

Total Infrastructure Costs: **£357,930,000**

Total Secured Funding: **£25,770,000**

Total Expected Funding: **£186,620,000**

Total Funding Gap: **£145,540,000**

% of Infrastructure Funded: **59%**

TRANSPORT

EDUCATION

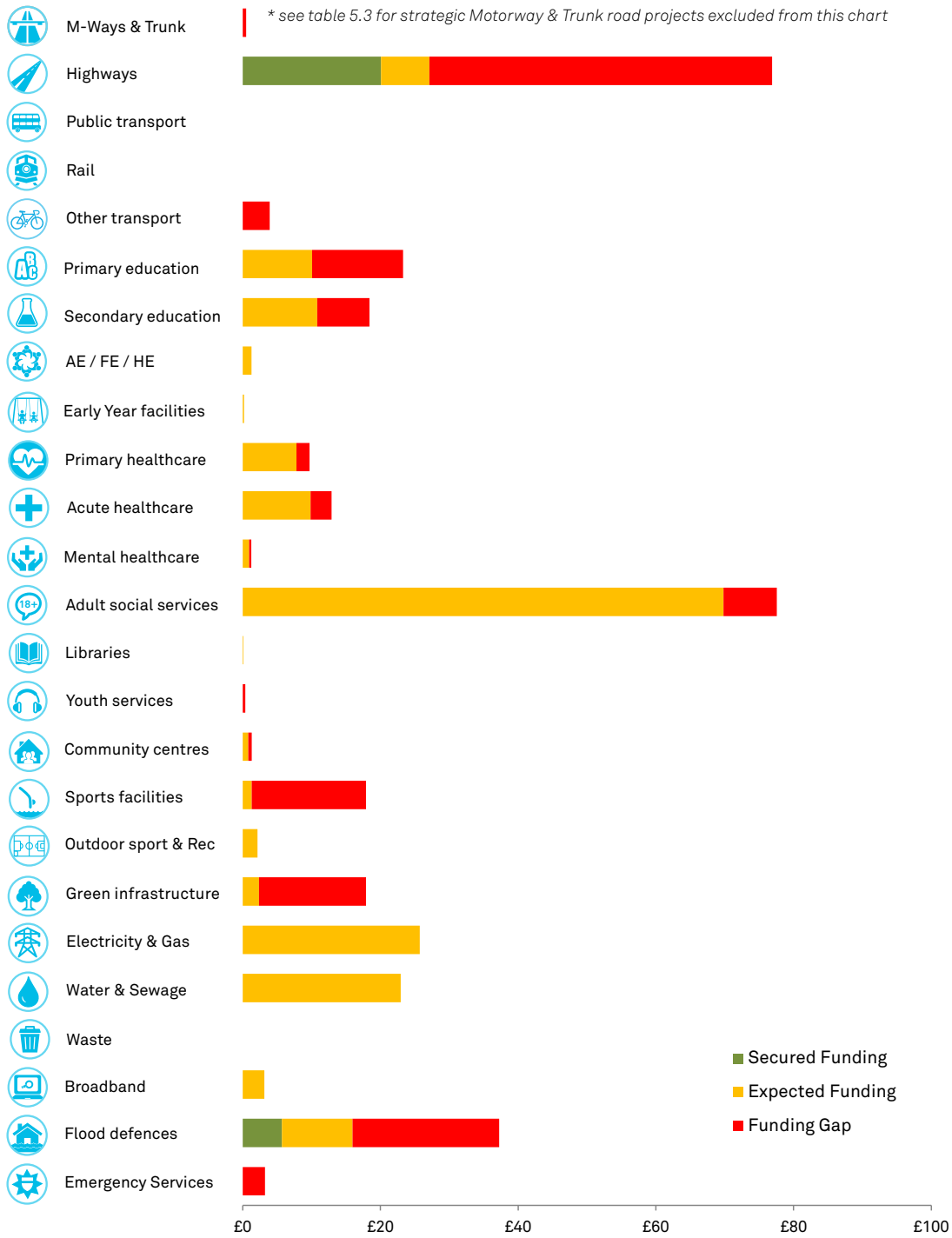
HEALTH

COMMUNITY

GREEN INFRASTRUCTURE

UTILITIES

FLOOD DEFENCES



SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2015-2030)

EDUCATION PROJECTS

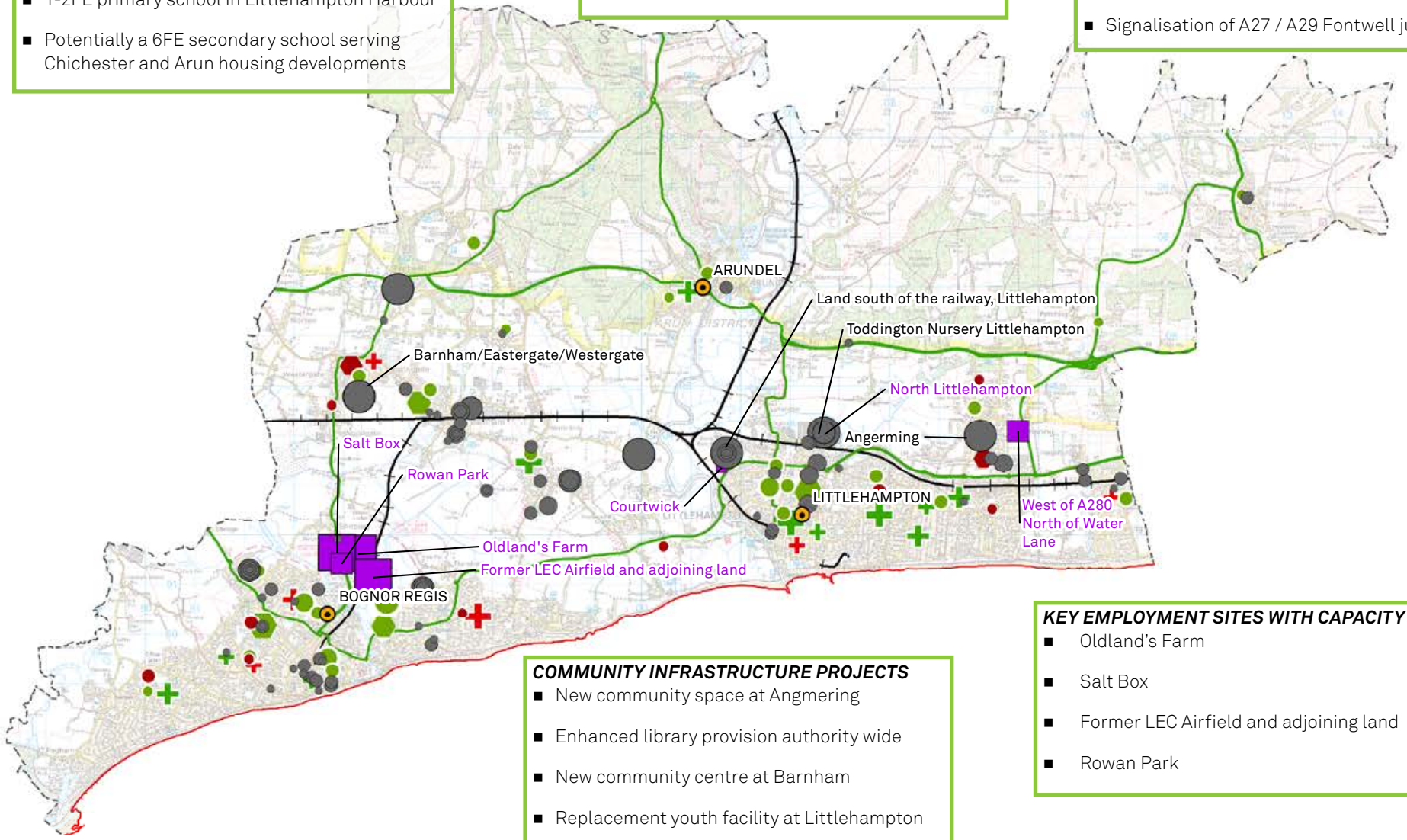
- 2FE primary school and Early Years in Arun around Barnham, Eastergate & Westergate.
- 1FE primary school in Angmering
- 1-2FE primary school in Littlehampton Harbour
- Potentially a 6FE secondary school serving Chichester and Arun housing developments

MAJOR HOUSING DEVELOPMENT

- Barnham/Eastergate/Westergate Allocations
- Angmering
- Land south of the railway, Littlehampton

TRANSPORT PROJECTS

- Realignment of the A29
- Felpham Way and Northern Relief Road Link
- A259 East Arun Corridor Capacity Enhancement
- Signalisation of A27 / A29 Fontwell junction



COMMUNITY INFRASTRUCTURE PROJECTS

- New community space at Angmering
- Enhanced library provision authority wide
- New community centre at Barnham
- Replacement youth facility at Littlehampton

KEY EMPLOYMENT SITES WITH CAPACITY

- Oldland's Farm
- Salt Box
- Former LEC Airfield and adjoining land
- Rowan Park

SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN ARUN

Refer to Universal Legend at start of Chapter 5 to interpret Map icons

Projects Note - Any Strategic Projects Listed in Table 5.3 and affecting this local authority are not included in local costs and funding on facing page.

5.3 CHICHESTER

7,575 new homes **(+13%)**

10,108 new people **(+9%)**

to 2030

INFRASTRUCTURE HIGHLIGHTS

- ***Chichester City and the Manhood Peninsula suffer from road congestion***
- ***Rail capacity limited by two track railway***
- ***Bus services at risk of financial viability decisions***
- ***Potential for new secondary school to serve east Chichester and west Arun at end of the plan period.***
- ***Chichester City Centre, 3 out of 4 GP buildings either constrained or unsuited to modern healthcare delivery***
- ***St Richards Hospital expansion required***
- ***Tangmere WwTW inadequate to support growth, however facility expansion will take place by 2017 to accomooddate 3,000 more homes.***

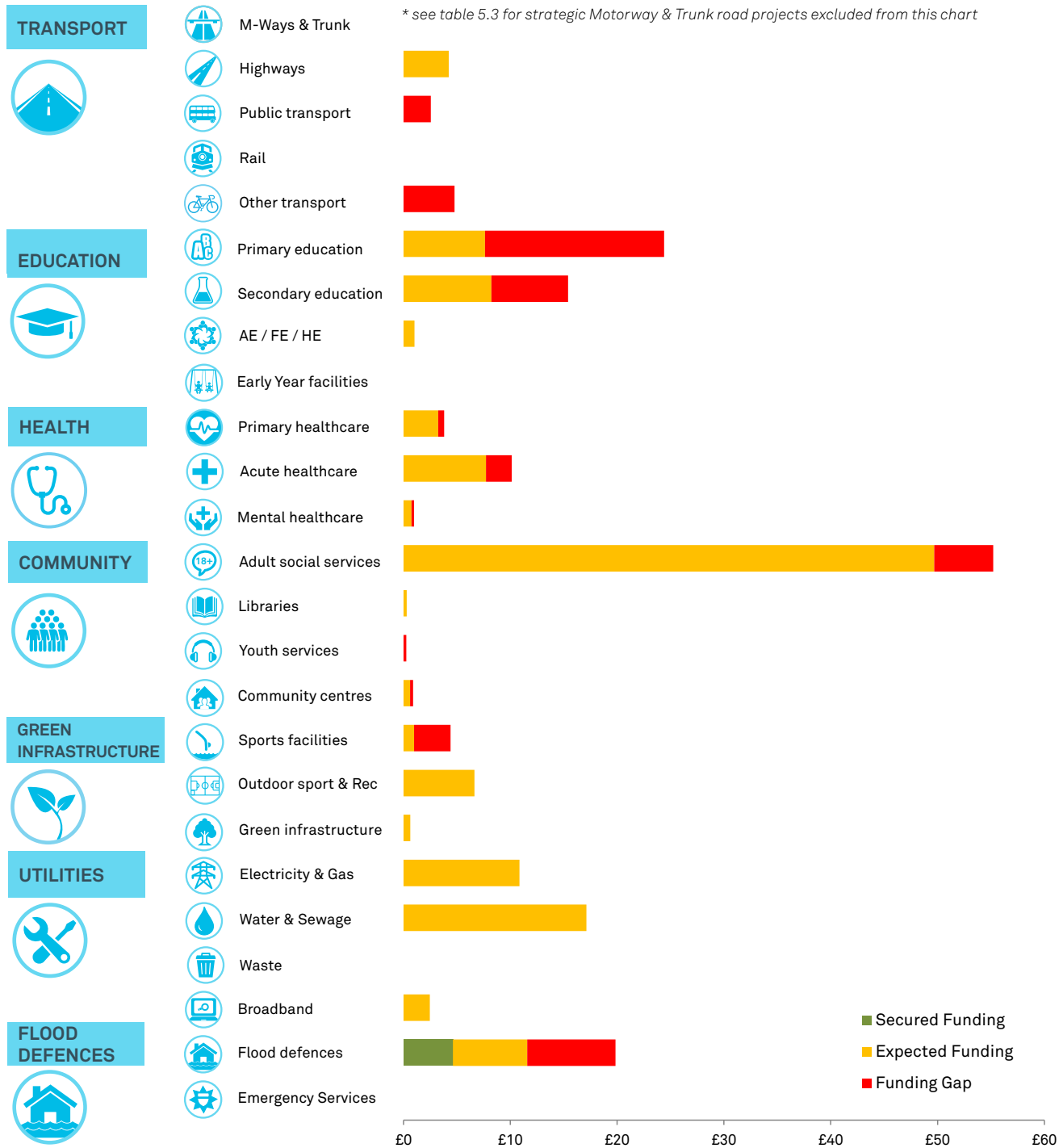
Total Infrastructure Costs: **£185,980,000**

Total Secured Funding: **£4,630,000**

Total Expected Funding: **£129,130,000**

Total Funding Gap: **£52,220,000**

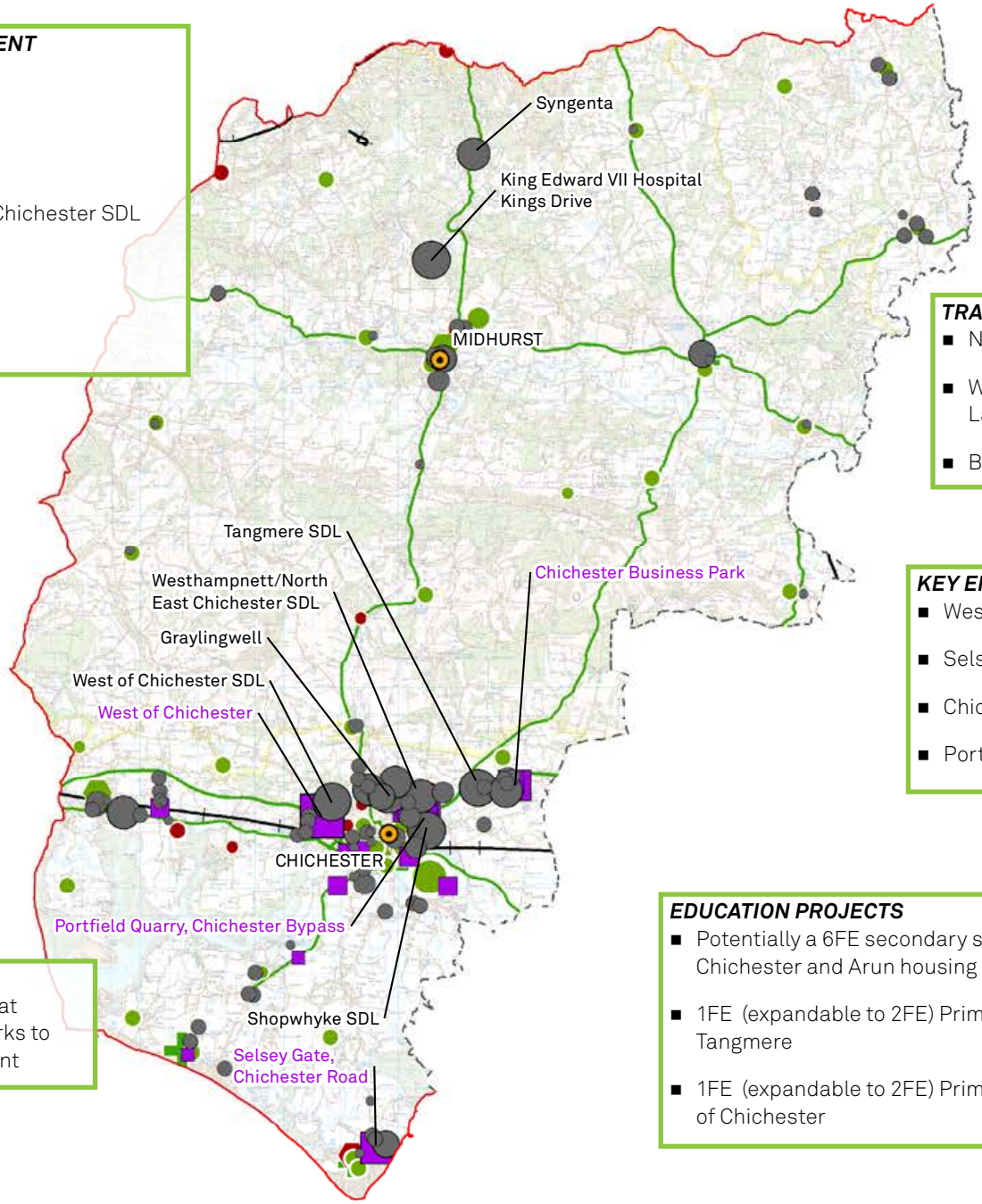
% of Infrastructure Funded: **72%**



SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2015-2030)

MAJOR HOUSING DEVELOPMENT

- West of Chichester SDL
- Tangmere SDL
- Graylingwell
- Westhampnett/North East Chichester SDL
- Shopwhyke SDL
- King Edward VII Hospital
- Syngenta



TRANSPORT PROJECTS

- Northgate gyratory
- Westhampnett Road/ St Pancras/ Spitalfield Lane/ St James Road double mini roundabouts
- Bus lane along A259

KEY EMPLOYMENT SITES WITH CAPACITY

- West of Chichester
- Selsey Gate, Chichester Road, Selsey
- Chichester Business Park, Tangmere
- Portfield Quarry, Chichester Bypass

UTILITY PROJECTS

- Connection to and improved capacity at Tangmere Waste Water Treatment Works to Support planned strategic development

EDUCATION PROJECTS

- Potentially a 6FE secondary school serving Chichester and Arun housing developments
- 1FE (expandable to 2FE) Primary school at Tangmere
- 1FE (expandable to 2FE) Primary school West of Chichester

SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN CHICHESTER

Refer to Universal Legend at start of Chapter 5 to interpret Map icons

Projects Note - Any Strategic Projects Listed in Table 5.3 and affecting this local authority are not included in local costs and funding on facing page.

5.4 CRAWLEY

5,010 new homes (+11%)

5,674 new people (+5%)

to 2030

INFRASTRUCTURE HIGHLIGHTS

- ***Proposed growth could lead to a small number of junctions performing significantly worse, with A2011 Crawley Avenue/A2004 Northgate Avenue/Hazelwick Avenue at theoretical capacity.***
- ***Need for 2FE primary school otherwise existing primary and secondary schools hold potential for expansion to meet growth requirements.***
- ***Generally sufficient provision in most types of open space and sports facilities. However, some deficiencies in quantity in specific areas.***
- ***Water resource constraint in the area is considered moderate to high.***
- ***Sewage treatment works adequate to 2021, beyond that Thames Water assets likely to need upgrades.***

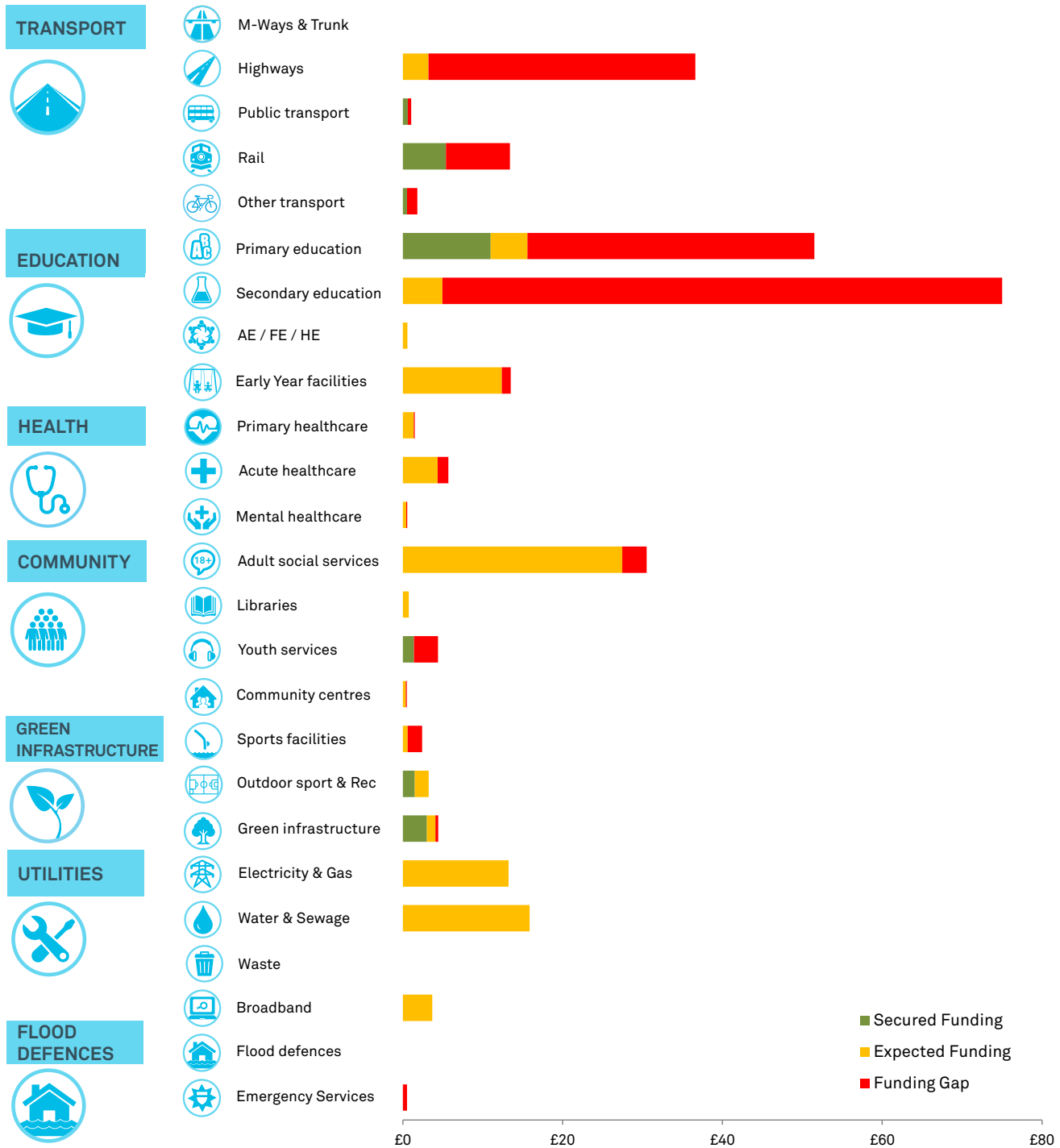
Total Infrastructure Costs: **£280,780,000**

Total Secured Funding: **£23,470,000**

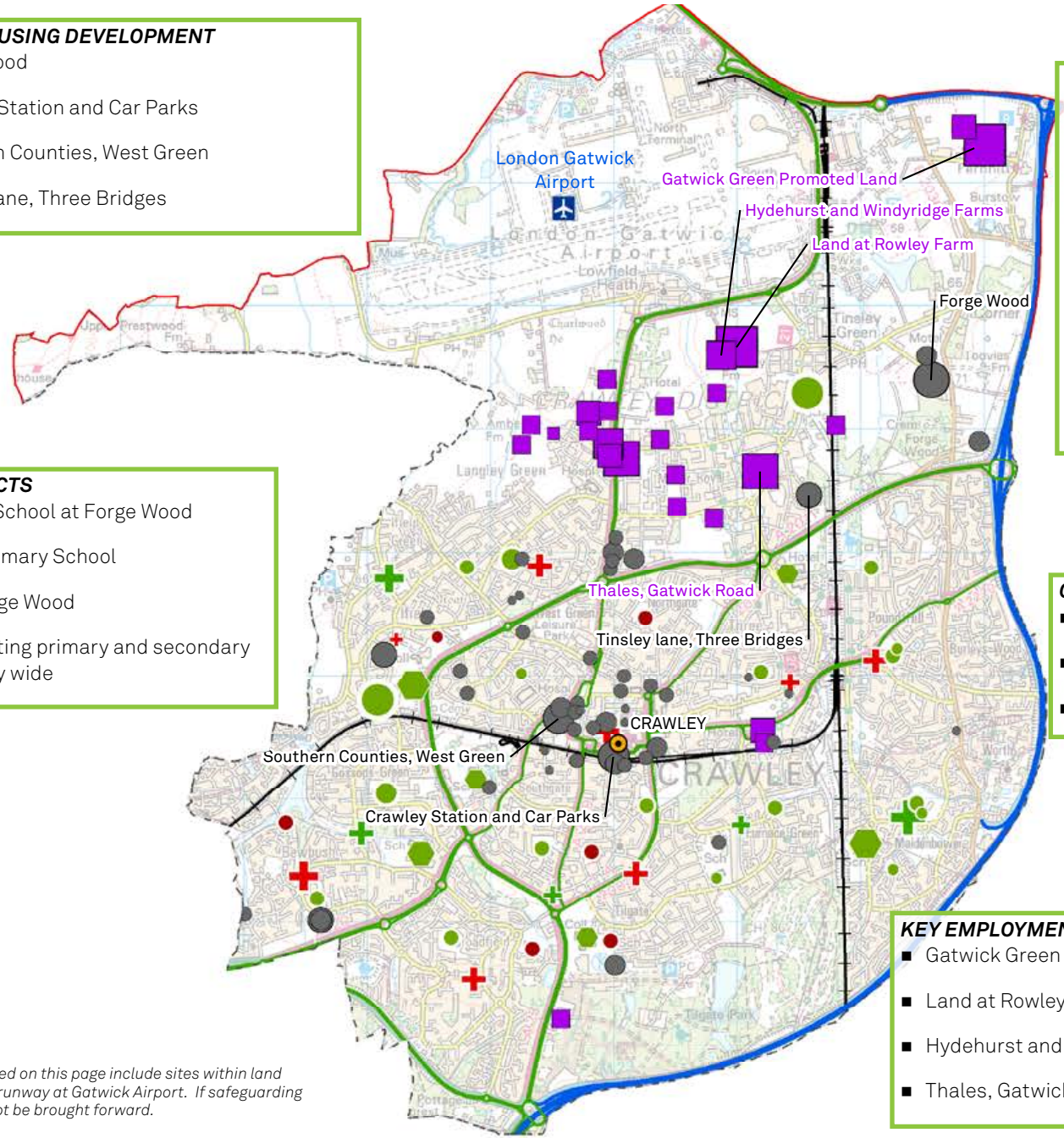
Total Expected Funding: **£96,660,000**

Total Funding Gap: **£160,650,000**

% of Infrastructure Funded: **43%**



SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2015-2030)



MAJOR HOUSING DEVELOPMENT

- Forge Wood
- Crawley Station and Car Parks
- Southern Counties, West Green
- Tinsley lane, Three Bridges

TRANSPORT PROJECTS

- Crawley Strategic Infrastructure Package - Road Network Improvements
- North East sector development - improvement to M23 junction 10
- Capacity improvements to M23 Junction 9 and junction 11
- Authority wide Real time Passenger information Scheme
- Crawley town centre local plan improvements
- Redevelopment of Ifield Station

EDUCATION PROJECTS

- 2 or 3FE primary School at Forge Wood
- Additional 2FE Primary School
- Early Years at Forge Wood
- Expansion of existing primary and secondary facilities authority wide

COMMUNITY INFRASTRUCTURE PROJECTS

- Forge Wood youth provision
- New playing pitches and sports area
- New synthetic turf pitch

KEY EMPLOYMENT SITES WITH CAPACITY

- Gatwick Green Promoted Land
- Land at Rowley Farm
- Hydehurst and Windyridge Farms
- Thales, Gatwick Road (under construction)

Employment sites presented on this page include sites within land safeguarded for a second runway at Gatwick Airport. If safeguarding remains, these sites cannot be brought forward.

SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN CRAWLEY

Refer to Universal Legend at start of Chapter 5 to interpret Map icons

Projects Note - Any Strategic Projects Listed in Table 5.3 and affecting this local authority are not included in local costs and funding on facing page.

5.5 HORSHAM

11,250 new homes **(+19%)**

18,426 new people **(+13%)**

to 2030

INFRASTRUCTURE HIGHLIGHTS

- ***Congestion on roads that cross or feed into A24 during peak periods.***
- ***A lack of safe crossing points across A24 discourages people from accessing neighbouring communities***
- ***Notable existing junctions operating close to capacity include the A264/B2195 Moorhead and A24/B2237 Robin Hood Roundabout.***
- ***Requirement for existing schools to expand and new facilities to be provided to support growth, despite capacity in some existing schools***
- ***Horsham Waste Water Treatment Site will require investment to support housing at Southwater.***

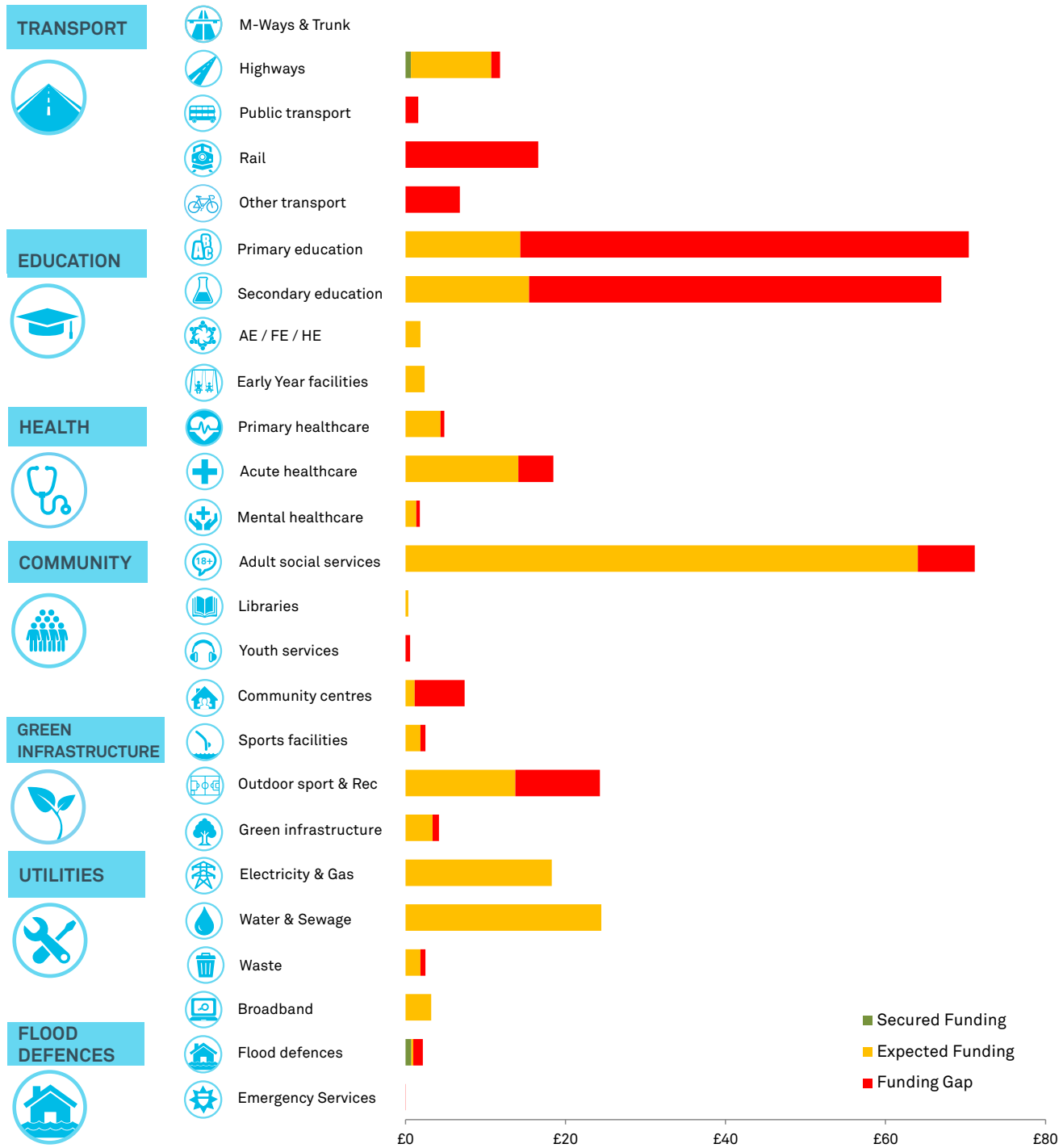
Total Infrastructure Costs: **£364,710,000**

Total Secured Funding: **£1,390,000**

Total Expected Funding: **£196,580,000**

Total Funding Gap: **£166,730,000**

% of Infrastructure Funded: **54%**



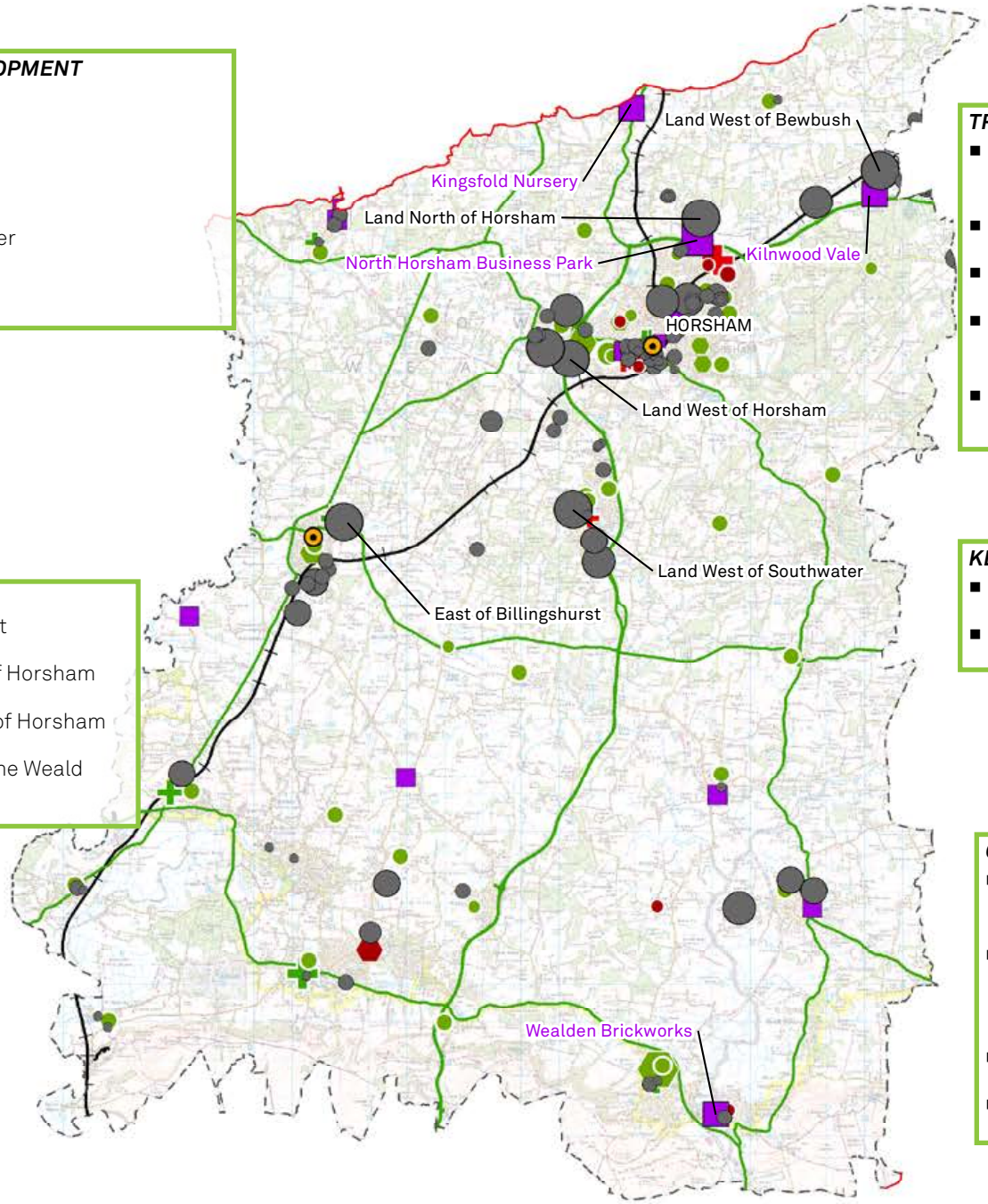
SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2015-2030)

MAJOR HOUSING DEVELOPMENT

- Land North of Horsham
- Land West of Bewbush
- Land West of Horsham
- Land West of Southwater
- East of Billinghurst

EDUCATION PROJECTS

- 1FE Primary School at Billinghurst
- Two 2FE primary schools North of Horsham
- 6FE Secondary School for North of Horsham
- Secondary school expansion at The Weald school



TRANSPORT PROJECTS

- A24/A264 Great Daux Roundabout Junction Improvements
- A24 Farthings Hill junction improvement
- Five Oaks roundabout (Broadbridge Heath)
- Public transport service enhancement (Horsham)
- New railway station on the Horsham -Three Bridges line

KEY EMPLOYMENT SITES WITH CAPACITY

- North Horsham Business Park
- Kilnwood Vale

COMMUNITY INFRASTRUCTURE PROJECTS

- Enhancement to existing community facilities authority wide
- Enhancement of existing library provision authority wide with New library facility North of Horsham
- Improvement to Southwater Country Park
- Refurbishment of Jubilee Hall

SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN HORSHAM

Refer to Universal Legend at start of Chapter 5 to interpret Map icons

Projects Note - Any Strategic Projects Listed in Table 5.3 and affecting this local authority are not included in local costs and funding on facing page.

5.6 MID SUSSEX

9,750 new homes **(+16%)**

14,358 new people **(+10%)**

to 2030

INFRASTRUCTURE HIGHLIGHTS

- ***Generally well served by bus and rail services***
- ***Air quality issues related to the A22 and its impact on the Ashdown Forest Special Area of Conservation and AQMA on A273 at Hassocks.***
- ***Existing school capacity in the north likely to be sufficient to support growth***
- ***Existing schools in central and southern areas not sufficient to support growth and will require additional provision.***
- ***East Grinstead areas will face secondary school capacity problems in the shorter term.***
- ***Further growth will place additional strain on the existing Household Waste Recycling Site network.***

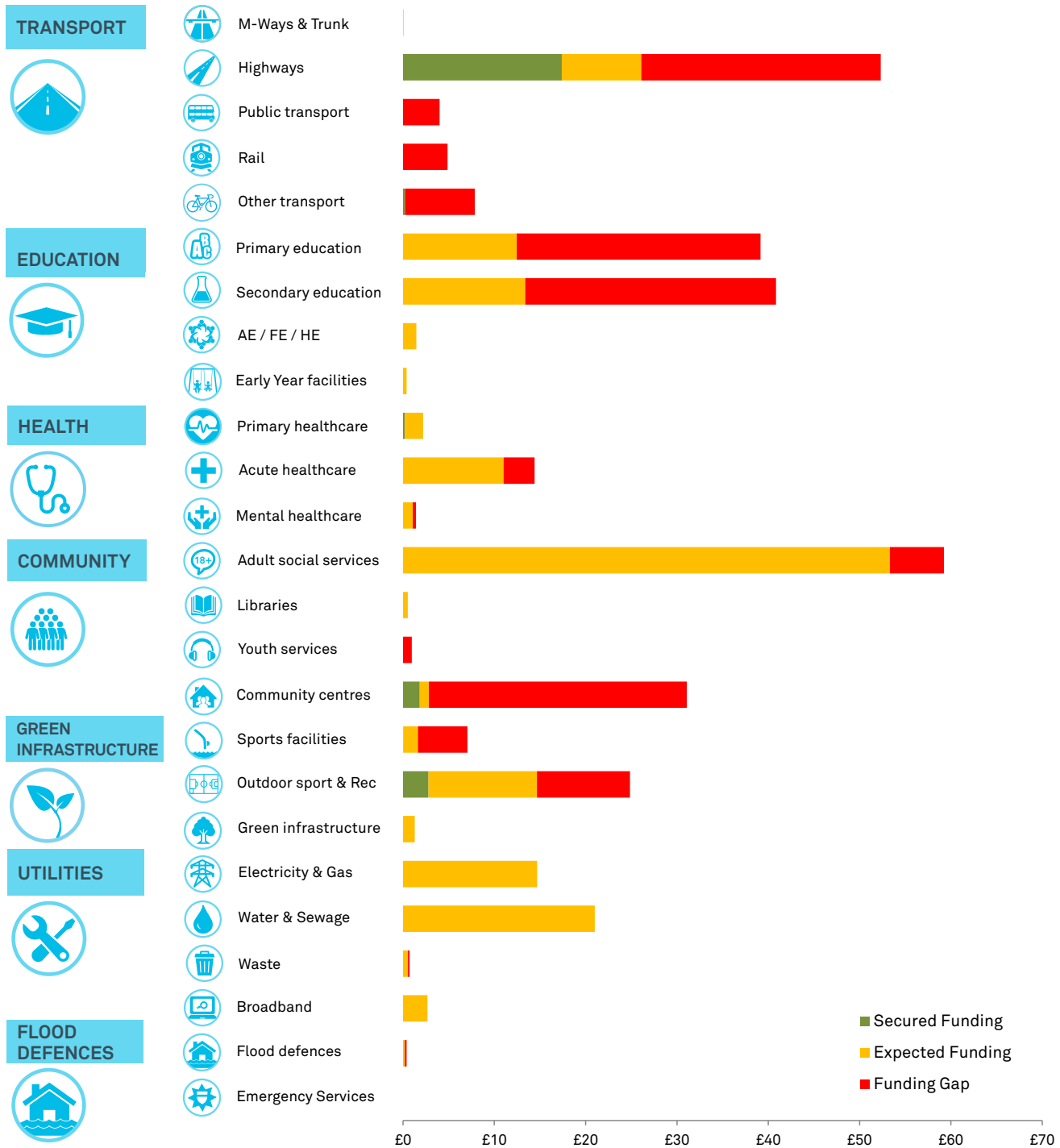
Total Infrastructure Costs: **£333,420,000**

Total Secured Funding: **£22,430,000**

Total Expected Funding: **£159,210,000**

Total Funding Gap: **£151,770,000**

% of Infrastructure Funded: **54%**



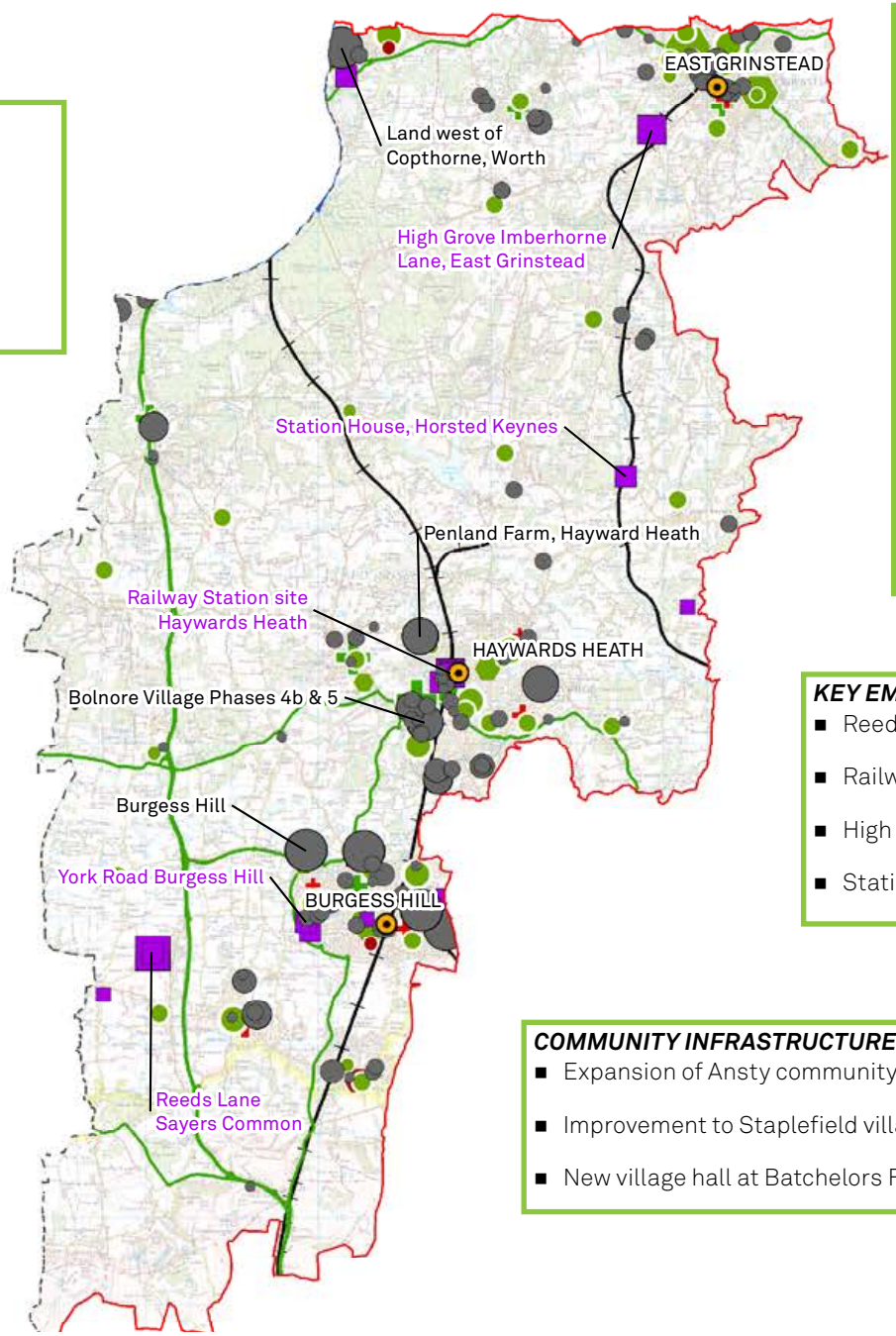
SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2015-2030)

MAJOR HOUSING DEVELOPMENT

- Burgess Hill
- Land west of Copthorne, Worth
- Penland Farm, Hayward Heath
- Bolnore Village Phases 4b & 5

EDUCATION PROJECTS

- Extension of Albourne primary school
- 1FE expansion of Secondary School at Burgess Hill
- 6FE Secondary School at Burgess Hill
- 3FE & 2FE primary school at Burgess Hill



TRANSPORT PROJECTS

- A2300 dualling between A23 and the Northern Arc junction with improvements to A23/ A2300 Hickstead interchange (Burgess Hill)
- Northern Arc Link Road between A273 Jane Murray Way to the A273 Isaacs Lane (Burgess Hill)
- Junction improvement - A22 (London Road) with Lingfield Road
- Improvement to A22 London Road / Eastbourne Road junction with A264 Copthorne Road
- Bus scheme - Public transport links between Burgess Hill Northern Arc and town centre rail stations

KEY EMPLOYMENT SITES WITH CAPACITY

- Reeds Lane, Sayers Common
- Railway Station site, Haywards Heath
- High Grove Imberhorne Lane, East Grinstead
- Station House, Horsted Keynes

COMMUNITY INFRASTRUCTURE PROJECTS

- Expansion of Ansty community hall
- Improvement to Staplefield village hall
- New village hall at Batchelors Field

SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN MID SUSSEX

Refer to Universal Legend at start of Chapter 5 to interpret Map icons

Projects Note - Any Strategic Projects Listed in Table 5.3 and affecting this local authority are not included in local costs and funding on facing page.

5.7 WORTHING

3,000 new homes **(+6%)**

0 new people **(+0%)**

to 2030

INFRASTRUCTURE HIGHLIGHTS

- ***Worthing suffers from road congestion onA27 and A259, especially at peak times.***
- ***Major junctions at Lyons Farm, Grove Lodge and Offington are running at full capacity at peak times.***
- ***Coastal railway struggles to provide strong alternative to road network due to two track infrastructure.***
- ***Bus services at risk of financial viability decisions***
- ***Key issue of improving pedestrian and cycle routes and supporting security and cycle parking.***
- ***Existing adult learning facilities suffer from poor buildings and difficulty in client access.***
- ***Primary and community health estate in poor overall condition and requires improvement and expansions.***
- ***Flood Risk to existing and future development.***

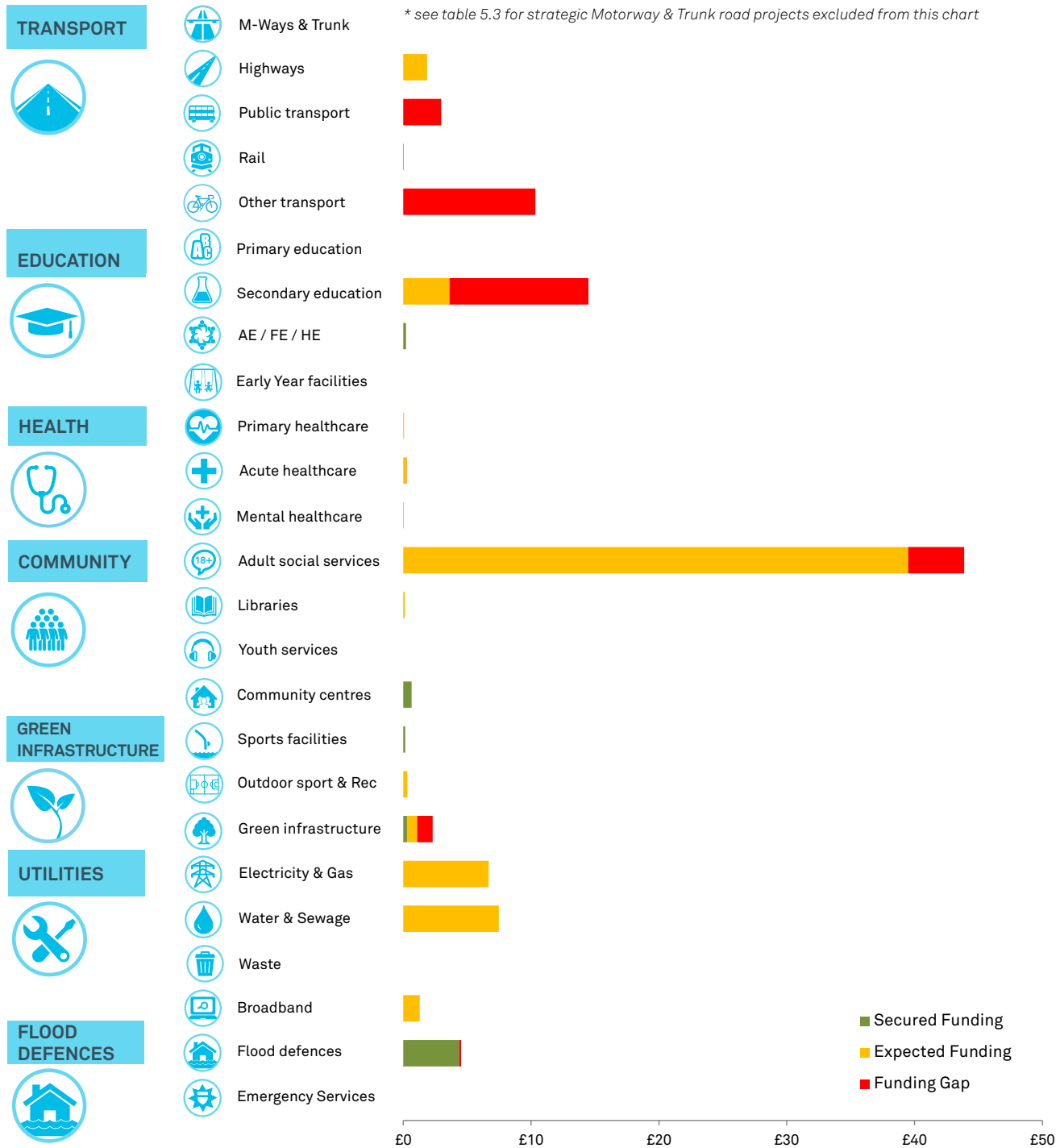
Total Infrastructure Costs: **£97,710,000**

Total Secured Funding: **£5,700,000**

Total Expected Funding: **£62,040,000**

Total Funding Gap: **£29,970,000**

% of Infrastructure Funded: **69%**



SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2015-2030)

MAJOR HOUSING DEVELOPMENT

- West Durrington
- Worthing Sixth Form College, Bolsover Road
- Teville Gate, Railway Approach
- Land North of Ann Street & South of Union Place

EDUCATION PROJECTS

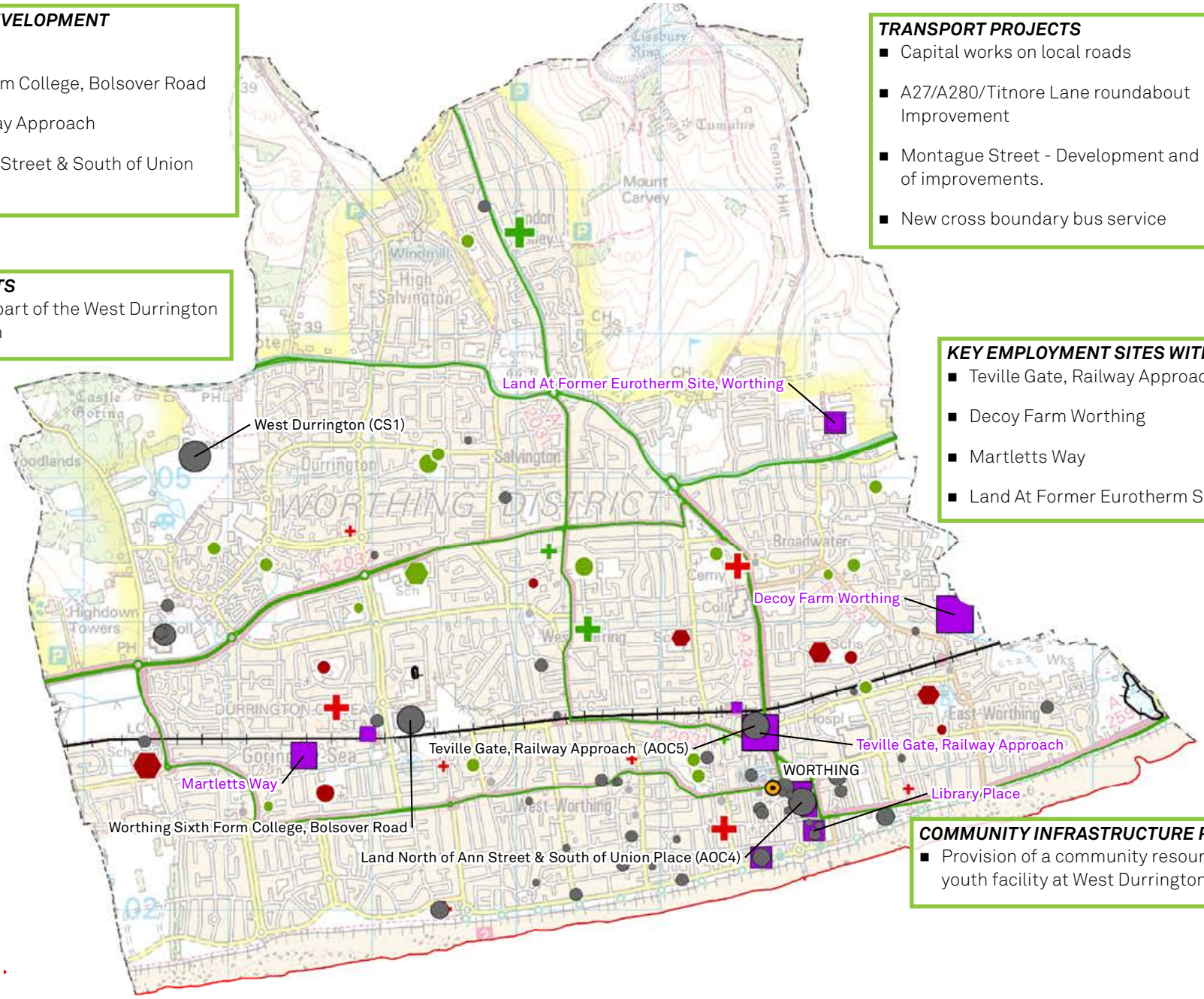
- Primary School as part of the West Durrington Strategic Allocation

TRANSPORT PROJECTS

- Capital works on local roads
- A27/A280/Titnore Lane roundabout Improvement
- Montague Street - Development and delivery of improvements.
- New cross boundary bus service

KEY EMPLOYMENT SITES WITH CAPACITY

- Teville Gate, Railway Approach
- Decoy Farm Worthing
- Martletts Way
- Land At Former Eurotherm Site, Worthing



COMMUNITY INFRASTRUCTURE PROJECTS

- Provision of a community resource centre/ youth facility at West Durrington

SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN WORTHING

Refer to Universal Legend at start of Chapter 5 to interpret Map icons

Projects Note - Any Strategic Projects Listed in Table 5.3 and affecting this local authority are not included in local costs and funding on facing page.

5.8 PROJECTS ADDRESSING MULTIPLE LOCAL AUTHORITIES

STRATEGIC PROJECTS

A number of important infrastructure projects have been identified as necessary to support housing and economic growth across West Sussex and not specifically within the limitations of one local authority. These are primarily confined to transport projects, utilities, waste and flood defences.

It should also be noted that the Infrastructure study has identified theoretical increases in demand for services such as Acute hospital beds at the district level and whilst these have been presented as a distinct level need it is acknowledged that this provision is likely to be delivered at a strategic level serving a number of Districts.

Table 5.3

Strategic Infrastructure Projects

Project Type	Project Details	Cost	Funding
Motorways and Trunk Roads	A27 Arundel Bypass (Arun) (Option A or B)*	£188,000,000 - £229,000,000	£188,000,000 - £229,000,000
	A27 Chichester Bypass junction improvements (Chichester)**	£120,000,000 - £250,000,000	£120,000,000 - £250,000,000
	A27 online Improvement Works through Worthing and Lancing (Option F or G)	£50,000,000 - £96,500,000	£50,000,000 - £96,500,000
Rail	Gatwick railway station improvements (Crawley)	£120,000,000	£120,000,000
Broadband	County Broadband Programme - Phase 2	£2,500,000	2,500,000
Emergency Services	Crawley - New Fire Station at Cheals roundabout	£7,000,000	£0
Total West Sussex		***£487,500,000 - £705,000,000***	***480,500,000 - 698,000,000***

**A27 Corridor Feaibility Study, investment Case Highways England, February 2015 - Undisclosed cost of scheme*

*** Highways England Website*

Total Infrastructure Costs: **£705,000,000**

Total Secured Funding: **£698,000,000**

Total Expected Funding: **£n.a**

Total Funding Gap: **£7,000,000**

% of Infrastructure Funded: **99%**

06

DELIVERY AND FUNDING

FUNDING IS THE BIGGEST RISK TO DELIVERING INFRASTRUCTURE. AS THIS DOCUMENT HIGHLIGHTS, THERE ARE PRESENTLY SIGNIFICANT GAPS IN FUNDING OF ALL TYPES OF INFRASTRUCTURE ACROSS THE COUNTY. WITH THE SHAPE AND LEVEL OF PUBLIC SECTOR FUNDING VERY DIFFICULT TO PREDICT, WEST SUSSEX COUNTY COUNCIL AND INFRASTRUCTURE DELIVERY PARTNERS FACE SIGNIFICANT FUNDING CHALLENGES TO ENSURE THE DELIVERY OF INFRASTRUCTURE TO SUPPORT EXISTING AND FUTURE RESIDENTS.

In light of this funding challenge delivery partners must explore every potential avenue of funding as part of the project delivery process. Additional challenges for the County Council include the requirement on some specific projects to forward fund delivery prior to full receipt of contributions or third party funding contributions. This chapter sets out:

- Organisations within West Sussex with access to funding and their respective funding source options which could be relevant to infrastructure delivery.
- A high level analysis of the ability of developer contributions through Section 106 agreements and the Community Infrastructure Levy to deliver infrastructure, recognising the dependence on overall scheme viability relating to land values across West Sussex
- Other potential sources of funding.

The funding situation outlined in this chapter reflects current knowledge of approaches to the delivery and funding of infrastructure. However, an important point to note is that over the document time period (to 2030) at least three general elections will take place. This makes it difficult to predict the policy towards various types of infrastructure (health, education, transport etc.) in five years' time, and even in one years' time.

To illustrate this point, an education authority working 10 years ago, planning for an additional secondary school forecast as required in 2015 would have been unaware of the forthcoming creation of the Building Schools for the Future (BSF) programme, the subsequent abolition of that BSF programme, the Academies model and the recent direction towards free schools. West Sussex County Council can only work with what is currently known which highlights the need for flexibility - essential to accommodate the inevitable changes to delivery and funding over the planning period.

6.1 RELEVANT ORGANISATIONS WITH ACCESS TO FUNDING

AS IDENTIFIED IN EARLIER CHAPTERS THERE ARE A WIDE RANGE OF ORGANISATIONS RESPONSIBLE FOR THE DELIVERY AND FUNDING OF INFRASTRUCTURE WITHIN WEST SUSSEX. THIS SECTION PRESENTS AN OVERVIEW OF THESE ORGANISATIONS AND THEIR SOURCES OF FUNDING.

WEST SUSSEX COUNTY COUNCIL

As set out in previous sections WSCC is responsible for providing many key local services and will oversee a gross annual expenditure of £1.3 billion in the financial year 2015/16. WSCC is responsible for managing public money in the provision of these services including schools, social services, the fire service, roads, libraries, trading standards, land use, transport planning and waste management. WSCC is the transport authority responsible for delivering the majority of the transport-related infrastructure to support development proposals in each local authority within West Sussex.

Transport infrastructure projects in West Sussex are funded through a blend of funding sources including Department for Transport grants, developer contributions, external and LEPs, and from other sources within WSCC.

Education and Children's Services represents the biggest outlay, for 2015/16 gross expenditure was over £500 million, although the majority of costs are covered through government grants.

LOCAL AUTHORITIES

The main services provided by the majority of local authorities include:

- Planning and Development Control
- Environmental health
- Housing
- Leisure and recreation
- Waste Collection

Sources of finance for local authorities include receipts from Council Tax distributed by Central Government, developer contributions (S106 or CIL) for specific local level infrastructure and service income.

The following additional funding sources are also now available to Local Authorities to support development growth:

- **New Homes Bonus** - this commenced in April 2011, and will match fund the additional council tax raised for new homes and empty properties brought back into use, with an additional amount for affordable homes, for the following six years. It is based on the council tax of additional homes and those brought back into use, with a premium amount for affordable homes, and paid for the following six years.
- **Retention of business rates** A business rates retention scheme was introduced in April 2013. It will provide a direct link between business rates growth and the amount of money councils have to spend on local people and local services. Councils will be able to keep a proportion of the business rates revenue as well as growth on the revenue that is generated in their area.

HIGHWAYS ENGLAND

Highways England (formally the Highways Agency) become a publicly owned corporation on 1st April 2015. Highways England reports to the Department for Transport and has responsibility for managing the core road network in England. It operates a variety of information services, liaises with other government agencies as well as providing staff to deal with incidents on their roads.

Highways England responsibilities most relevant to the growth plan include undertaking large scale improvements through a programme of major schemes, carrying out routine maintenance of roads, structures and technology to make the network safe, serviceable and reliable and making sure traffic can flow easily on major roads and motorways.

A 'Road investment strategy' (RIS) sets out a long-term programme for UK motorways and major roads. Between 2015 and 2020, the first RIS will see £15.2 billion invested in over 100 major schemes to enhance, renew and improve the network nationwide.

Recent government announcementsd have confirmed a £1.4 billion package of 18 new road schemes in London and south east of England .

NETWORK RAIL

Network Rail owns the infrastructure, including the railway tracks, signals, overhead wires, tunnels, bridges, level crossings and most stations, but not the passenger or commercial freight rolling stock.

Although it owns over 2,500 railway stations, it manages only 19 of the biggest and busiest of them, all the other stations being managed by one or other of the various train operating companies.

Track renewal, the ongoing modernisation of the railway network by replacing track and signalling, continues to be carried out by private engineering firms under contract.

ENVIRONMENT AGENCY

The Environment Agency (EA) is a non-departmental public body, established in 1996 and sponsored by the United Kingdom government's Department for Environment, Food and Rural Affairs (DEFRA), with responsibilities relating to the protection and enhancement of the environment in England.

There are two "policy and process" directorates. One deals with Flood and Coastal Risk Management and the other with Environment and Business. These are backed up by the Evidence directorate. The fourth directorate is a single Operations "delivery" unit, responsible for national services, and line management of all the Regional and Area staff.

As a risk management authority, authorities can apply for an allocation of government funding annually from the Environment Agency (EA). Authorities can use flood and coastal erosion risk management grant in aid (FCERM GiA capital grants) towards the costs of building new flood and coastal erosion defences. The amount of government funding the EA allocates to a project depends on the public benefit it provides. Benefits include reducing flood risk to households, businesses and infrastructure and creating habitat for wildlife.

Authorities would need to apply to the FCERM Programme a year in advance. For example, to apply for an allocation for a project starting in April 2016, Authorities need to submit details in the 2015 submission period.

NHS COMMISSIONING (NHS ENGLAND AND CLINICAL COMMISSIONING GROUPS)

NHS commissioning is the process of planning, agreeing and monitoring services. This includes the development of new buildings and health infrastructure.

Commissioning is not one action but many, ranging from the health-needs assessment for a population, through the clinically based design of patient pathways, to service specification and contract negotiation or procurement, with continuous quality assessment.

The NHS commissioning system was previously made up of primary care trusts and specialised commissioning groups. Most of the NHS commissioning budget is now managed by 209 clinical commissioning groups (CCGs). These are groups of general practices which come together in each area to commission the best services for their patients and population.

Nationally, NHS England commissions specialised services, primary care, offender healthcare and some services for the armed forces. It has four regional teams but is one single organisation operating to a common model with one board.

The NHS recognise that there is no single geography across which all services should be commissioned: some local services can be designed and secured for a population of a few thousand, while for rare disorders, services need to be considered and secured nationally. In West Sussex therefore, there is no single commissioning body that adheres to the County boundary.

CCGs and NHS England is supported by new commissioning support units (CSUs).

The CCGs and NHS England receive direct funding for commissioning from the Government. In some instances they may also be recipients of developer contributions or other sources of local funding.

LOCAL ENTERPRISE PARTNERSHIPS (LEPS)

West Sussex is covered by one LEP:

- Coast to Capital - which covers the corridor from Brighton to Croydon to the east of the County

LEPs are business-led, public/private body established to drive economic growth. With constrained public funding, the LEP need to find innovative ways to ensure the funding the LEP receives has the greatest impact, and (where possible) creates future funding opportunities at the same time.

In March 2013, Lord Heseltine published a report into economic growth entitled 'No stone left unturned: in pursuit of growth', which outlined a number of new roles and responsibilities for LEPs. Since then the Government confirmed the creation of a Single Growth Pot, worth £2bn per year, that LEPs can bid into (the Growth Deal). LEPs are also now responsible for overseeing the creation of a European Funding Strategy for 2014-2020 for their

Growth Deal
Coast to Capital LEP has bid and worked out a growth deal worth £238m over six years, starting with investment of £41.5m of new funding in 2015/16.

This investment will unlock an additional £390m of investment from local public and private sector partners. Combined together this will create a total new investment package of £628m for the Coast to Capital region.

There will be a further £237m invested in new housing which will subsequently be enabled by this investment.

Overall, the Coast to Capital Growth Deal will deliver up to 21,000 jobs, 9,000 new homes and 380,000 sq m of employment space.

RELEVANT UTILITY COMPANIES

Utilities Infrastructure delivery and funding is largely the responsibility of the relevant utility companies with connections to services also funded through site developers. Of importance to this business plan however is clarifying the procedure by which these utility companies consider development sites and how these are included within their own investment strategies.

Utility Providers are regulated by OFGEM and OFWAT; in principle, neither regulator supports installing new infrastructure on a speculative basis, rather they are reactive to providing supply to new developers once schemes are consented. However, if a robust business case that gives a good level of certainty that development will take place in a definite timescale is put the Regulators, advance funding may be approved.

PARISH AND TOWN COUNCILS

Parish councils are the first tier of local government. They are elected corporate bodies, have variable tax raising powers, and are responsible for areas known as civil parishes. A parish council serving a town is called a town council, and has the same powers, duties and status as a parish council.

Local Parish councils have powers to provide some facilities themselves, or they can contribute towards their provision by others. There are large variations in the services provided by parishes, but they can include the following relevant to this business plan:

- Support and encouragement of arts and crafts
- Provision of village halls
- Recreation grounds, parks, children's play areas, playing fields and swimming baths
- Cemeteries and crematoria
- Public conveniences
- Provision of cycle and motorcycle parking
- Acquisition and maintenance of rights of way

The Council also has the power to raise money through taxation, the precept. The precept is the parish council's share of the council tax. The precept demand goes to the billing authority, the local authorities, which collects the tax for the Parish Council.

Parish councils also now receive a "meaningful proportion" of Community Infrastructure Levy receipts to the neighbourhoods affected by development. This is typically around 15 if no neighbourhood plan is adopted and 25% if a neighbourhood plan is adopted. The scale of this contribution is directly linked to the number of homes developed in the Parish and the existing scale of the parish (in terms of dwellings).

The meaningful proportion can be spent on anything to help mitigate the impact the development has on the town or parish. It is the decision of the town or parish council where the money is spent.

6.2 DEVELOPER CONTRIBUTIONS

DEVELOPER CONTRIBUTIONS' INCLUDE "SECTION 106 AGREEMENTS" HIGHWAY CONTRIBUTIONS KNOWN AS "SECTION 278 AGREEMENTS" AND THE COMMUNITY INFRASTRUCTURE LEVY (CIL). THIS SECTION PRESENTS AN OVERVIEW OF DEVELOPER CONTRIBUTIONS IN WEST SUSSEX.

SECTION 106

Planning obligations under Section 106 of the Town and Country Planning Act 1990 (as amended), commonly known as s106 agreements, are a mechanism which make a development proposal acceptable in planning terms, that would not otherwise be acceptable. They are focused on site specific mitigation of the impact of development. S106 agreements are often referred to as 'developer contributions' along with highway contributions and the Community Infrastructure Levy.

The common uses of planning obligations are to secure affordable housing, and to specify the type and timing of this housing; secure direct developer provision of infrastructure; and to secure financial contributions to provide infrastructure.

The legal tests for when you can use a s106 agreement are set out in regulation 122 and 123 of the Community Infrastructure Levy Regulations 2010 as amended. The tests are:

- Necessary to make the development acceptable in planning terms
- Directly related to the development; and
- Fairly and reasonably related in scale and kind to the development.

The Government viewed S106 as providing only partial and variable response to capturing funding contributions for infrastructure. As such, provision for the Community Infrastructure Levy (CIL) is now in place.

In terms of developer contributions, the Community Infrastructure Levy (CIL) has not replaced Section 106 agreements. The introduction of CIL has resulted in a tightening up of the s106 tests. S106 agreements, in terms of developer contributions, should be focused on addressing the specific mitigation required by a new development. CIL has been developed to address the broader impacts of development. There should be no circumstances where a developer is paying CIL and S106 for the same infrastructure in relation to the same development.

Section 278 Agreements – Highways Act 1980 - Developer Funded Improvements Works to the Existing Highway

Where highway objections to proposals can be overcome by improvements to the existing highway, developers can enter an agreement that requires them to pay for or undertake such works. These works may include minor highway realignments, roundabouts, traffic signals, right-turning lanes, passing bays, etc. S278 funds are exempt from pooling restrictions.

DEVELOPMENT VIABILITY

A development's ability to contribute to infrastructure is dependent upon the value that it will generate. This in turn is in part dependent on the value of the land. The "viability" of a scheme will impact on its ability to contribute through Section 106, CIL and other contributions to supporting infrastructure such as highways provision, affordable housing, education and green infrastructure.

Residential Land Values across West Sussex

Figure 6.1 illustrates average land values across local authorities in West Sussex. This is based upon Valuation Office Agency (VOA) data an average price per hectare for land with planning permission for residential uses.

Across West Sussex the average price ranges from £2,464,000 per hectare in Arun to £3,987,000 in Horsham. In general it is not surprising that the local authorities with best connectivity to London (i.e Crawley, parts of Chichester, and Horsham) have highest land values. However, the average land value are all broadly similar in West Sussex, with less variance than in other counties. The exception for this is in Arun which has significantly lower land values.

The estimated value of a typical residential site for England (excluding London) was £1,958,000 per hectare. When London is included the average value rises to £6,017,000. All authorities in West Sussex are significantly above the average for England.

It should be noted that the VOA produce annual reports of residential land transactions until late 2010 when Government withdrew funding for it. This is despite the requirement in the NPPF for Local Authorities to have regard to land values.

The district based values illustrated in Figure 6.1 are produced by the VOA on a theoretical basis and provide a means to compare variations across West Sussex. However, they do not necessarily represent true land values, and are not able to demonstrate variations between sites or conurbations within each local authority.

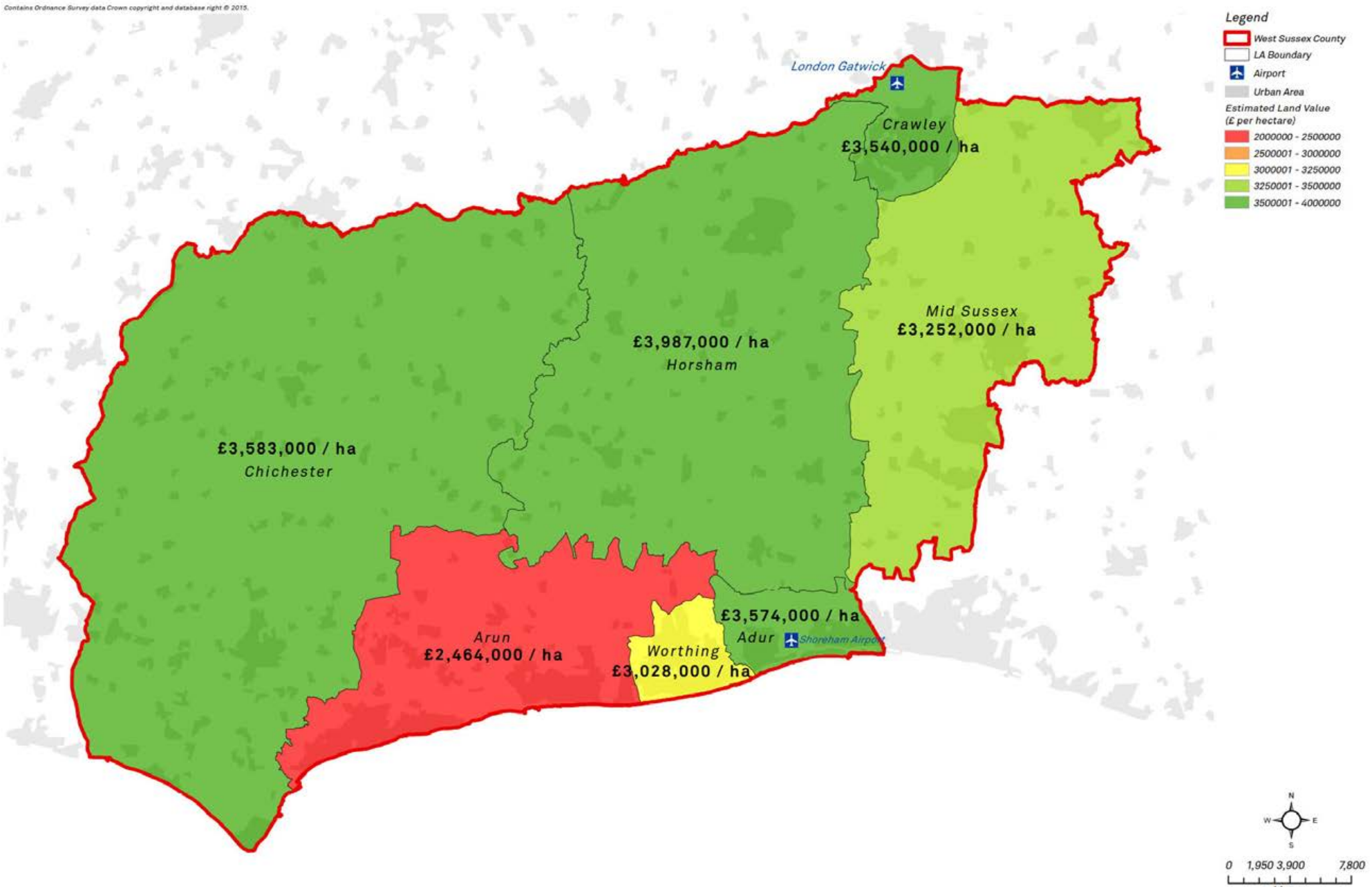


FIGURE 6.1 - LAND VALUES ACROSS LOCAL AUTHORITY AREA IN SURREY

Source: The Valuation Office Agency (VOA)

COMMUNITY INFRASTRUCTURE LEVY

The Community Infrastructure Levy (CIL) came into force in April 2010. It is a fixed tariff based levy directed at new development to fund infrastructure.

The Government considers the CIL to be "fairer, faster and more certain and transparent than the system of planning obligations which causes delay as a result of lengthy negotiations". Levy rates are set by individual local authorities and may vary across each LPA and are subject to consultation with local communities and developers.

Figure 6.2 shows how CIL has been taken up across West Sussex.

Five of the authorities have published draft CIL charging schedules, while only Worthing has adopted CIL, with typical residential charges of between £100 and £230 per sq metre.

Adur is currently undergoing a Viability Assessment for the introduction of a CIL, in which it is being progressed alongside the emerging Local Plan.

Chichester is expected to adopt their CIL in September 2015, with an examination of the draft CIL currently underway. It should be noted that Chichester CIL will only cover the Chichester Local Plan Area excluding the South Downs National Park (which is progressing its own CIL charge).

Wothing has adopted their CIL with the intention to start charging from October 2015.

As Figure 6.2 shows, adopted and draft CIL rates are fairly consistent across West Sussex representing consistently high land values and demand for development.

IMPLICATIONS OF CIL REGULATIONS ON SECTION 106 AGREEMENTS

The 2014 CIL Statutory Guidelines placed additional restrictions on LPA's use of Section 106 funding. Since 6th April 2015 local authorities can no longer pool more than five s106 obligations together (dating back to March 2010) to pay for a single infrastructure project or type of infrastructure (however Section 278 agreements are unaffected). While this will not stop the use of S106 altogether, it now means that LPA's must be clearer on what projects specific developments will be contributing to.

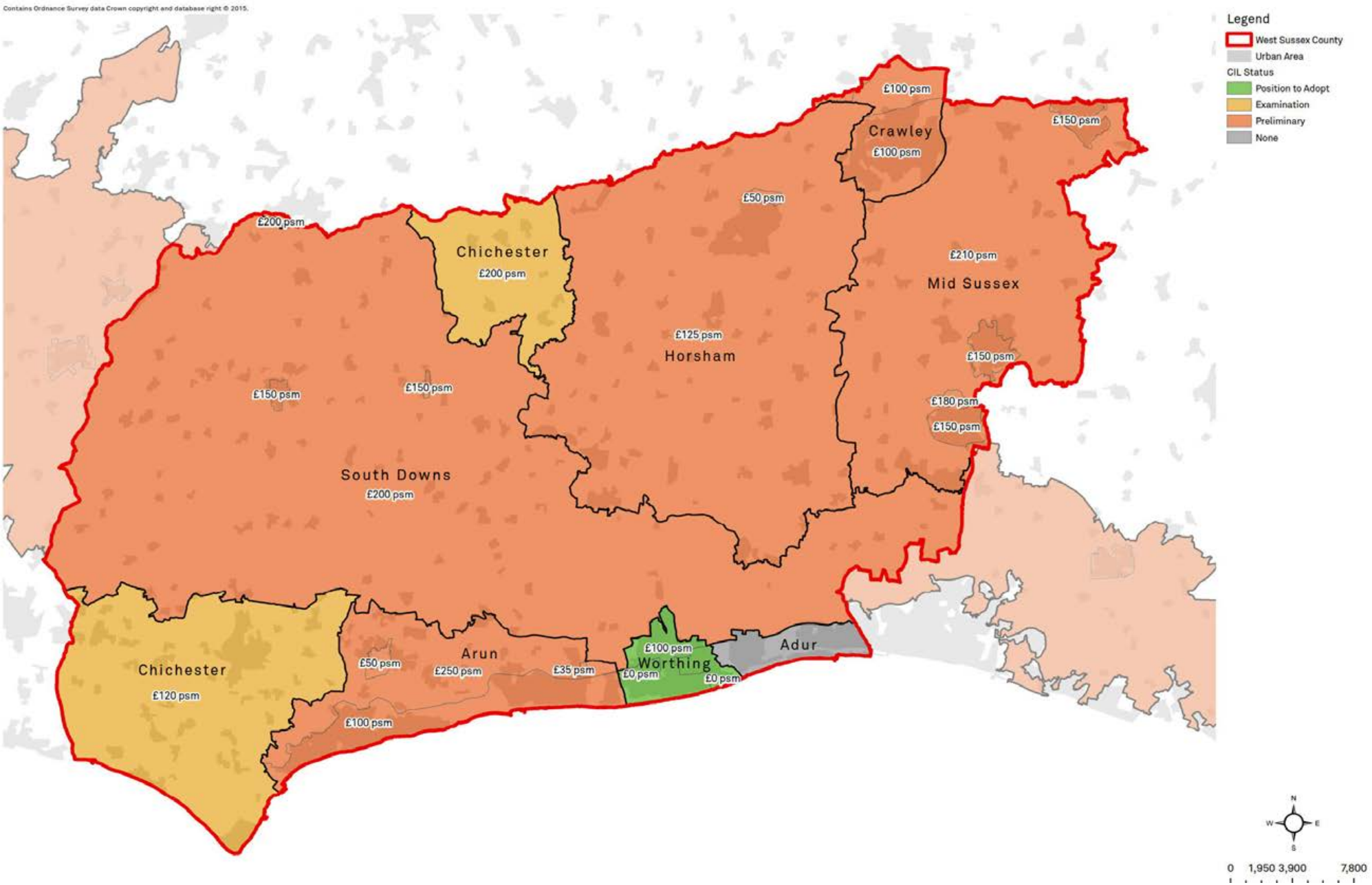


FIGURE 6.2- ADOPTED AND DRAFT RESIDENTIAL CIL RATES ACROSS SURREY

Source: Local Authority Published Draft and Adopted CIL Charging

6.3 PROJECT LIST FUNDING SENSE CHECK ASSUMPTIONS

TAKING INTO CONSIDERATION OUR UNDERSTANDING OF CURRENT AND PROJECTED DEVELOPER CONTRIBUTIONS AS SET OUT IN THE PRECEDING SECTIONS, THIS SECTION SETS OUT THE WORKING ASSUMPTIONS THAT WE HAVE USED IN ASSESSING LIKELY FUNDING AND GAPS FOR INFRASTRUCTURE PROJECTS TO 2030.

As set out in earlier chapters, the information on projects and costs set out within this study has been obtained from a variety of sources, with inputs from WSCC officers, local authority IDPs and infrastructure providers.

In many instances information has been provided on likely costs but a considerable gap in information remains regarding likely funding sources.

In order to provide a "sense check" against total costs, a series of funding assumptions have been made based upon an analysis of current and projected funding sources.

A number of infrastructure topics have been assessed theoretically using benchmark calculations where no actual infrastructure projects have been identified or been made available for review. These theoretical costs have subsequently had a theoretical level of funding applied to them from either Developer contributions, Public Sector funding or Private sector funding.

The assumptions applied are set out here.

Developer Contributions

Table 6.2 on the facing page summarises our research into potential developer contributions to theoretically apply to projects with no identified funding.

West Sussex County Council have Section 106 planning obligation guidelines which allow us to ascertain a likely level of developer contribution sought per dwelling for services delivered by WSCC (education, social services, libraries, youth services etc). This will be superseded eventually by the introduction of CIL.

Our recent work for Kent County Council included a review of actual developer contribution receipt data including a comparison of the level of contribution sought and the level agreed, which averaged at around 75%. As we do not have detailed request and receipt data for West Sussex County Council we have employed this rule of thumb from Kent County Council.

No county wide data is available to provide assumptions with regards to the wider community infrastructure, open space, healthcare, early years. etc. These would typically be collected by the districts and have not been made available for review. Instead our analysis has included the latest developer contribution guidelines for Medway Council from 2014, which being a unitary authority covers both county services and also district services and therefore serves as a useful benchmark for this study.

These combined sources have allowed us to develop a working assumption with regards to the potential level of developer contribution per unit that could be expected across each of the infrastructure topics. The analysis presented in table 6.2 suggests that a total contribution of £6,912 can be assumed per dwelling. Whilst variations do occur across county by district, this level of detail has not been applied to the exercise.

The potential contribution of £6,912 has been applied to the identified housing sites in each district from 2015 onwards taking into account discounts for social rented housing. This has provided a potential funding source to apply to costs in the project list. For reference, the parallel infrastructure study for Surrey has been informed by County Estimates of likely CIL contributions per dwellings which total £6,732 per dwelling. This helps to validate the working asumption for West Sussex presented here.

Public & Private Sector Funding Assumptions

A number of the theoretical costings can also be assumed as funded by either public or private sector organisations and subsequently be discounted from the identified funding gap. The table below highlights the % of identified costs assumed to be funded after all known secured funding and developer contributions have been taken into account .

Table 6.1

High level Funding Assumptions for Modelling

INFRASTRUCTURE	*FUNDING WORKING ASSUMPTIONS*	*%*
Healthcare	NHS	***75***
Waste Facilities	WSCC / local authorities	***75***
Early Years	Private sector operators	***90***
Social Care	Private sector investment and institutional investment	***90***
Electricity & Gas	Electricity and Gas providers	***100***
Water and Sewage	Water supply and waste water providers	***100***
Broadband	Broadband communication providers	***100***

These assumptions are indicative and provide an overall rule of thumb in sense checking funding streams required to support infrastructure delivery in West Sussex. These should be subject to review in dialogue with county, local authority officers and other infrastructure providers.

The funding assumptions presented on this page are indicative and provide an overall rule of thumb in sense checking funding streams required to support infrastructure delivery in West Sussex. These should be subject to review in dialogue with county and local authority officers and other infrastructure providers.

	West Sussex County Council	Benchmark - Medway Unitary Authority	Working Project Assumption		
	Amount Sought	Amount Sought	Assumption to Apply to Study	Amount Sought	Potential Receipt (75%)
Motorways					
Highways					
Public Transport	£1,189		From West Sussex S106 Planning Obligation Guidelines	£1,189	£892
Rail					
Other Strategic					
Primary Education	£1,702		From West Sussex S106 Planning Obligation Guidelines	£1,702	£1,277
Secondary Education	£1,831		From West Sussex S106 Planning Obligation Guidelines	£1,831	£1,373
Community Learning	£429		From West Sussex S106 Planning Obligation Guidelines	£429	£322
Early Years		£915	From Medway Unitary Authority Guidelines	£915	£686
Primary Healthcare			From Medway Unitary Authority Guidelines	£351	£263
Acute Healthcare		£468	From Medway Unitary Authority Guidelines	£117	£88
Mental Healthcare			From Medway Unitary Authority Guidelines	£0	£0
Adult Social Services	£0		From West Sussex S106 Planning Obligation Guidelines	£0	£0
Libraries	£295		From West Sussex S106 Planning Obligation Guidelines	£295	£221
Youth Services	£0		From West Sussex S106 Planning Obligation Guidelines	£0	£0
Community Facilities		£137	From Medway Unitary Authority Guidelines	£137	£103
Sports Facilities		£221	From Medway Unitary Authority Guidelines	£221	£166
Outdoor sport & Rec		£1,627	From Medway Unitary Authority Guidelines	£1,627	£1,220
Green Infrastructure		£402	From Medway Unitary Authority Guidelines	£402	£302
Energy (Electricity & Gas)			N.A.		
Water and Sewage			N.A.		
Waste	£0		From West Sussex S106 Planning Obligation Guidelines	£0	£0
Broadband			N.A.		
Flood Defences			N.A.		
Total				£9,216	£6,912

TABLE 6.2 - REVIEW OF POTENTIAL COMMUNITY INFRASTRUCTURE LEVY CONTRIBUTION FORMING WORKING ASSUMPTION

6.4 ADDITIONAL SOURCES OF FUNDING

GIVEN THE LIMITATIONS OF CIL AND SECTION 106 TO FULLY FUND INFRASTRUCTURE ACROSS WEST SUSSEX, CONSIDERATION MUST BE GIVEN TO WIDER (AND MORE INNOVATIVE) FUNDING MECHANISMS THAT ARE BEING DEVELOPED BY THE PUBLIC AND PRIVATE SECTORS.

CONTEXT

The market is in an economy where development investment finance is less freely available and risk is under greater scrutiny. This is coupled with an austerity budget position in the public sector resulting in lower availability of funding to support infrastructure projects.

Local authorities need to look across their full range of funding streams when considering delivery and prioritisation of infrastructure requirements. The flexibility to mix funding sources at a local level enables local authorities to be more efficient in delivering outcomes. Funding sources change over time with emerging priorities and changes in regime either at local, regional or national level. In addition, other partners and stakeholders may be able to play a part.

The following options reflect current possibilities for funding. They reflect a wide range of options based on proposals across West Sussex, intelligence and experience of the developer/ financier community and existing and emerging sources of public sector funding.

The analysis has focused on four categories:

- **Cash and Funds** – funding from sources of 'investment capital', including grant funding and commercial finance, potentially delivered through a joint venture mechanism;
- **Assets** – funding sources that arise from capturing an increase in land value;
- **Fiscal** – funding that comes from the application of main stream fiscal tools (e.g. business rates); and
- **Other potential funding sources** – thinking creatively and learning from other forward thinking authorities.

1) CASH AND FUNDS

PRUDENTIAL BORROWING (PUBLIC WORKS LOAN BOARD OR 'PWLB')

This is the main direct funding source for local authorities and is still perceived as a cheap form of financing. It is also arguably an efficient option to implement as the obligations fall predominantly on the local authority to ensure it has properly assessed affordability.

Under the PWLB option, WSCC or the local authorities would have to assess its own level of borrowing commitment at the time the capital is needed. Effectively, the Local Authority would have to assess the level of income it would generate against repayments it has to make, or whether wider County resources will be required.

It has the benefit of being a relatively reliable source of finance, not being subject to commercial market appraisals in the way that a bank financed project would be. However, it does place WSCC or the local authorities in a position of risk in terms of repaying the whole value of infrastructure from resources, if revenue or value through the schemes to come forward cannot be captured.

Prudential borrowing in WSCC is limited to 15% of WSCC's total budget as enshrined within the Council's constitution following overall objectives for financial prudence. At present WSCC is close to this 15% limit and it is unlikely that WSCC will expose itself to risk through further prudential borrowing.

The PWLB has tended to offer an interest rate only 0.15-0.20% above the government's borrowing costs, but in October 2010 this differential was raised to 1%. As a result, a number of larger local authorities began to investigate whether a bond issue could achieve a more favourable interest rate. However, in the 2012 Budget, the Government introduced a discount for borrowing from the PWLB for local authorities which provided information requested on long-term borrowing and capital spending. This took the form of a new 'certainty rate', a discount from 1% to 0.80%, available from 1 November 2012. A further discount to 0.60% for borrowing regarding an infrastructure project nominated by a Local Enterprise Partnership was introduced in November 2013.

EUROPEAN FUNDING

This information is included for reference purposes to explain how previous funding sources have evolved into the current available funds. JESSICA funds were initially set up using European Regional Development Fund (ERDF) money. The JESSICA structure was focused around an Urban Development Fund (UDF), which held the ERDF money, and made either loans, equity or guarantee investments into projects. ERDF funding allocations were divided by the nine English regions in accordance with the former Regional Development Agency regions. The last round of funding was to last until 2013.

The UK Government has since brought the European Regional Development Fund (ERDF), European Social Fund (ESF) and part of the European Agricultural Fund for Rural Development (EAFRD) together into a single 'EU Structural Investment Funds (ESIF) Growth Programme' and made

it available to Local Enterprise Partnerships (LEPs) on a competitive basis.

The large majority of the funds in the ESIF Growth Programme are allocated to LEP areas where LEPs work with local partners, to set out their priorities for the EU Growth Programme Funds in their area through an investment strategy. This has been covered earlier within this chapter under the review of the South East LEP.

2) ASSETS

The increase in land value has been a mainstay of economic development financing over recent years. Utilising a range of tools, such as development agreements, local asset backed vehicles or other joint ventures, local authorities have been able to secure large amounts of infrastructure from improvements to land values. This has needed to be combined with careful use of planning consents and S106 agreements, but with the restrictions on pooling of S106 contributions moving forward then the ability to use this option may narrow.

LOCAL ASSET BACKED VEHICLE (LABV)

The rewards or benefits of a Local Asset Backed Vehicle (LABV) in certain circumstances outweigh the costs although the financial implications of setting up a LABV are significant. Procurement, preparing and agreeing legal documentation, to include specialist property and financial advice require significant Officer and external advisor time. Once in place, on-going management and due diligence needs to be considered, along with post procurement advice and support to the authority. If such costs were sought to be recovered through the vehicle it would in effect become a reduction of the land costs.

STRATEGIC ASSET MANAGEMENT

There are a range of approaches to ensuring public sector assets are managed to maximise efficiencies. A number of innovate approaches to asset management, co-location of services and provision of infrastructure are underway in West Sussex.

West Sussex like many other County's are seeking innovative ways to maximise returns from their assets. For example, Cambridgeshire County Council have an initiative called Making Assets Count (MAC) which brings together the County Council, all of the Cambridgeshire District Councils, as well as Fire, Police and Health Authorities have formally signed up to the Project. MAC aims to reduce the size of the public estate by removing poor quality, inefficient and incorrectly located buildings from the property portfolio, making better use of the remaining property assets and investing in new assets where these are required. New assets will have a focus on providing joined-up services to the communities they serve and providing spaces for local groups to use.

3) FISCAL

BUSINESS RATE RETENTION - THE LOCAL GOVERNMENT FINANCE ACT 2012

Business rate retention and Tax Increment Financing represent a real opportunity to bridge the infrastructure funding gap. It has required the enactment of new legislation which received Royal Assent in October 2012 and produced the Local Government Finance Act 2012. The Act introduced local retention of business rates, as well as powers for the Secretary of State to introduce Tax Increment Financing to allow councils to borrow against future increases in income.

The Act allows local authorities to now retain a proportion of future non-domestic rates (business rates) growth, subject to various checks and balances. This is called the Business Rates Retention Scheme (BRRS). A proportion of the business rates collected by billing authorities will be paid into a central pool (the central share) with the remaining proportion retained by the authority (the local share). Under the act, authorities will now get a 50% slice of business rates and then retain any new business levies generated in their areas over seven years. The previous regime saw all business rates returned to the Treasury for redistribution according to a formula.

This is intended to provide local authorities with a strong financial incentive to promote local economic growth. This is intended to give local authorities increased financial autonomy, the flexibility to design schemes which reflect local priorities and a greater financial stake in the economic future of their area, while providing continuation of council tax support for the most vulnerable in society, including pensioners.

TAX INCREMENT FINANCING (TIF)

Tax Increment Financing allows local authorities to capture the value of uplifts in local taxes (business rates) that occur as a result of infrastructure investment. Tax Increment Financing allows that uplift to take place by borrowing against the value of the future uplift to deliver the necessary infrastructure. Local retention of business rates removes the most important historic barrier to Tax Increment Financing schemes, namely that local authorities were not permitted to retain any of their business rates and therefore could not borrow against any predicted increase in their business rates.

Borrowing for Tax Increment Financing schemes therefore falls under the prudential system, allowing local authorities to borrow for capital projects against future predicted increases in business rates growth, provided that they can afford to service the borrowing costs out of revenue resources. However, such borrowing can only take place if local authorities and developers have a degree of certainty about the future tax revenue streams and whether there are sufficient guarantees that they will be retained within the authority.

The Local Government Finance Act includes two options for TIF. Option one would see local authorities, within the existing prudential borrowing rules, able to borrow against their income within the business rate retention scheme. Option two would allow a limited number of Tax Increment Financing schemes to be permitted in which the business rates growth would not be subject to the levy or reset for a defined period of time.

PRIVATE FINANCE 2 (PF2)

In December 2012, the Government concluded its review of PFI and published full details of a new approach to public private partnerships, Private Finance 2 (PF2). The Government remains committed to private sector involvement in delivering infrastructure and services, but has recognised the need to address the widespread concerns with Private Finance Initiative and the recent changes in the economic context

They key reforms are as follows:

- **Public sector equity** - The public sector will take an equity stake in projects and have a seat on the boards of project companies, ensuring taxpayers receive a share of the profits generated by the deal.
- **Encouraging more investors with long-term investment horizons** - The use of funding competitions will be introduced to encourage institutional investors such as, Pension Funds to compete to take equity in a PF2 project after the design stage. This is significant in terms of risk as Pension Funds are unlikely to invest in projects that are insufficiently developed.
- **Greater transparency** - Companies will have to disclose actual and forecast annual profits from deals. The new PF2 structure will curb gains to be made from refinancing and un-utilised funds in lifecycle reserves.
- **More efficient delivery** - An 18-month limit on procurement will be introduced. Failure to meet this limit will see the respective public sector body lose funding.
- **Future debt finance** - the tender process will require bidders to develop a long-term financing solution where bank debt does not provide the majority of the financing requirement. Institutional investment will, therefore, become an important source of finance for PF2.

The first confirmed programme to which PF2 has been applied is the £1.75 billion privately financed element of the Priority Schools Building Programme (PSBP). While the immediate PF2 pipeline is focused on accommodation projects, an asset class which has been a particular focus of the PFI reforms, the Government wants to ensure that all suitable projects take advantage of the benefits of PF2. Looking forward the Treasury will work with departments to assess which future projects are eligible for PF2.

4) OTHER POTENTIAL FUNDING SOURCES

There is the option to think 'creatively and bigger' and consider a range of further public and private sector sources, including but not limited to the following:

REVOLVING INVESTMENT FUNDS (RIFS)

The pooling of investments to create a regional fund for economic investment. These Revolving Investment Funds (RIF) provide access to a flexible source of capital that can be used to finance projects. Importantly this finance is provided as a loan, not a grant or subsidy. They will not provide quick fix solutions but have the potential to provide a vehicle for local investment that allows more entrepreneurship and experimentation than grant funding models.

There is on the ground experience to draw on in establishing RIFs, for example the Evergreen North West Fund, London Green Fund and the Cambridgeshire Horizon's rolling fund, but the model is new and will require ongoing evaluation to ensure that ventures are supported that realise the best returns. In the face of major cuts to grant funding a number of local authorities are considering the creation of similar schemes for regeneration and infrastructure.

PENSION FUNDS

The Local Government Pension Scheme (LGPS) is a funded, statutory, public service pension scheme. DCLG is responsible for the scheme's stewardship and maintaining its regulatory framework. It is administered and managed by local pension fund authorities. At the end of March 2013, the market value of the 81 funds in England was £167 billion.

A number of recent studies have looked at whether there is more scope for LGPS funds to do more to invest for wider social and economic benefit. A study by the Smith Institute in 2012 summarised the key barriers to developing impact investments (particularly for infrastructure funds) were managing reputational risks associated with new investments and potential conflicts of interest, especially where local infrastructure schemes were concerned. Despite these perceptions, investment for wider impact was certainly much higher up the agenda of all the funds interviewed.

Its recommendations for change included better guidance for local funds, changes to restrictions on investments in the Investment Regulations and the creation of an enabling platform or clearing house. Another report published in 2012, by Localis, said that local authorities should be prepared to see an additional 8.5% of LGPS funds invested in domestic infrastructure.

In 2012, DCLG carried out a consultation on possible changes to the Investment Regulations. It proposed two options for overcoming perceived barriers to investing in infrastructure. As a result of the consultation, it amended the investment regulations to increase the proportion of the capital value of a fund that could be invested in partnerships. The CLG said the change would give funds more scope to "invest in infrastructure projects subject to a full risk assessment and satisfying themselves there is no conflict of interests".

LOCAL AUTHORITY BONDS / MUNICIPAL BONDS AGENCY

Local authorities have always had the power to issue bonds. Municipal bonds were used regularly throughout the early and mid-20th century, but fell into disuse during the 1970s and 1980s, as central government introduced controls over capital finance. The Public Works Loan Board became the main source of borrowing during this period. Bonds allow local authorities to raise substantial sums of capital immediately, on the basis of promises to repay the capital with interest at a specified point in the future.

It would be possible for a local authority to issue bonds as part of a TIF process. Money would be obtained up-front by selling the bonds (instead of approaching financial institutions), and they could be repaid by the additional tax revenues resulting from the public investment. TIF takes this form in many cities in the USA. If the future tax revenues do not materialise and the local authority is thus unable to repay the bonds, this will of course cause financial problems for the local authority.

Local authorities' borrowing limits will be related to the revenue streams available to them, which influence their ability to repay the debt. Local authorities are prevented by law from using their property as collateral for loans. The only recent instance of bonds being issued is that of the Greater London Authority (GLA), which issued £600 million of bonds to raise funds for Crossrail. The GLA however has access to substantial revenue streams compared to most local authorities (such as fare revenue from Transport for London), and its borrowing capacity will therefore be proportionately larger.

The LGA produced a report in mid-2012 proposing to create a collective bond issuing agency. Participation would not be compulsory, but would be attractive to smaller authorities which might not be able to obtain the best price in the conventional bond market. The agency would also obviate the need for the participating councils to have a credit rating, though they would be required to supply financial information to allow investors to judge the agency's collective creditworthiness. Participating authorities would also be required to supply a small proportion of their desired loan in capital.

The business case assumed at least tacit support from government. Such support is critical in order for financial markets and bond investors to have confidence in the proposed agency. Securing and maintaining the necessary government support is a considerable risk as it appears that some parts of central government may be sceptical to the prospect of such an agency being created at this point.

Interest in this project was rekindled in late 2013, when the LGA management board voted to press ahead with the creation of such an agency. At least eighteen local authorities have expressed interest in participating in the new agency. LGA Modelling work suggests that a Municipal Bonds Agency would allow councils to raise funds at a significantly lower rate than those offered by the PWLB. The model showed that a council borrowing £100 million over 20 years would stand to save as much as £4.7 million compared to a PWLB loan.

CROWD FUNDING

Crowdfunding is the practice of funding a project or venture by raising monetary contributions from a large number of people, typically via the internet. The crowdfunding model is fuelled by three types of actors: the project initiator who proposes the idea and/or project to be funded; individuals or groups who support the idea; and a moderating organization (the "platform") that brings the parties together to launch the idea. There are two primary types of crowdfunding:

- *Rewards Crowdfunding*: entrepreneurs pre-sell a product or service to launch a concept without incurring debt or sacrificing equity/shares.
- *Equity Crowdfunding:* the backer receives shares of a company/project, usually in its early stages, in exchange for the money pledged. The company/project's success is determined by how successfully it can demonstrate its viability

A variety of crowd funding platforms have emerged to allow ordinary web users to support specific philanthropic projects without the need for large amounts of money. Several dedicated civic crowdfunding platforms have emerged in the UK, some of which have led to the first direct involvement of local governments in crowdfunding. Notable examples include:

- Bristol City Council's Mayor's Fund – crowdfunding grants for local charities and social enterprises in as part of its 'Mayor's Fund'. The grants for 2013/14 will fund work with disadvantaged young people and children in Bristol.
- Mansfield District Council - Mansfield District Council successfully used the crowd sourcing platform *Spacehive* to raise over £36,000 to install free public WiFi across Mansfield.

There are limitations however, most projects are highly local, limiting the size of the community that might support and financially invest in an idea. Typical campaigns have generated funding around the tens-of-thousands mark. This would not be enough to support larger projects that local government is involved with, such as transport infrastructure and educational projects. This leaves the question of whether locally backed projects can raise enough money to support larger initiatives? It may be the case that crowd funding represents a potential funding stream for the smaller social infrastructure and desirable local level projects that can often be overlooked when allocating limited funding across a range of infrastructure requirements.

SOCIAL INVESTMENT

Social problems transfer from one community to the next, from one generation to another. By investing repayable and recyclable capital into tackling social problems, two types of returns are generated: financial returns to investors, but social returns to investors and to society more generally. This is empowering, efficient and necessary.

Social impact investment is the provision and use of capital with the aim of generating social as well as financial returns. This type of investment carries an expectation of repayment of some or all of the finance. It can cover loans, equity, bonds, and is sometimes used alongside other instruments, such as guarantees or underwriting. As with any other investments, where the investee business performs well, returns generated may be principally reinvested in the business, as well as offering a limited proportion of these to investors.

Investors in social outcomes weigh up the balance between the social and financial returns which they expect from an investment, according to their own priorities. They may accept lower financial returns in order to generate greater social impact.

OVERSEAS SOVEREIGN WEALTH FUNDS

The UK, particularly the London region, offers an extensive set of infrastructure investment opportunities, including in the regulated utility, power generation and transportation sectors. The UK's long standing track record of private ownership and robust rule of law makes it amongst the most attractive jurisdictions for infrastructure investing."

There is presently strong interest in the UK infrastructure market amongst overseas investors, including Middle East and Far East sovereign wealth funds as well as more traditional investors such as pension funds and which are struggling to find attractive opportunities to invest their cash amid record low interest rates, are committing more money to real assets, which promise higher returns as well as an annual cash yield. Infrastructure funds attracted $40.7 billion in 2013, compared with $30 billion the year before and nearing the 2007 peak of $44 billion, according to Preqin, a global venture capital consultancy.

However, despite the strong interest the UK market among investors, there are still hurdles to overcome as institutional investors attempt to marry their responsibilities and duties within tight legal and regulatory frameworks that vary across borders. Infrastructure debt competes for attention with other asset classes, and strong competition might see investors move their investment allocations away from the UK's infrastructure assets towards other asset classes.

INDUSTRY AND BUSINESSES

West Sussex is home to a wide range of businesses from multi-national firms to local family run businesses. All of these enterprises have a strong interest in ensuring the appropriate investment in infrastructure is maintained to support economic growth in the County. These firms represent a potential source of partner funding.

THE VOLUNTARY SECTOR

The voluntary sector (from voluntary organisations to individual volunteers) play an integral role in the delivery of social infrastructure provision across the County and will continue to provide capacity to support the existing and new population and assist in the delivery of new projects.

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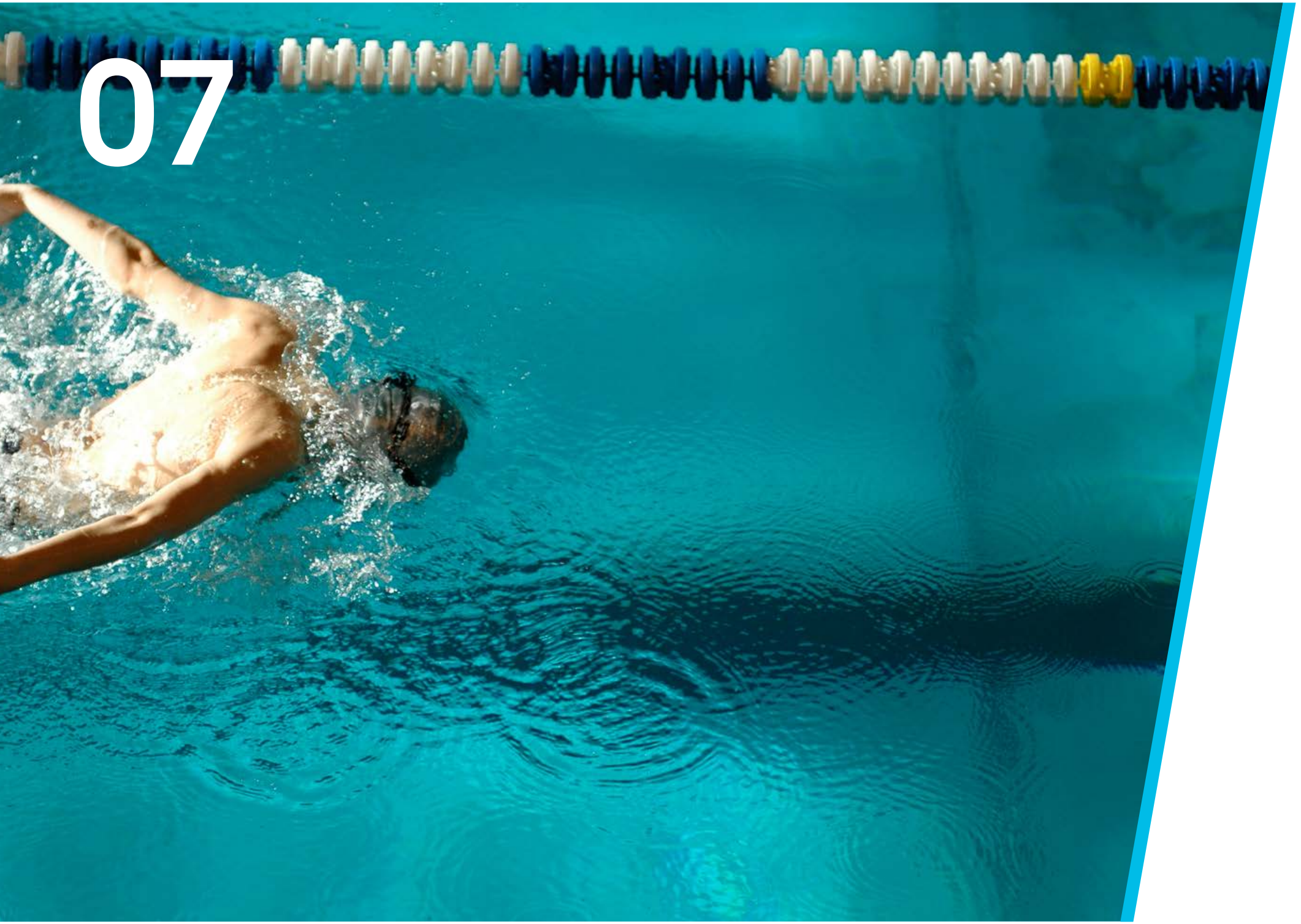

CONCLUSIONS

As identified at the outset of this document, this draft of the West Sussex Infrastructure Study presents an overarching baseline of growth patterns, infrastructure projects and cost requirements and gaps. It has been produced drawing upon information obtained through West Sussex County Council officers and following a period of engagement with the local authorities and other infrastructure providers.

The study provides a "snap-shot" in time, reflecting the position during July 2015. It must be remembered that the growth and development context is in a constant state of flux and with all LPAs in West Sussex at varying stages in developing and implementing their local plans, and negotiating planning consents, the position will change over time.

The preparation of the study has demonstrated strong collaborative working between the county and local authorities. It has however shown that a shortfalls exist in terms of a standardised agreed approach towards a study of this kind including the collection of data on housing and employment site, population forecasting, modelling infrastructure requirements and the costs and funding assumption for that infrastructure.

The following key findings have been established:

- West Sussex is expected to accommodate housing and economic growth over the 15 year period to 2030 delivering on average **3,260 dwellings per year.**
- **48,930 dwellings** are expected between 2015 and 2030 with an associated population **increase of 63,300 people** (an increase of 8%).
- Delivering the necessary infrastructure to support that growth from now to 2030 is estimated to **cost at least £2.46 billion.**
- The study has identified a combination of secured funding (over £823 million) and potential funding from the public sector, private sector and developer contributions (£883 million). The study could facilitate discussions into big target areas where innovative ways to reduce infrastructure needs could be implemented.
- Taking into consideration the potential funding identified, a **gap in infrastructure funding of £753 million** still remains between now and 2030.
- The study demonstrates that current anticipated developer contributions, central Government grants and other sources of income are not sufficient to support the scale of growth anticipated in West Sussex in the period to 2030.
- It has shown that CIL is at varying stages of adoption across the County reflecting variations in land value and the amount of money that will be collected.
- The infrastructure requirements and associated costs presented **represent a minimum scenario** as these are driven by a population forecast based on planned housing sites as opposed to ONS population forecasts.
- **ONS population forecasts for West Sussex over the same 15 year period are 56% higher than the study forecasts.** The estimated costs associated with the infrastructure identified to support the population growth identified in this study could therefore be increased considerably if a growth level nearer the ONS forecast was realised.

The following key steps have been identified for West Sussex and its partners to take the study findings forward:

- Use the study as a tool for engagement with Central Government in demonstrating the challenges faced in supporting growth within the county.
- Continue dialogue commenced with local authorities and other infrastructure providers to maintain an up-to-date understanding of growth distribution and supporting infrastructure.
- Use the study as a basis for identifying where local level shortfalls are to support bids for future funding, including potential means outlined in Section 6.
- Conduct an indepth review of potential funding mechanisms and their ability to fund infrastructure in the county.
- Wider linkage to asset management reviews to best utilise county council estate
- Continued dialogue with the GLA and CLG on wider growth issues including London overspill,
- Continued dialogue with other County Councils in the South East on strategic issues and priorities - in particular transport - to support growth. This may include linkages to London and radial routes to better connect the wider South East. This includes considering impacts of major infrastructure proposals such as expansion of Gatwick and the Crossrail extension.
- Understanding and dialogue with evolving infrastructure delivery and management regimes, i.e. NHS services, Adult education, Library services etc.

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INFORMATION CAVEATS

COST CAVEATS

AECOM costing advice is provided within this document and should be qualified as high level estimates given a lack of detailed scheme information. These cost caveats apply to the following topics within this report:

- Healthcare Projects and Social Care Accommodation
- Community, Library and Youth Spaces
- Open Space Provision
- Community Learning
- Children's Playgrounds
- Indoor and Outdoor Sports facilities
- Electricity Connections
- Gas Connections
- Potable, Waste and Surface Water Infrastructure
- Communications
- Waste Facilities

The following caveats apply to all costing provided by AECOM:

- The information on which the cost estimates are based is very limited at this stage. As such, all of the costs are to be treated as "indicative" of the type of works stated rather than a specific estimate of the actual works.
- The works are assumed to relate to a level greenfield sites with good access and no abnormal restrictions in respect of working hours and the like.
- AECOM have excluded all land purchase, demolition and site preparation that may be required.
- In respect of ground conditions, AECOM have excluded the impact of encountering archaeological remains, contamination, high water table level, major "soft spots" and underground obstructions. It also excludes encountering and diverting existing utilities and drainage.
- As AECOM do not have sufficient details of the individual sites that will be developed, we have excluded any allowances for external works i.e. all works outside of the building footplate.
- The costs are all based on a notional project that starts and completes in July 2015 and therefore all inflation costs are excluded.
- AECOM have excluded professional fees and survey works and all other consultants fees and planning / building regulation costs that would apply to the works.
- AECOM have excluded all phasing and temporary works that could apply to the works.
- AECOM have excluded all maintenance and operational costs.
- AECOM have excluded all loose fixtures, fittings and equipment and in particular specialist equipment.
- AECOM have excluded all VAT.

The following infrastructure topic costs are based primarily on the following sources although this list is not comprehensive:

- Highways - ARUP / WSCC / local authority IDP's
- Motorways - ARUP / Highways England / WSCC / local authority IDP's
- Rail - ARUP / Network Rail / WSCC / local authority IDP's
- Public transport and other transport - ARUP / WSCC / local authority IDP's
- Education - WSCC / local authority IDP's
- BDUK Broadband - WSCC
- Electricity - UKPN / WSCC / local authority IDP's
- Flood Defences - WSCC / Environment Agency