



COUNTY COUNCIL – 16 JULY 2015

**Item 8 – Kent and Medway Growth & Infrastructure
Framework**

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KENT AND MEDWAY GROWTH AND INFRASTRUCTURE FRAMEWORK

Page 3

KENT COUNTY COUNCIL

July 2015

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Executive Summary

AECOM were commissioned by Kent County Council to prepare a Growth and Infrastructure Framework (GIF) for Kent County Council (KCC) and Medway Council jurisdictions. The GIF sets out an evidence base, identifying Kent and Medway's infrastructure requirements in the context of planned growth and provides estimates of likely costs and funding gaps.

The information presented within this document is as understood at June 2015. The GIF is the product of a six month period of a desk based research, analysis and dialogue with KCC and Medway officers, district and borough officers and a range of infrastructure providers operating across Kent and Medway including but not limited to the NHS, the Clinical Commissioning Groups, Kent Association of FE Colleges, Highways England, Network Rail, The Environment Agency, UKPN, SGN and the Water Companies.

The preparation of the Growth and Infrastructure Framework has demonstrated the need for greater collaborative working between the various local authorities including the County, Medway districts, and boroughs, central government and agencies including the Environment Agency and Highways England, along with service providers.

The GIF highlights that a number of shortfall's exist in the strategic planning process and in the collection of data around planning policy, consents, infrastructure requirements and the cost of funding, which exacerbates the funding gaps that this Framework has identified.

The following key findings are highlighted:

- Kent and Medway is expected to accommodate significant housing and economic growth over the 20 year period from 2011 to 2031 delivering on average **7,900 dwellings per year**.
- **158,500 dwellings** are expected between 2011 and 2031 with an associated population **increase of 293,300 people** (an increase of 17%). This compares to an increase of 304,500 anticipated by the office for National Statistics (ONS). (This is similarly replicated in the DCLG figures)
- Delivering the necessary infrastructure to support that growth from 2014/15 to 2031 is estimated to **cost at least £6.74 billion. (equivalent to £396.5 million per year)**. £3.16 billion of this costs is associated with services the County has a role in delivering (£3.58 billion are non-county costs).
- The GIF has identified a combination of **secured funding** (over £700 million) and **potential funding** from the public sector, private sector and developer contributions of **£4 billion between 2014/15 and 2031**.
- Taking into consideration the potential funding identified, a **gap in infrastructure funding of £2 billion** still remains between 2014/15 and 2031 (**equivalent to £118 million per year**).
- Notable **infrastructure capacity** issues exist, particularly on the road network and education places across the Kent and Medway urban areas prior to the delivery of expected future growth.
- The Framework 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 Kent in the period to 2031.

- The GIF demonstrates that the Community Infrastructure Levy (CIL) has not been widely adopted across the County reflecting variations in land value, development viability and the amount of money that will be collected.

The following **recommended next steps** have been identified for KCC and its partners to take the GIF findings forward:

- Use the GIF as a **tool for engagement** with Central Government in demonstrating the challenges faced in supporting growth within Kent and Medway.
- **Continue dialogue** commenced with Medway, districts, boroughs and other infrastructure providers to maintain an up-to-date understanding of growth distribution and supporting infrastructure.
- Use the GIF as a basis for **identifying where local level shortfalls exist** to support bids for future funding, including potential means outlined in Section 4.
- **Simplify monitoring arrangements** in KCC in understanding infrastructure projects, funding and shortfalls.
- Undertake **further study around funding sources** within Kent and Medway and cost assumptions to verify the GIF assumptions to assist in making representations to Central and Local Government on infrastructure and funding issues.
- Consideration of **developing a single Infrastructure Delivery Plan for Kent** (or sub-areas within Kent)

– including greater partnership with the districts, consolidated infrastructure delivery plans in support of emerging local plans and integration with the Kent and Medway Growth Strategy.

- Conduct an in depth review of **potential funding mechanisms** and their ability to fund infrastructure in Kent.
- A detailed review of County and District **historic developer contributions** and analysis of potential S106, S278 and CIL contributions in the short, medium and long term.
- Better use of public sector assets linked to KCCs work on the **One Public Estate Programme**.
- Further **dialogue with the GLA and CLG** on wider growth issues including London overspill.
- **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. In addition, considering impacts of major infrastructure proposals such as the possible expansion of Gatwick, the Lower Thames Crossing and Crossrail (1&2) on Kent and surrounding Counties.
- Understanding and dialogue with **evolving infrastructure delivery and management regimes**, i.e. NHS services, Adult education, Library services etc.
- **Enhanced dialogue with the energy, water, waste water and communication service providers** working towards a more joined up approach towards strategic planning and alignment of long term planning and investment strategies. This dialogue will provide account to ensure they spend according to investment plans.

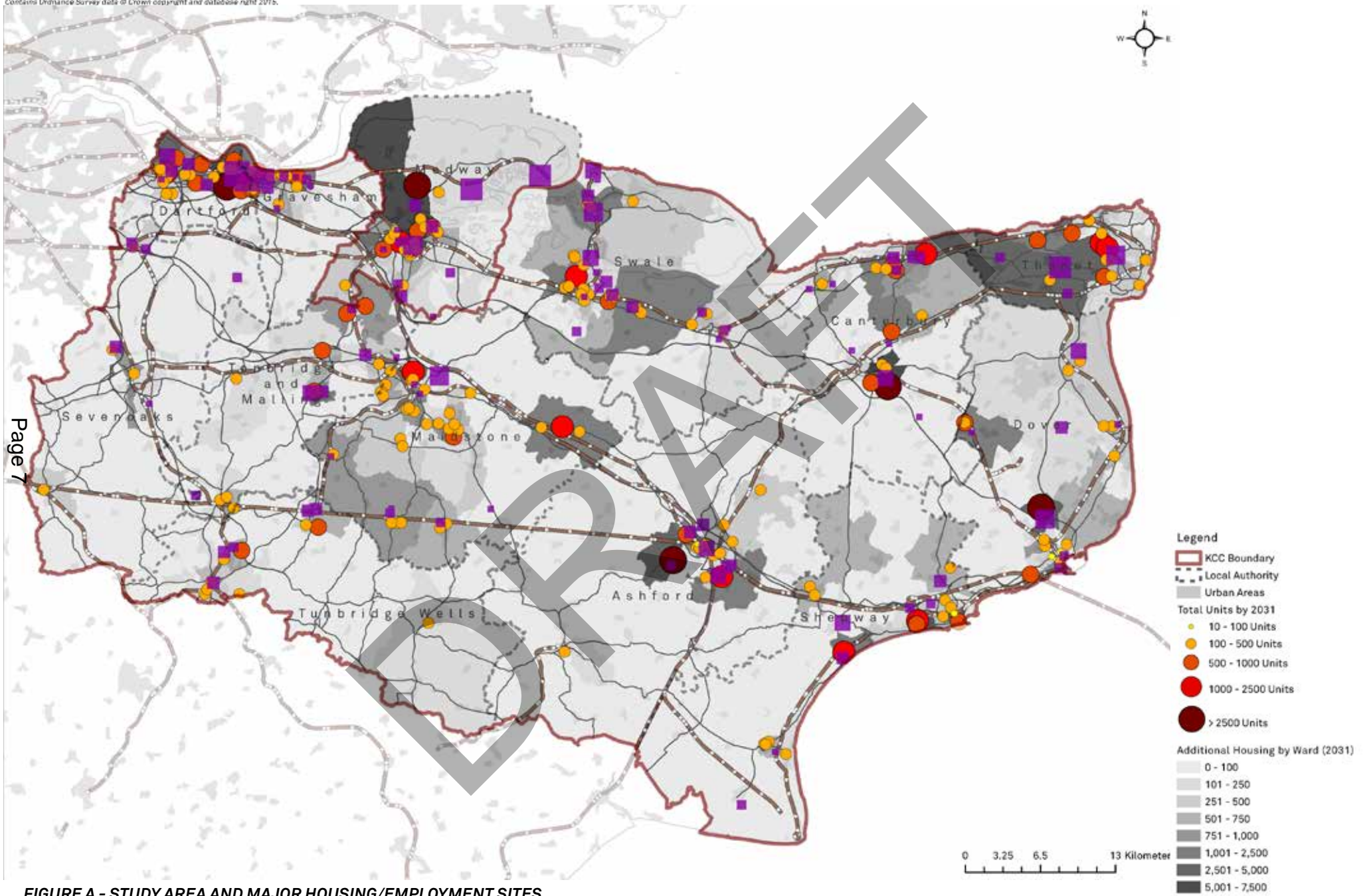


FIGURE A - STUDY AREA AND MAJOR HOUSING/EMPLOYMENT SITES

KENT & MEDWAY

The Growth and Infrastructure Framework identifies the following headlines for Kent and Medway to 2031:

158,500

new homes 2011-2031 (21% Growth)

293,300

new people 2011-2031 (17% Growth)

135,800

new jobs 2011-2031 (19% Growth)

Total Infrastructure Costs: **£6,740,580,000**
(£7,240,580,000***)

Total Secured Funding: **£706,080,000**

Total Expected Funding: **£4,021,570,000**
(£4,521,570,000***)

Total Funding Gap: **£2,012,920,000**

% of Infrastructure Funded: **70%**

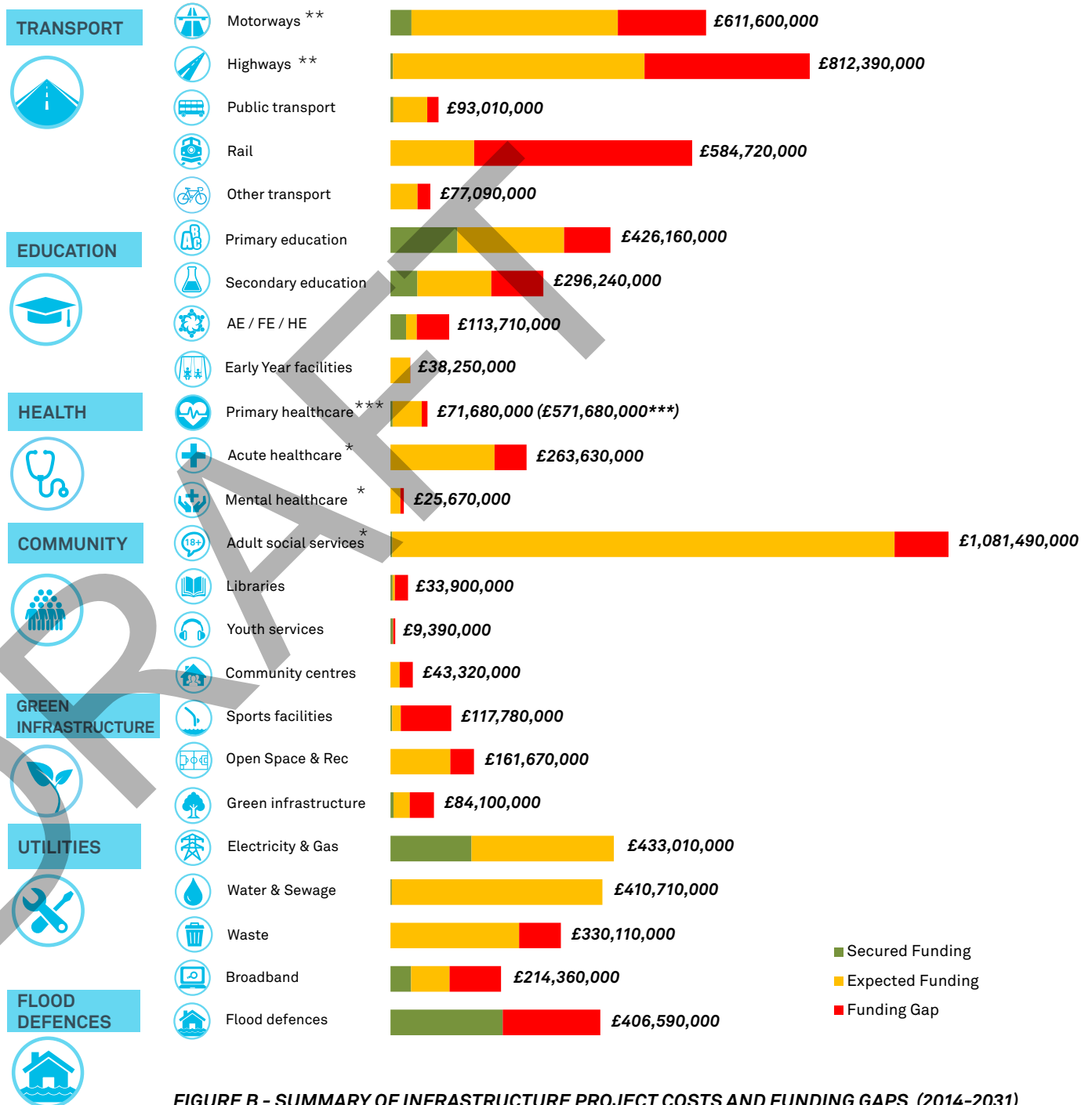


FIGURE B - SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

* Costs /funding based on traditional delivery of provision and does not include potential efficiencies from joined up services

** Excludes Lower Thames Crossing Costs (identified separately under strategic projects in Chapter 5)

*** Includes £500 million for the modernisation of Kent and Medway healthcare to an Integrated Health Model - see page 50

Framework Analysis Note: Assumptions and limitations associated with the housing, population and employment growth figures and cost and funding estimates are set out in more detail within the 'Parameters of the Framework' section (Page 14).

Figure B illustrates the range of infrastructure required to support the delivery of 158,500 new homes from social infrastructure to transport and utility networks, open space and flood protection.

The GIF 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 £2billion in funding gap between 2014 and 2031**. The largest investment in infrastructure is set to take place in the period 2016-21 with the greatest cost associated with Medway and Dartford, Ashford and Canterbury.

Table 1 summarises the funding gap according to County Services and Non County Services.

£ millions	Total Cost	Secured Funding	Expected Funding	Funding Gap
County Services				
Transport (Highways, PT and Other)	982.5	10.7	605.3	366.6
Education (Primary, Secondary, SEN)	722.4	181.6	350.6	190.2
Adult Social Care	1,081.5	3.4	973.5	104.5
Youth and Libraries	43.3	8.6	5.2	29.5
Waste	330.1	0	249.4	80.7
County Services Total	3,159.8	204.3	2,184.0	771.5
Non County Services				
Transport (Motorways, Rail)	1,196.3	40.7	562.2	593.4
Healthcare	361.0	4	277.1	79.9
Education (Early Years, FE / HE)	152.0	30.4	58.6	62.9
Community and Sports	161.1	3.5	33.9	123.6
Open Space, Rec, Green Infrastructure	245.8	6	147.2	92.5
Utilities	1,058.1	199.7	758.4	100
Flood Defences	406.6	217.5	0	189.1
Non County Services Total	3,580.8	501.8	1,837.6	1,241.5
All Services Total	6,740.6	706.1	4,021.6	2,012.9

TABLE 1 - COST AND FUNDING SUMMARY BY SERVICE GROUPS

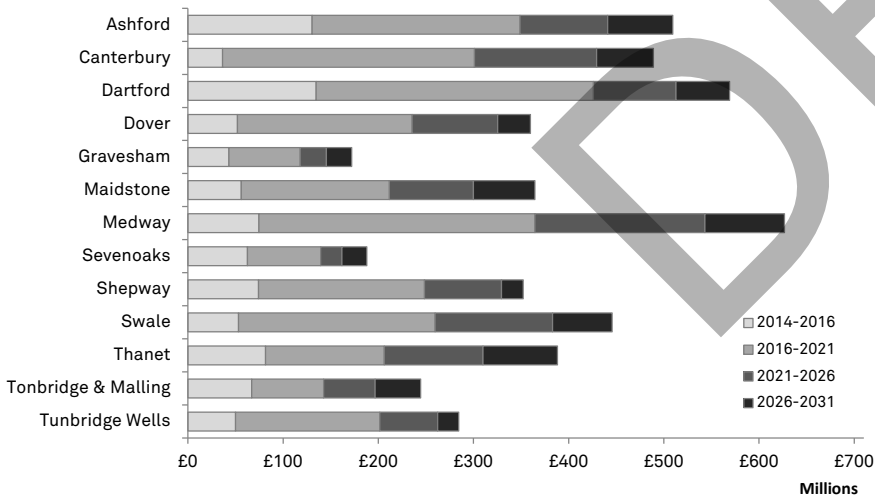


FIGURE C - ESTIMATED PROJECT COSTS BY PHASE

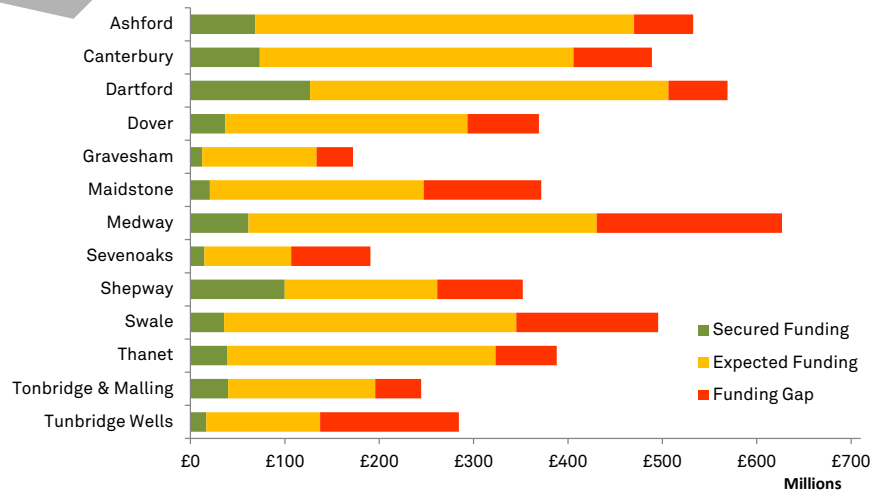


FIGURE D - TOTAL COST OF INFRASTRUCTURE AND ESTIMATED FUNDING

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DRAFT

01

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

INTRODUCTION

The Kent + Medway Growth and Infrastructure Framework (GIF) has been prepared on behalf of Kent County Council (KCC) to provide a view of emerging development and infrastructure requirements to support growth across Kent + Medway.

At present a strategic view of growth distribution and infrastructure provision is lacking across Kent + Medway. Each local planning authority in Kent is at different stages in Local Plan preparation and working to a range of viability assumptions. Meanwhile infrastructure is being provided by a host of different providers, including the County.

The picture presented from district Infrastructure Delivery Plans, County plans and those of other providers is incomplete, however 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 Kent County Council and Medway
- Set out a combined understanding of capacity within current infrastructure provision and pipeline infrastructure projects being taken forward by KCC, Medway Council and other infrastructure providers

- Highlight cumulative costs, funding streams and gaps in infrastructure funding.

The Kent + Medway Growth and Infrastructure Framework has been produced for the following audiences:

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

The Framework takes into consideration external factors affecting growth and infrastructure provision in Kent + Medway in relation to the wider London and south east growth requirements.

Of relevance to the GIF 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 6,300 homes per annum shortfall likely to be to be met in areas outside London, including Kent and Medway.

The 2014 Autumn Statement made provision for some £100 million in funding to support the Ebbsfleet Garden City development which is likely to have implications on infrastructure provision in Dartford/Gravesham. The Ebbsfleet Development Corporation has been operational since May 2015.

SCOPE OF THE FRAMEWORK

The Growth and Infrastructure Framework covers all forms of infrastructure supporting the economic, environmental and social needs of Kent and Medway (see Figure 1.2). For the purposes of the Framework all local authorities within Kent County have been included.

In addition Medway Council, a unitary authority, has been included within the assessment.

These include provision made by Kent County Council, as well as other providers. The categories covered in the report are shown in Figure 1.1.

The Framework is structured as follows:

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

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

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 an analysis on a district-by-district basis of development suitability taking into account infrastructure capacity, pipeline projects, costs and funding gaps.

Section 6 presents a commentary on delivery and funding issues affecting growth and infrastructure across Kent + Medway

Section 7 identifies recommendations and conclusions.

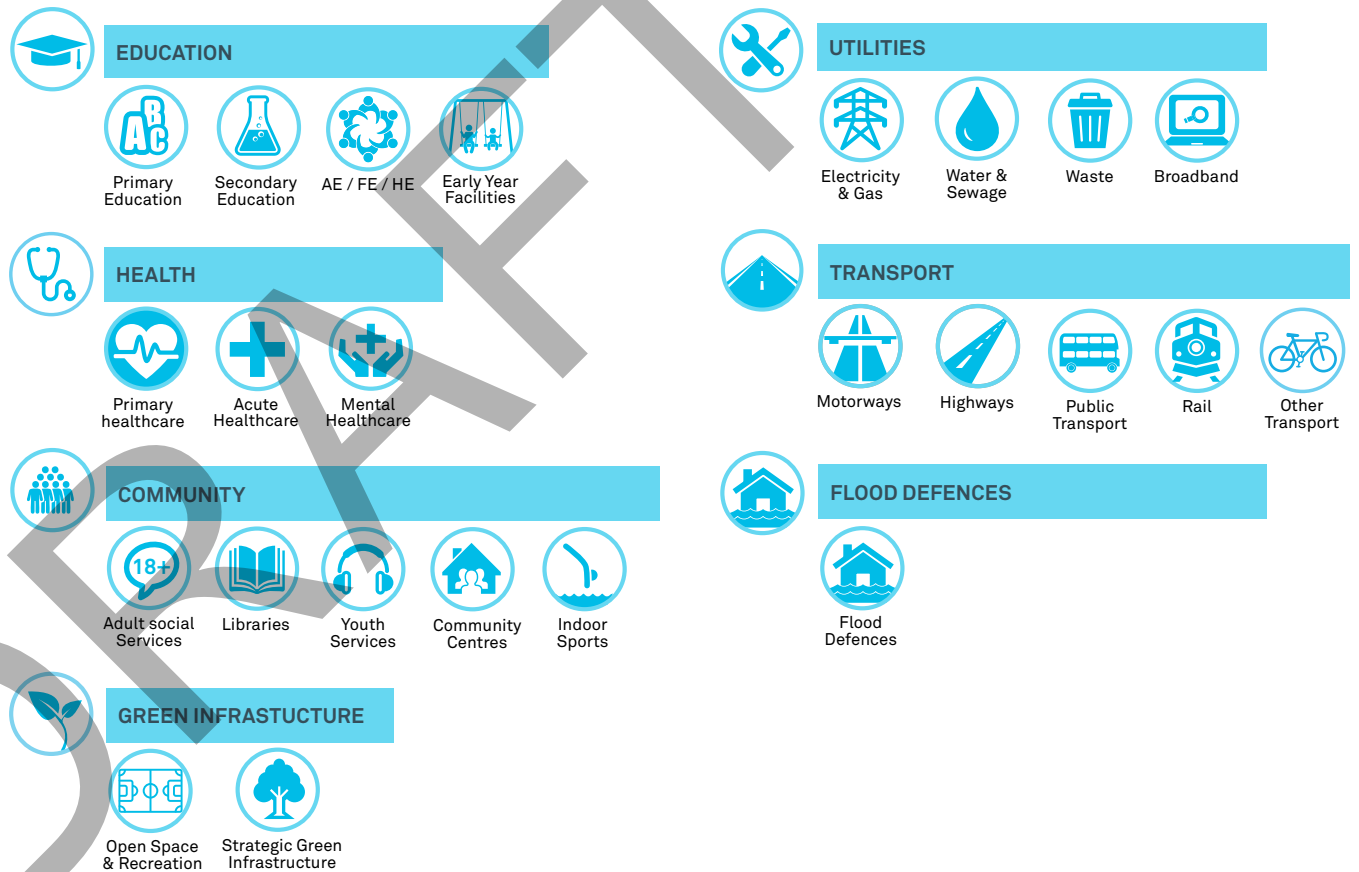


FIGURE 1.1 - INFRASTRUCTURE CONSIDERATIONS FOR THE GROWTH AND INFRASTRUCTURE FRAMEWORK



FIGURE 1.2 - STUDY AREA

PARAMETERS OF THE FRAMEWORK

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

Growth Analysis:

- The housing, employment and population forecasts presented in this document represent our understanding of the growth context at June 2015 but it is recognised that this information is continually evolving and should therefore be treated as a snap shot in time only.
- The production of the GIF has enabled KCC to work closely with Medway and the 12 district and borough councils as Local Planning Authorities (LPAs) to establish the latest understanding of potential additional housing delivery between 2011 and 2031. The Housing trajectories presented in this document have been provided by the LPAs and represents only the latest working assumption on likely housing delivery and does not necessarily represent the latest local plan position.
- Key employment sites presented in this document have been provided by the LPAs as sites likely to have significant implications on infrastructure provision. This does not include all employment sites and excludes smaller employment areas.
- A technical population modelling scenario forecast has been produced by the KCC Business Intelligence unit to inform the Growth and Infrastructure Framework document and the technical infrastructure modelling associated with it. This is a bottom-up forecast based

on the number of dwellings to be built in each individual district as advised by each local authority planning department in April and May 2015. It is important to note that these do not replace the KCC Strategy Forecasts.

Infrastructure Analysis:

- The framework 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 2031 through the consolidation of existing service planning and through theoretical modelling where no service planning is available.
- The 12 district and borough councils 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 framework. It should be noted that a number of the district and borough councils are currently in the process of updating or producing an 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 which

will have an impact of service demands within Kent, 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 presented in this summary document represent a minimum figure.
- A full set of cost caveats have been included on page 132 of this document and explain the predominant source of cost information by each infrastructure topic.

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 has been seen to be stronger in some infrastructure topics than others. For example, the project database entries for transport and education projects contain a greater level of funding details than other topics.

- Funding has been further identified into two categories of secured and expected.
- Secured funding represents any project funding that has been banked by KCC, Medway Council or the district and borough councils, part of a legal agreement or included within an investment plan (such as a utility company business plan). The secured funding presented in this document includes that from public sector (such as Transport funding or Basic Need education funding), Developer contributions (S106 & S278) and private sector organisations.

■ Expected funding also includes that from the public sector, the private sector and potential developer contributions.

- Expected Funding represents any project funding that is currently part of a bid, a negotiation, or a stated future allocation. The expected funding category also however 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 6.3.
- Expected public sector funding has been sense checked primarily against the known allocations of transport and education funding as set out in chapter 6 of this document.
- 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 6.3 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 framework is taken forward a greater degree of accuracy on potential funding sources is anticipated.

PLANNING FOR INFRASTRUCTURE IN KENT + MEDWAY

THE BASIS OF THE FRAMEWORK

THE GIF DRAWS TOGETHER INFORMATION AND DATA FROM A RANGE OF SOURCES. IT SEEKS TO ILLUSTRATE A STRATEGIC PERSPECTIVE OF GROWTH AND INFRASTRUCTURE PROVISION IN KENT AND MEDWAY AT THE PRESENT TIME AND 20 YEARS INTO THE FUTURE.

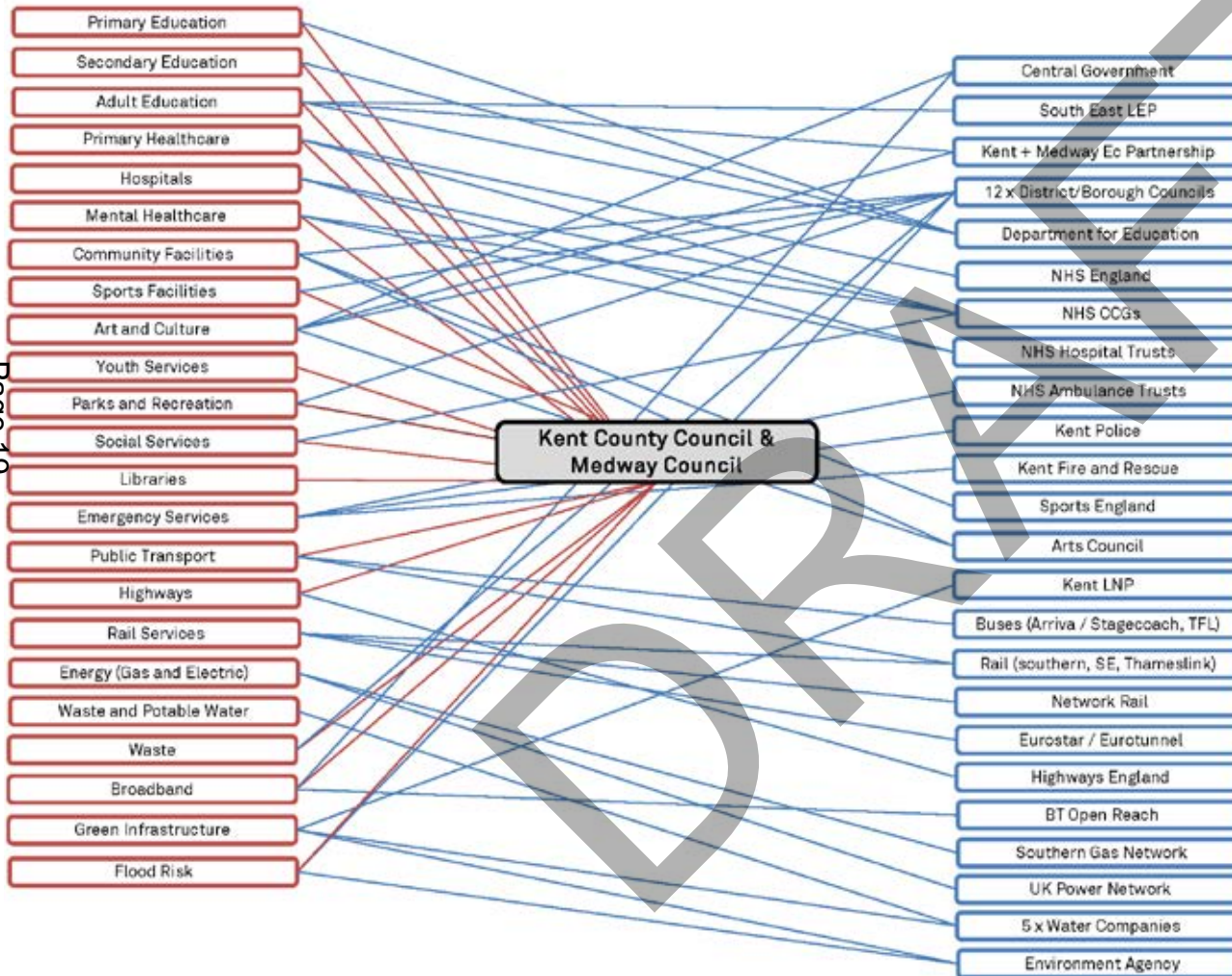
It draws upon the following information:

- Existing and emerging information, strategies and plans from local authorities across Kent + Medway
- GIS database information provided by Kent County Council, districts, boroughs and Medway Council
- Kent County Council's Integrated Infrastructure Financing Model (IIFM)
- Kent County Council's Strategic Projects Update Database (SPUD)
- Adopted and emerging Local Plans and Infrastructure Delivery Plans for all Local Authorities within Kent + Medway.
- Local authorities' Local Plan evidence bases
- Documents produced by the South East Local Economic Partnership (LEP)
- Documents provided by the Kent and Medway Economic Partnership
- Information from other infrastructure provider's plans including utility providers, the Environment Agency,

Network Rail, Highways England and the National Health Service (NHS).

The framework is based on a detailed analysis of issues in Kent + Medway relating to growth and infrastructure current to June 2015. It should be recognised that this presents a snapshot in time and has no legal basis.

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Waterloo East
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Chislehurst
Petts Wood
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INFRASTRUCTURE PROVIDERS

Figure 2.1 shows the complex relationship between infrastructure requirements and providers in Kent. Kent County, Medway and the district and borough councils play a vital role in the supply of infrastructure in Kent. In addition a number of public and private organisations have responsibility to provide infrastructure to support existing population and proposed growth.

This framework covers the following aspects of infrastructure provided by Kent + Medway.

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

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

- Healthcare (NHS)
- Further Education
- Highways (Highways England)
- Railway and bus operators
- Utility providers
- Other significant infrastructure providers (e.g. Environment Agency, Port of Dover)

FIGURE 2.1 - THE COMPLEX PATTERN OF INFRASTRUCTURE PROVISION IN KENT +

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 Kent it is the district and borough Councils (plus Medway as a unitary authority) who have responsibility for producing Local Plans as local planning authorities (LPA's).

Kent County Council is a statutory consultee as an infrastructure provider, but does not have a statutory responsibility for plan making (with the exception of 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 Kent 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. The majority are accompanied by an "Infrastructure Delivery Plan" which sets out infrastructure required to support growth and funding regimes.

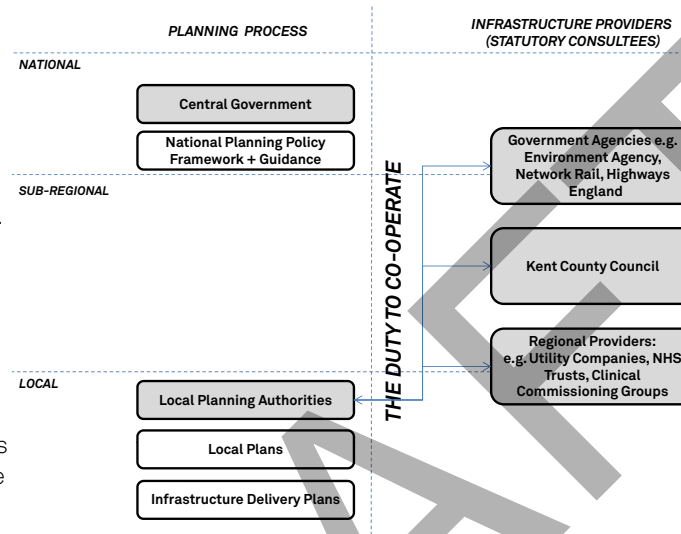


FIGURE 2.2 - THE CURRENT PLANNING PROCESS VS INFRASTRUCTURE PROVISION IN KENT

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.

This document will assist with the “Duty to Cooperate” responsibility and begin to piece together a co-ordinated understanding of growth and infrastructure across Kent and Medway.

A number of overarching planning principles are supported in the delivery of growth and infrastructure across the County:

Environmental Protection - Kent's Environment Strategy sets out future priorities for environmental management. The County Council will not support proposals which contribute to unrestricted urban sprawl and the coalescence of settlements. This form of development also results in the unsustainable provision of local infrastructure and has a detrimental impact on the day-to-day lives of local residents and businesses.

Place Shaping - Poor design fails to grasp the opportunity to improve the character and appearance of an area, the way it functions to meet the needs of communities and how it can contribute to a high quality environment. New development should aspire to restore and enhance the connection between people and places whilst seamlessly integrating into the natural, built and historic environment of Kent's urban areas and countryside. Collaborative working across the Kent and Medway authorities with proactive initiatives such as South East Design coupled with strong relationships with Kent Developers Group, help to take forward the countywide shared vision of quality communities and environments.

Transport - Demand management and support for a modal shift to public transport, cycling and walking will help reduce pressure on this infrastructure and extend their capacity over a longer timeframe and provide air quality and health benefits.

Water - Around 73% of Kent's public water supply is taken from ground water, most notably from chalk aquifers. The rest is generally drawn from rivers. Most of these finite resources are currently at capacity and in some parts of the county are being exceeded. As Kent is in one of the driest parts of the country, this water stress will be exacerbated by a growing population and climate change. Opportunities to improve water efficiency and reduce Kent's usage of water, as well as identifying alternative water sources, will be needed to ensure water resources are available to support growth. Furthermore, as Kent's drainage capacity is constrained in a number of settlement, there is an increased risk of surface water flooding when it does rain. As such, the County Council has been leading work with other South East Councils in developing guidance for integrating more sustainable drainage approaches into development.

Energy - Kent currently generates the equivalent of around 12% of the county's energy demands. Through the Kent Environment Strategy and Kent Renewable Energy Action plan, KCC will seek to ensure that additional low carbon and renewable energy infrastructure, along with increased uptake of energy demand reduction initiatives, will be needed if the county is to play a proportionally representative role in meeting the UK's carbon reduction target and renewable energy generation target of 15% by 2020.

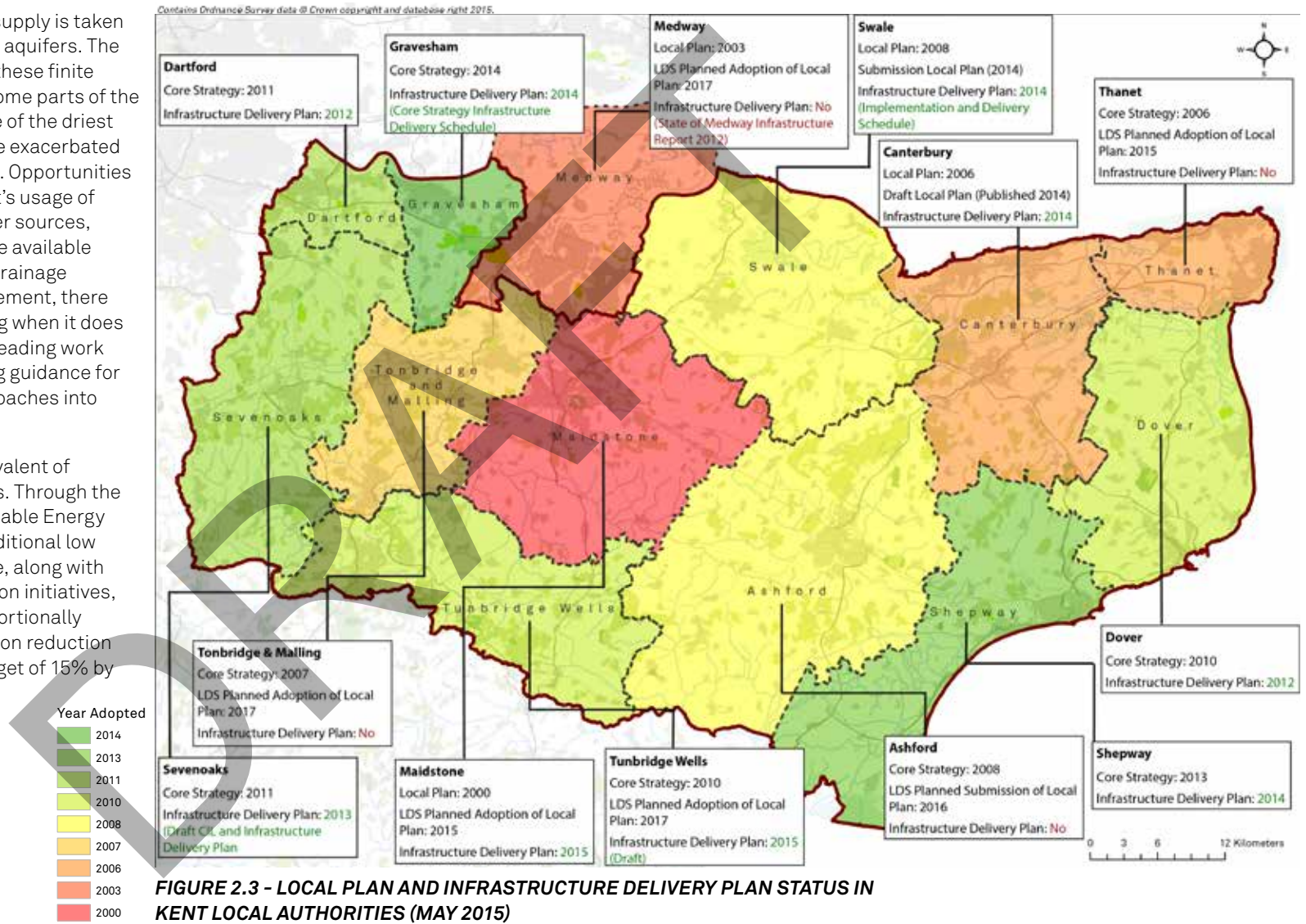


FIGURE 2.3 - LOCAL PLAN AND INFRASTRUCTURE DELIVERY PLAN STATUS IN KENT LOCAL AUTHORITIES (MAY 2015)

UNDERSTANDING KENT AND MEDWAY'S GROWTH REQUIREMENTS

THIS SECTION AIMS TO SUMMARISE THE KEY ISSUES IN PLANNING FOR GROWTH IN KENT AND MEDWAY TO 2031.

As highlighted in the previous section, growth in Kent and Medway is planned for through the Local Plan process on an authority-by-authority basis. This section seeks to set the context for County-wide growth requirements and current planned growth areas as established within the Local Plans.

It comprises:

POPULATION GROWTH REQUIREMENTS

- Population modelling and growth assumptions to 2031
- 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

This growth context is then used as the basis for examining infrastructure requirements. in the remainder of this Framework

POPULATION PROJECTIONS

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

- 1. Mid-2012 Population Estimates produced 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 Area Assessments (SHMAAs)
 - The ONS projection assumes a 2011 population of **1,731,400** for Kent and Medway (1,466,500 for Kent only)
 - It projects a 2031 population of **2,035,900** - an increase of **304,500**, equivalent to **18%** (255,300 for Kent only)
- 2. KCC Research & Evaluation Teams Population forecast**
 - A bespoke population forecast produced specifically for this framework 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 KCC April 2015

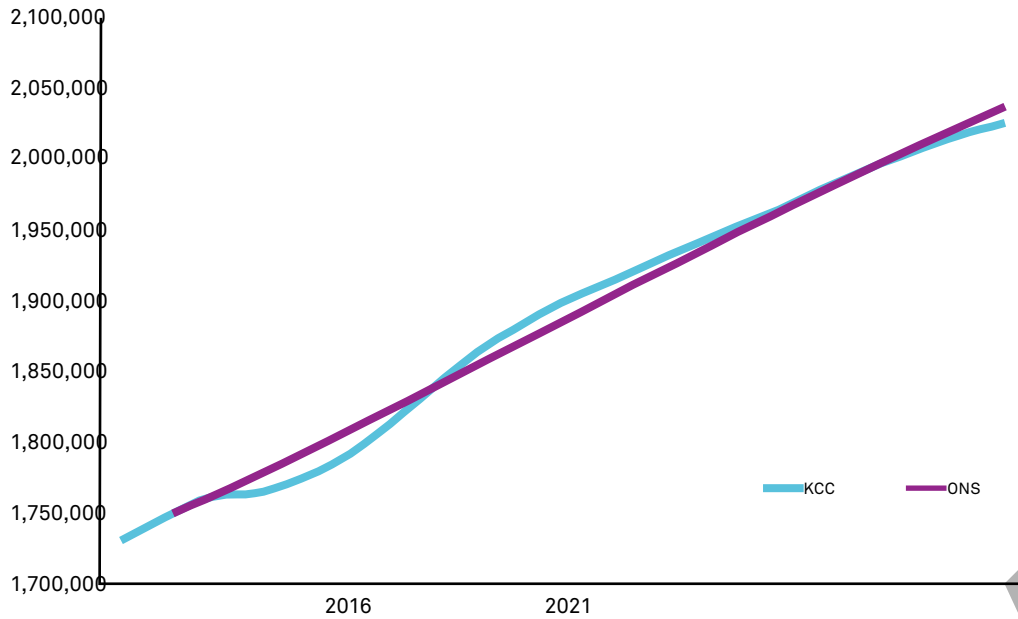


FIGURE 3.1 - 2031 POPULATION FORECASTS USED FOR GROWTH AND INFRASTRUCTURE PLANNING IN KENT & MEDWAY

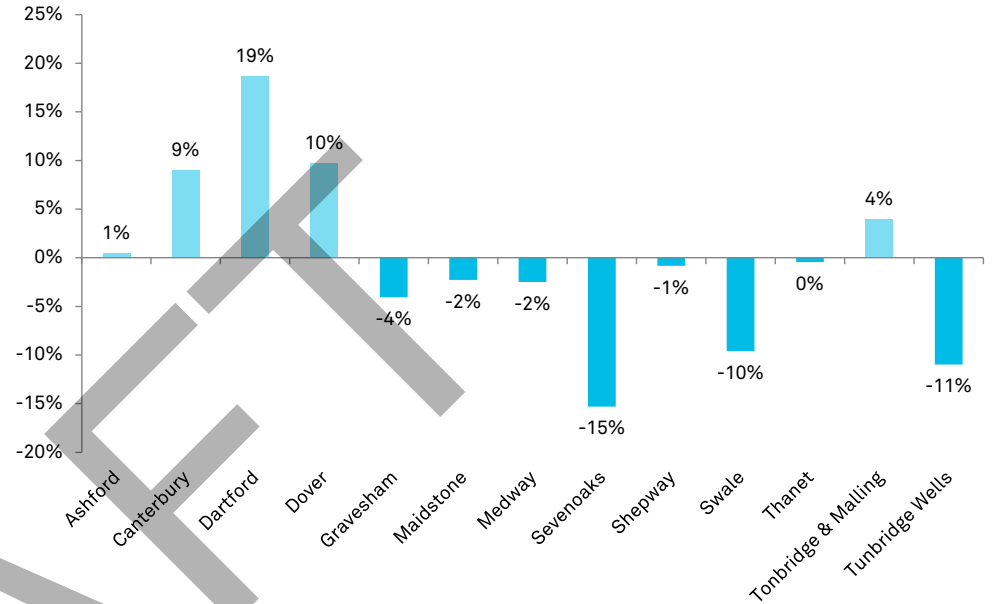


FIGURE 3.2 - KCC HOUSING BASED POPULATION FORECASTS VARIATION FROM TREND BASED ONS POPULATION FORECASTS

FIG 23

- This KCC Research and Evaluation Team projection assumes a 2011 base population of **1,731,400** for Kent and Medway
- KCC Forecast projects a 2031 population of **2,024,700** - an increase of **293,300**, equivalent to 17% (250,700 for kent only)

HOW THE POPULATION FORECAST VARY BY DISTRICT

Whilst the housing trajectory based KCC forecasts and trend based ONS forecasts portray a similar total population change across Kent and Medway as a whole between 2011 and 2031 this masks some significant variations between the Districts. As shown in figure 3.2 the population forecasts which have been driven by the current housing trajectory's are considerably higher in Canterbury, Dartford and Dover whereas those same forecast are considerably less in Sevenoaks, Swale and Tunbridge Wells.

WHERE WE ARE NOW 2014/15

The Growth and Infrastructure Framework presents the housing and population change to 2031 from 2011 due to the availability of demographic, economic and local planning data. This report does acknowledge that we are now in 2015 and as such highlights the current population for Kent and Medway as 1,768,700 and the remaining level of population growth from this point as 262,700 people. This effectively suggest that 12% of the 20 year population growth presented in this report has occurred already. It is important to note that all costs and funding analysis presented in the topic specific and District chapters is from today onwards and does not include historic costs and funding pre 2014/15.

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 2031.

Kent + Medway will grow by at least 293,000 people (17% increase) by 2031

This growth will put the greatest pressure for new infrastructure between 2011-2021 as Kent + Medway grows by 167,000

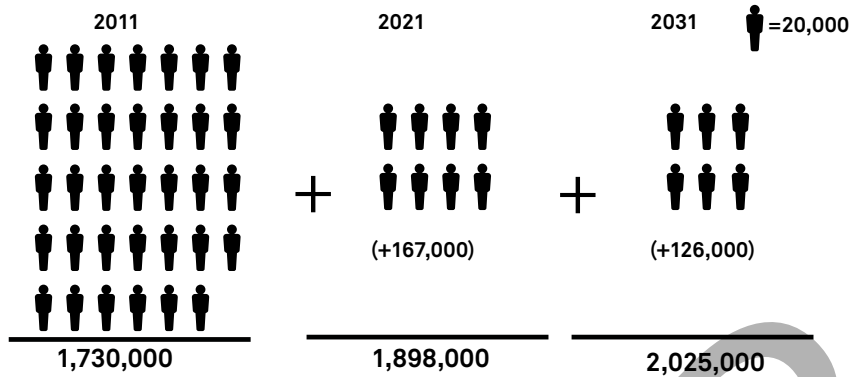


FIGURE 3.3

However, this growth varies significantly within Kent + Medway, with the greatest increases currently projected in Medway, Dartford, and Canterbury

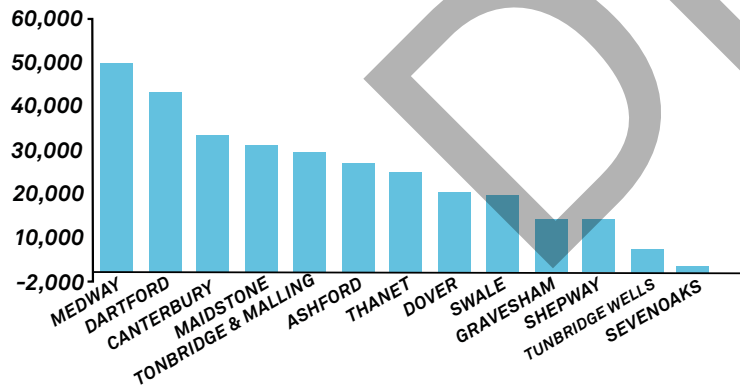
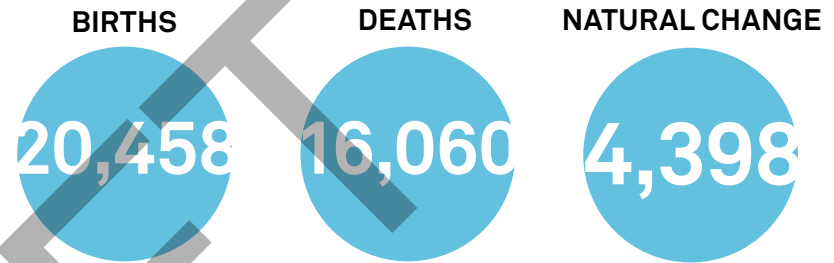
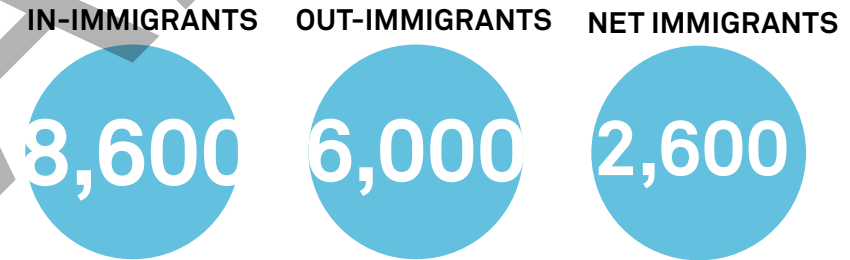


FIGURE 3.4

In 2011/12 the natural increase of Kent + Medway was 4,398 people (+0.25%)

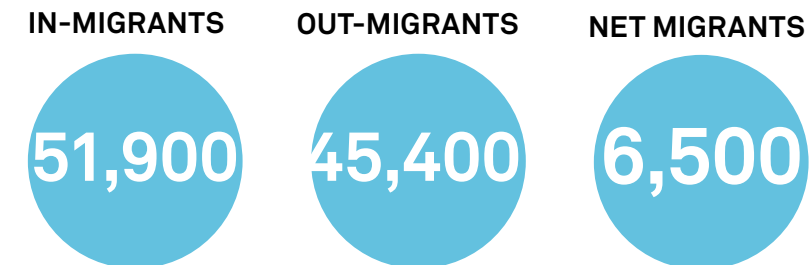


In 2011/12 there was net international migration of 2,600 people into Kent (+0.18%)



Canterbury saw the biggest net-increase of 1,600 people (reflecting its University status) Tonbridge and Malling, Tunbridge Wells saw net loss through internal migration.

In 2011/12 there was net internal migration (within UK) of 6,500 people into Kent (0.44%)



Migration between Kent and other parts of the UK 2002-11

Kent's future population growth will be driven by internal migration, which has recently been a major population driver. Kent experienced a net increase of 61,250 migrants between itself and the rest of England and Wales. However, this is skewed by Kent's relationship with London, in which Kent saw an overall net loss of 49,060 migrants from 2002-2011 to the rest of England and Wales.

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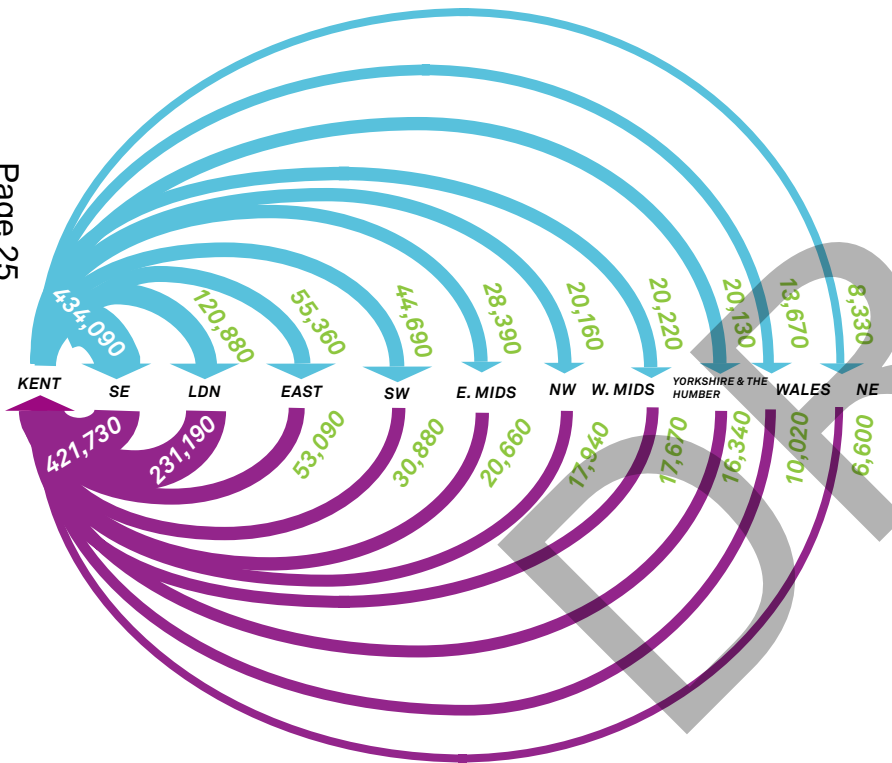


FIGURE 3.5 - INTERNAL MIGRATION BETWEEN LONDON AND KENT LOCAL AUTHORITIES (2002-2011) ONS

Migration between Kent and London 2002-11

London and Kent are increasing interconnected - the flow of migrants from London into Kent is nearly 2:1 from 2002 - 2011, in which Kent received a net increase of 110,310 people from London.

Medway received 14% of migrants while Sevenoaks, Dartford, and Canterbury all received 12%. Internal migration from London is heavily concentrated to the West of Kent.

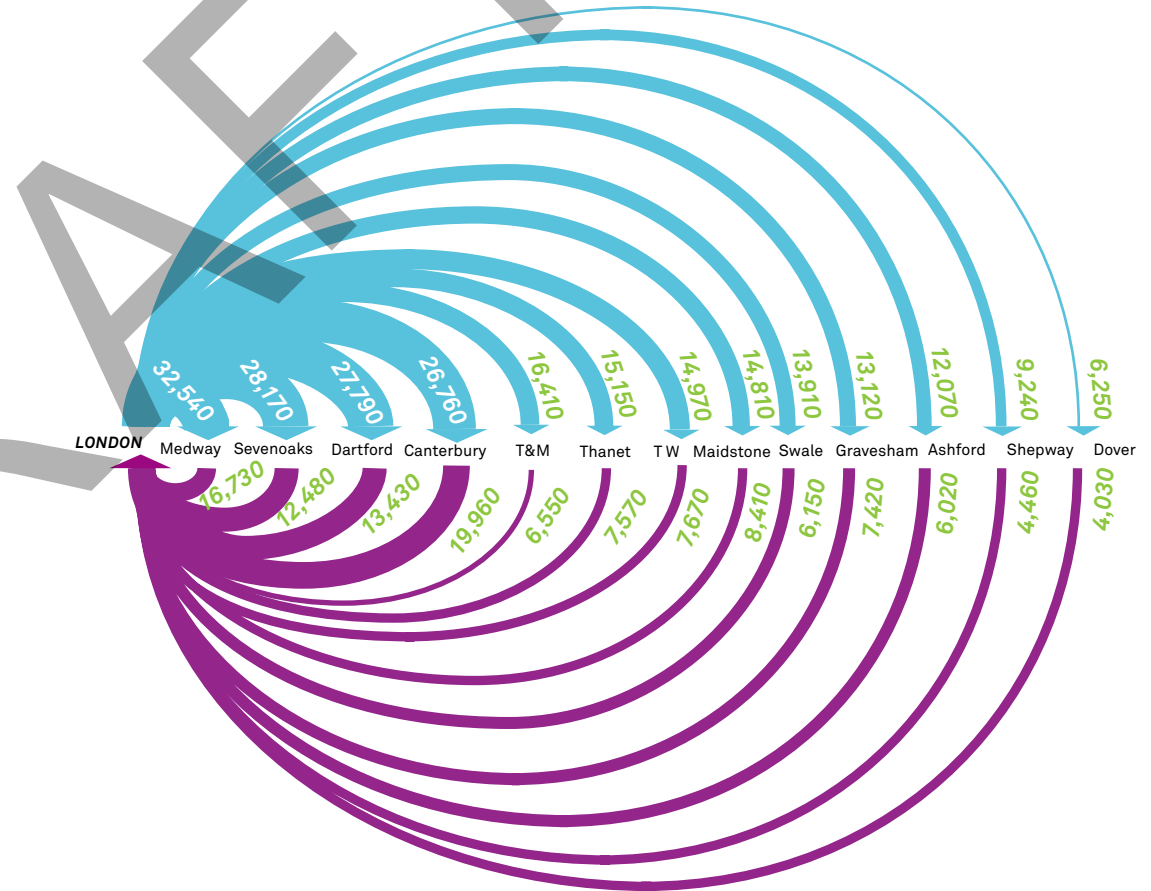


FIGURE 3.6 - INTERNAL MIGRATION BETWEEN LONDON AND KENT LOCAL AUTHORITIES (2002-2011) (ONS)

The population is ageing: the greatest increase in age categories will be those over 60, with the biggest increase in 85+

Forecast Change in Age Profile 2011 -2031

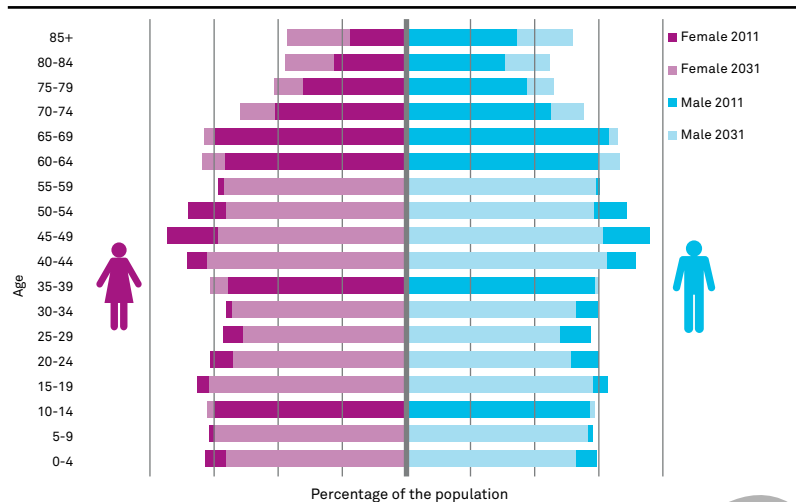


FIGURE 3.7

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As the population gets older, working age residents will decline by 4% in their total share of the population by 2031, whereas elderly will increase their share by 5% of the population

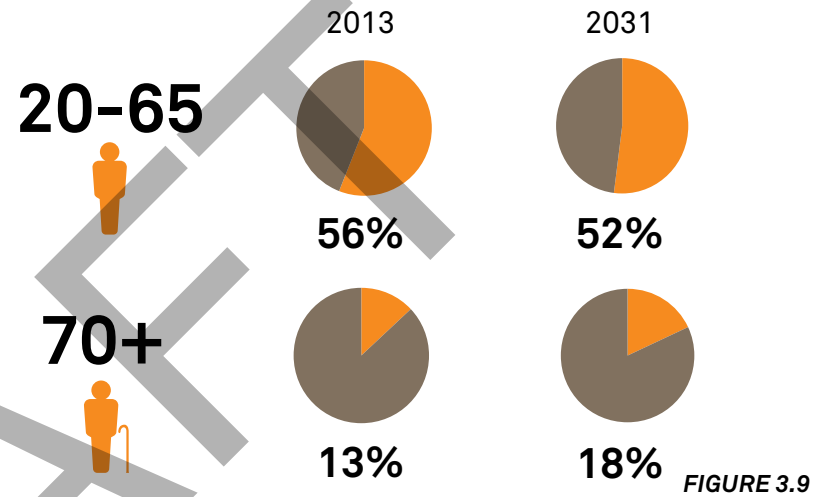


FIGURE 3.9

New Persons by Age Bracket

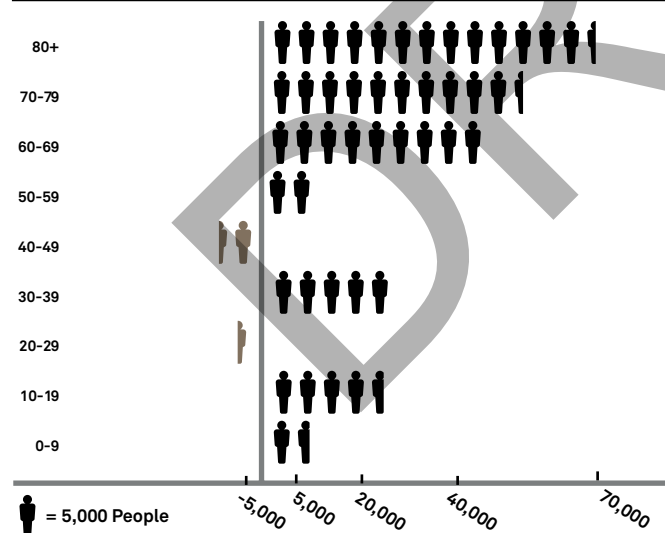


FIGURE 3.8

As the population ages, this will alter infrastructure demands in Kent and Medway. Changing requirements for housing typologies, to increasing needs for healthcare and accessible infrastructure will likely rise as those over the age of 60 increase quicker in real terms

Traditional housing characteristics dominate in Kent & Medway

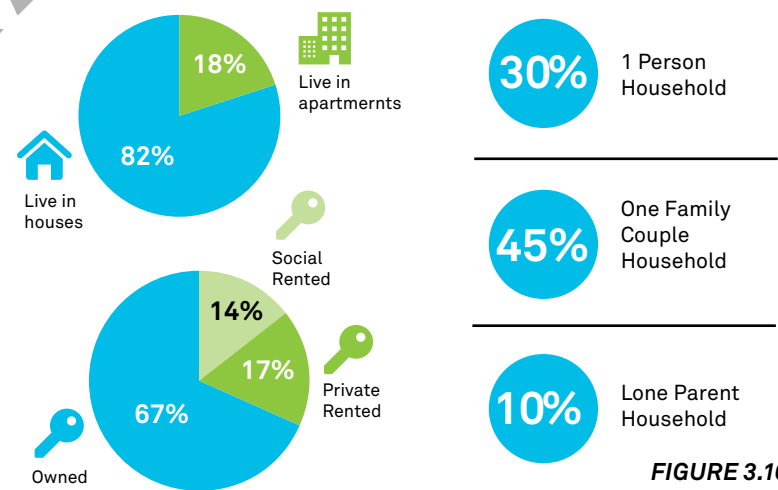


FIGURE 3.10

As the elderly population increases this will likely create greater demand for 1 person households, as well as apartments. Kent's current housing characteristics have not adapted to the changing demographic profiles

Quality of life is generally high across Kent & Medway however this masks an east/west variation

However, there are clear pockets of deprivation in certain urban areas such as Chatham, Gillingham, Gravesend, Folkestone and Dover as well as peripheral coastal and estuarial areas including the Isle of Sheppey and parts of Thanet.

These pockets are emphasised when looking at claimant rates where 12% of working age residents in Kent are currently claiming a benefit.

Thanet (20%), Shepway (15%), Swale (15%), Dover (14%) have the highest portion of working age residents claiming a benefit, reflecting the IMD map levels of deprivation.

The are variations in the causes of deprivation across Kent. While some areas may be affected by issues such as access to health care and skills training, others are affected by poor access to potential job markets.

12% of working age residents in Kent are currently claiming Job Seekers Allowance (JSA).

Thanet has the highest portion of its working age resident population claiming at 4.2%, followed by Medway (2.6%), and Dover (2.5%). However, Claimant rates are declining across Kent, suggesting an improving economic situation:

JOB SEEKERS ALLOWANCE 2013-14

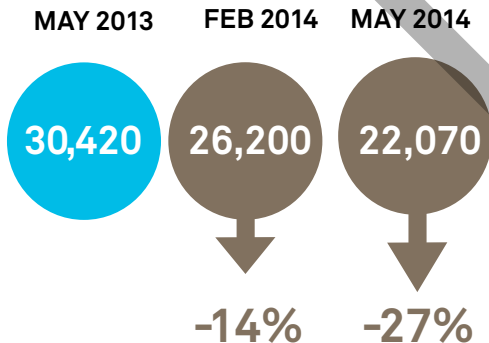


FIGURE 3.11

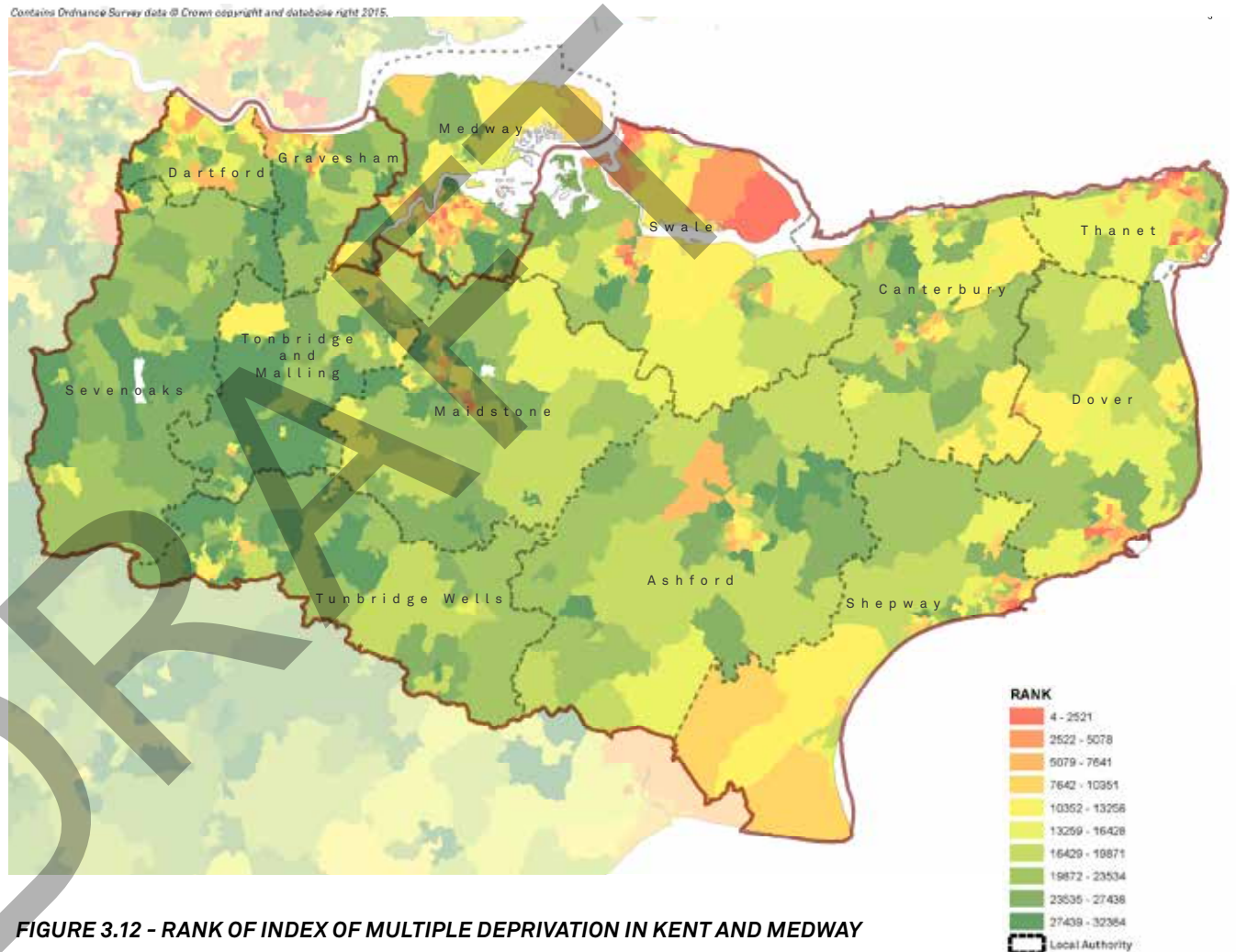


FIGURE 3.12 - RANK OF INDEX OF MULTIPLE DEPRIVATION IN KENT AND MEDWAY

3.2 HOUSING A GROWING POPULATION

There are approximately 750,000 housing units existing across Kent Local Authorities. Local Plans seek to respond to issues set out in the social and demographic portraits in the previous section.

To accommodate the forecast increase in population, local authority housing trajectories indicated that some 158,500 housing units are planned across Kent and Medway between 2011 and 2031 (136,400 for Kent only). The number of units planned varies across local authority area as illustrated in Figure 3.13.

HOUSING TRAJECTORIES

The scale of development varies across Local Authorities. Figure 3.15 shows the distribution of housing sites in Kent compared against ward-level population projections to 2031. Figure 3.14 summarises the number of larger housing schemes (100 units +) forecast for each Local Authority, based upon Local Authority Housing Trajectories (correct at May 2015).



FIGURE 3.13 - EXISTING AND PROPOSED HOUSING

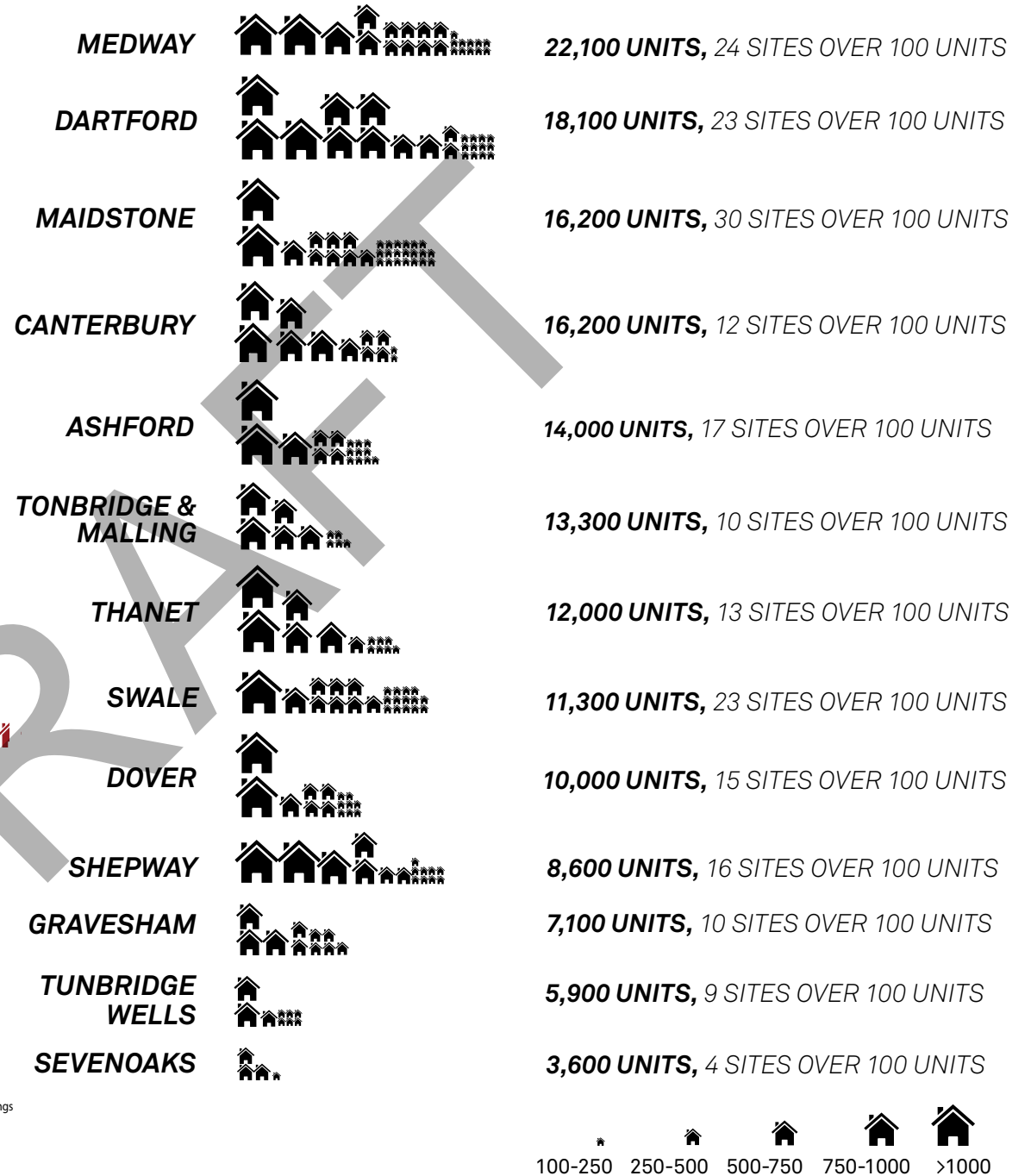


FIGURE 3.14 - NUMBER OF HOUSING SCHEMES (100+ UNITS) FORECAST FOR EACH LOCAL AUTHORITY

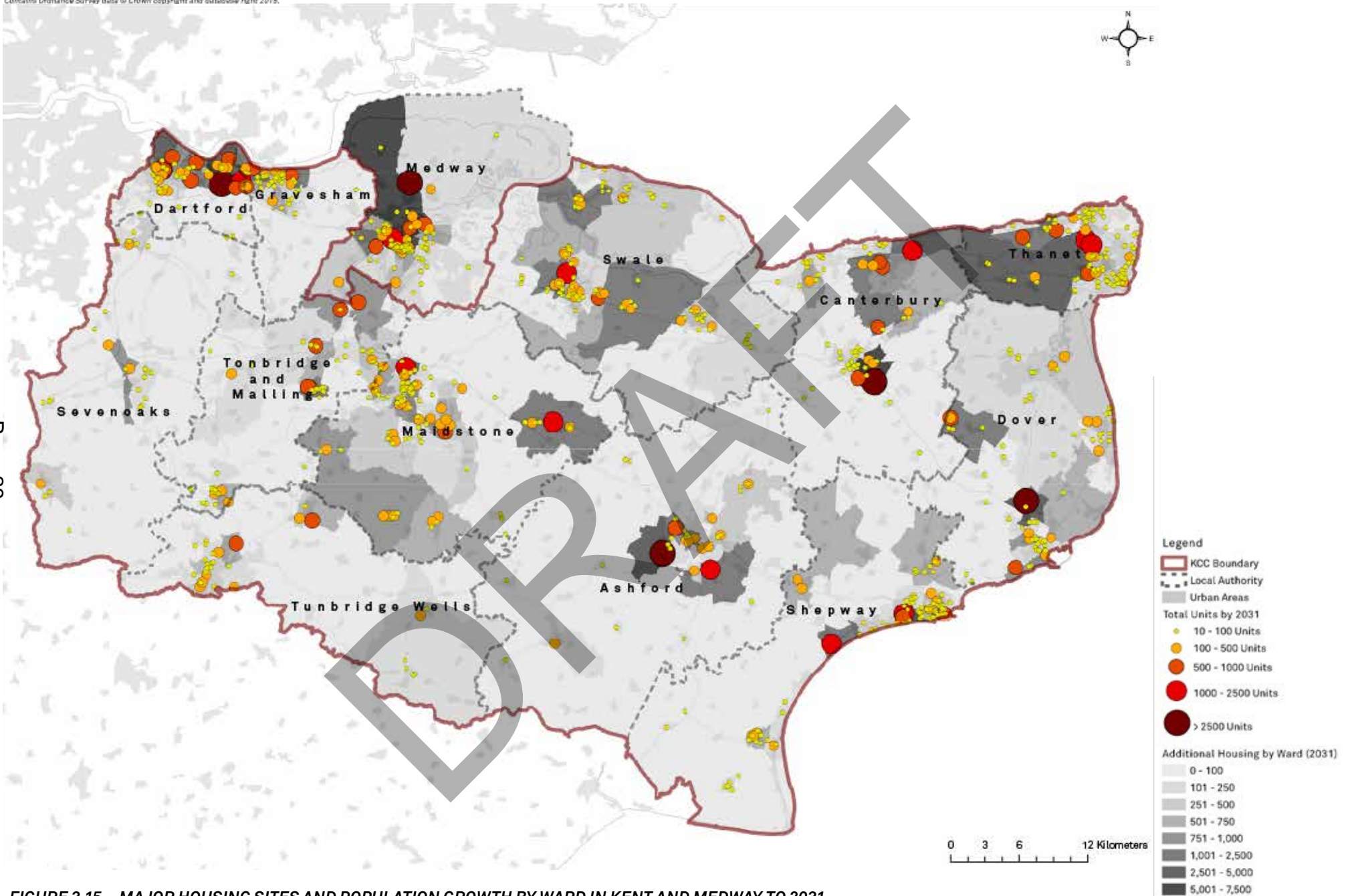


FIGURE 3.15 - MAJOR HOUSING SITES AND POPULATION GROWTH BY WARD IN KENT AND MEDWAY TO 2031

PHASING

Figure 3.16 presents the recorded completions of net new dwellings over the period 2010/11 to 2013/14. Figure 3.17 and 3.18 demonstrate current anticipated phasing of housing sites in the total period from 2011 to 2031.

The phasing has been recorded alongside the trajectories at a site specific level allowing the growth in housing to be illustrated using GIS, as well as phased over time. The phasing is broken down into the following periods:

- 2011-2016;
- 2017-2021;
- 2022-2026;
- 2027-2031.

The housing trajectories show the following:

- Greatest portion of houses will come forward between 2017-2021, in which 55,100 houses are proposed. This accounts for 35% of the housing across Kent & Medway;
- This is followed by 2022-2026, in which 39,900 homes are proposed (25%);
- Housing trajectories are lower in the long term as less sites have been identified for development;
- In total, by 2031 just over 158,000 new homes are forecast to be completed across Kent and Medway.

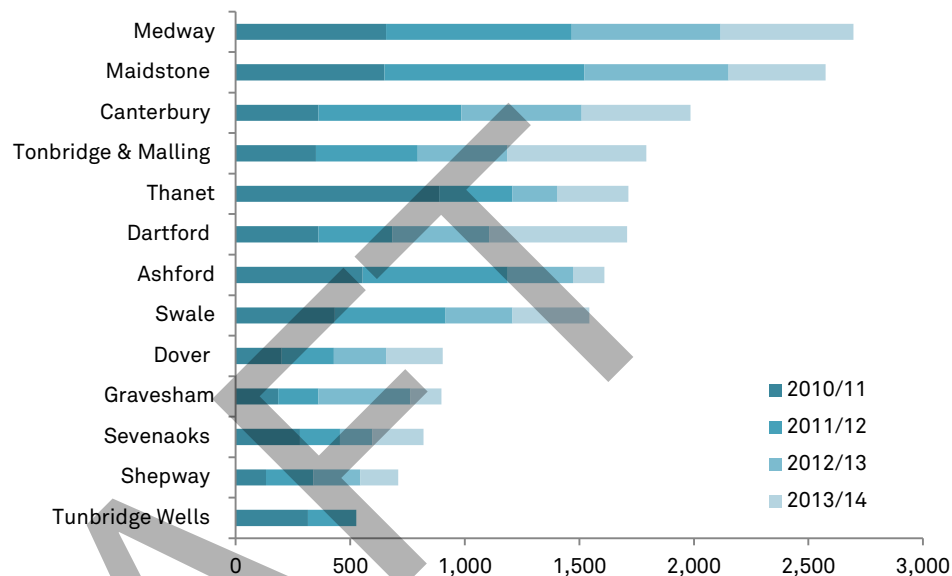


FIGURE 3.16 - RECENT HOUSING COMPLETIONS 2010/11 - 2013/14

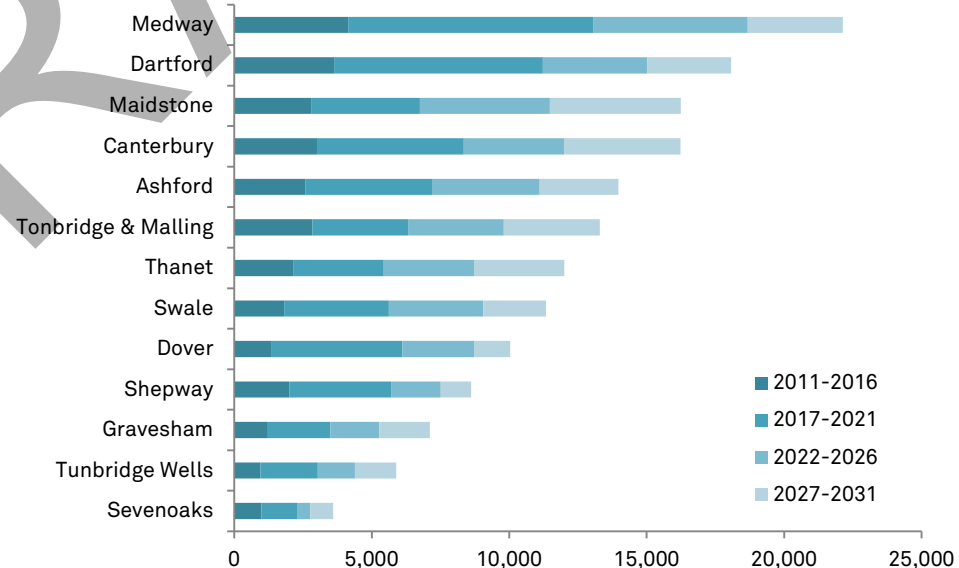
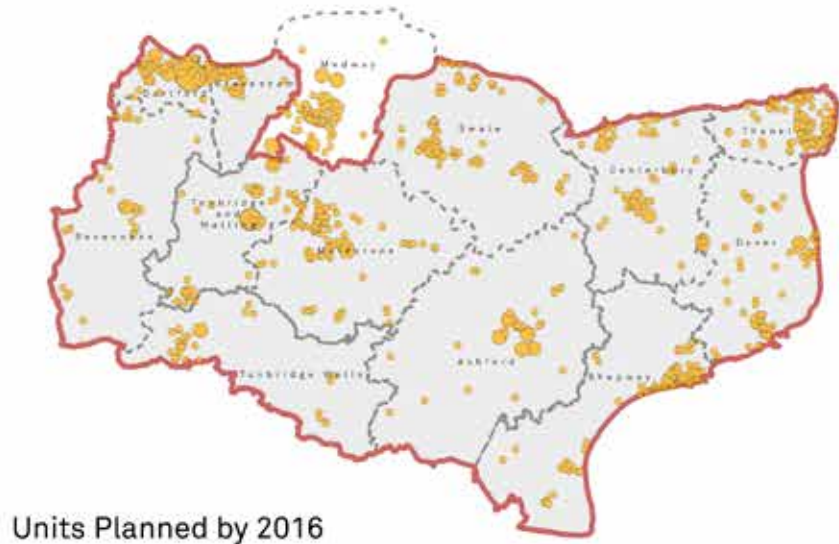
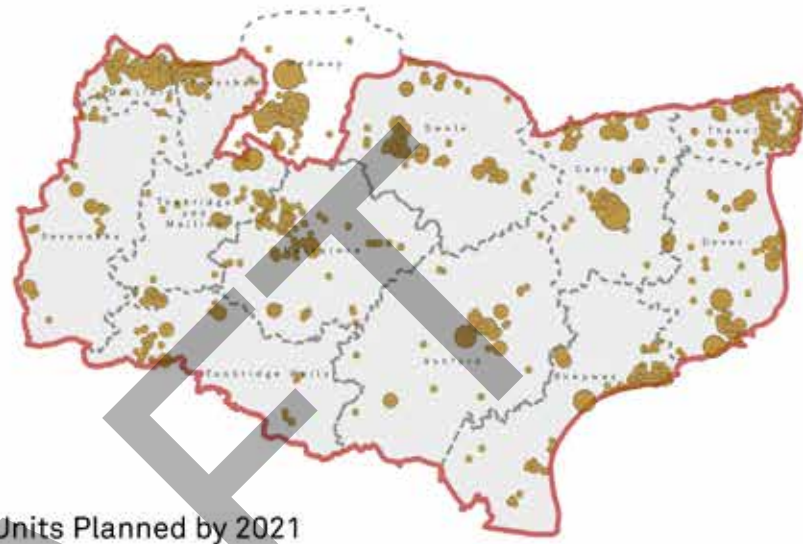


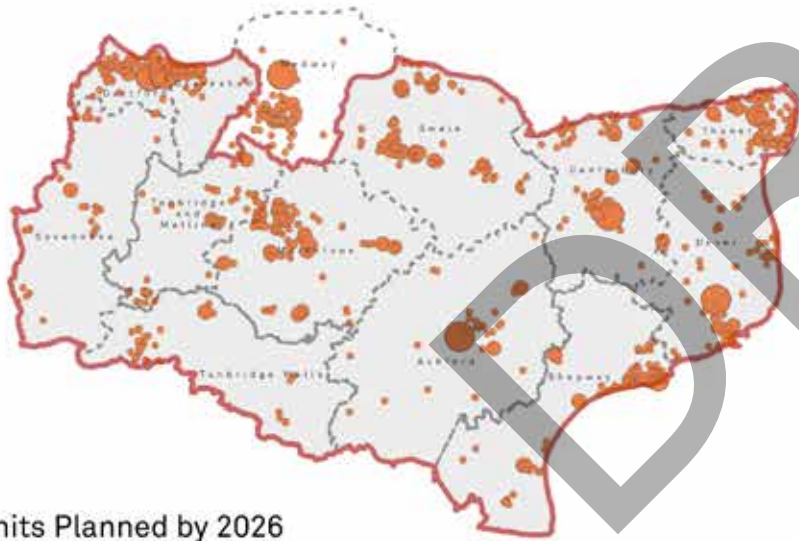
FIGURE 3.17 - PROPOSED HOUSING TRAJECTORIES PHASED OVER 20 YEARS



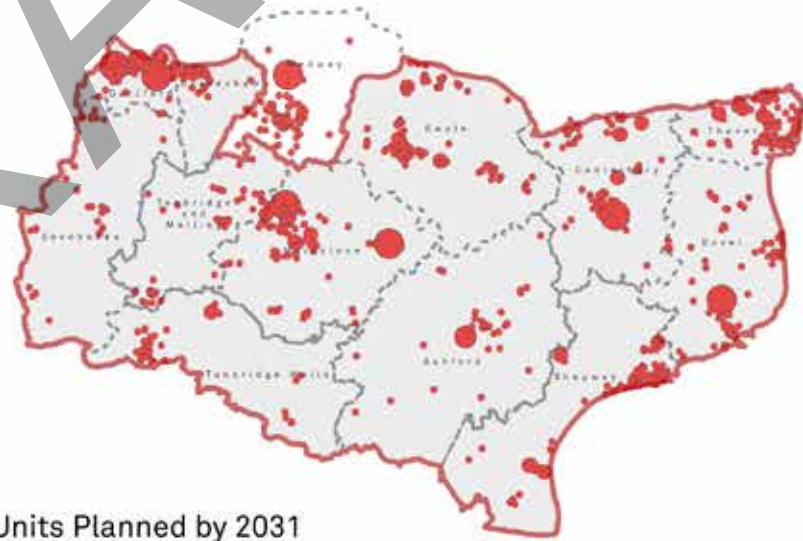
Units Planned by 2016



Units Planned by 2021



Units Planned by 2026



Units Planned by 2031

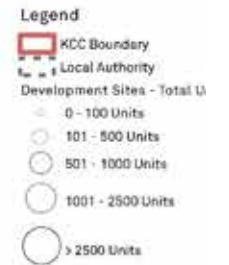


FIGURE 3.18 - CUMULATIVE PHASING OF HOUSING SITES IN THE PERIOD TO 2031

3.3 ECONOMIC PORTRAIT

KENT AND MEDWAY'S ECONOMIC GROWTH IS DEPENDENT UPON ONGOING INVESTMENT IN INFRASTRUCTURE TO SUPPORT ECONOMIC ACTIVITIES, AND A WELL SERVICED HOUSING STOCK TO ENSURE A GROWING WORKFORCE CAN BE ACCOMMODATED. THIS SECTION SEEKS TO SET OUT THE CURRENT AND FUTURE ECONOMIC CONTEXT FOR KENT AND MEDWAY AND LIKELY IMPLICATIONS FOR INFRASTRUCTURE.

ECONOMIC CONTEXT

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

On average Kent and Medway has seen strong economic growth. It is in close proximity to London and includes nationally significant port, road and rail infrastructure providing primary connections to Europe and the rest of the UK. In particular the only High Speed Line in the UK, which presents significant economic growth requirements to 2031 (see Figure 3.19).

Economic activity in Kent and Medway is currently clustered around its main towns as shown in Figure 3.20. This has resulted in disparities between different parts of the County. Many of the County's economic challenges are a hang-over from its industrial heritage and past reliance on traditional industries, particularly in Coastal Kent, Medway and the Thames Gateway. This has seen a number of local authority areas lagging behind the rest of the South East. In particular, Gross Value Added (GVA) measurements remain low, employment is less 'knowledge intensive' than the national average, and workforce skill levels continue to lag.

However, Kent and Medway is witnessing changes to its economy with growing strengths in a number of exciting new sectors, such as life sciences, creative and media industries, and green technologies.

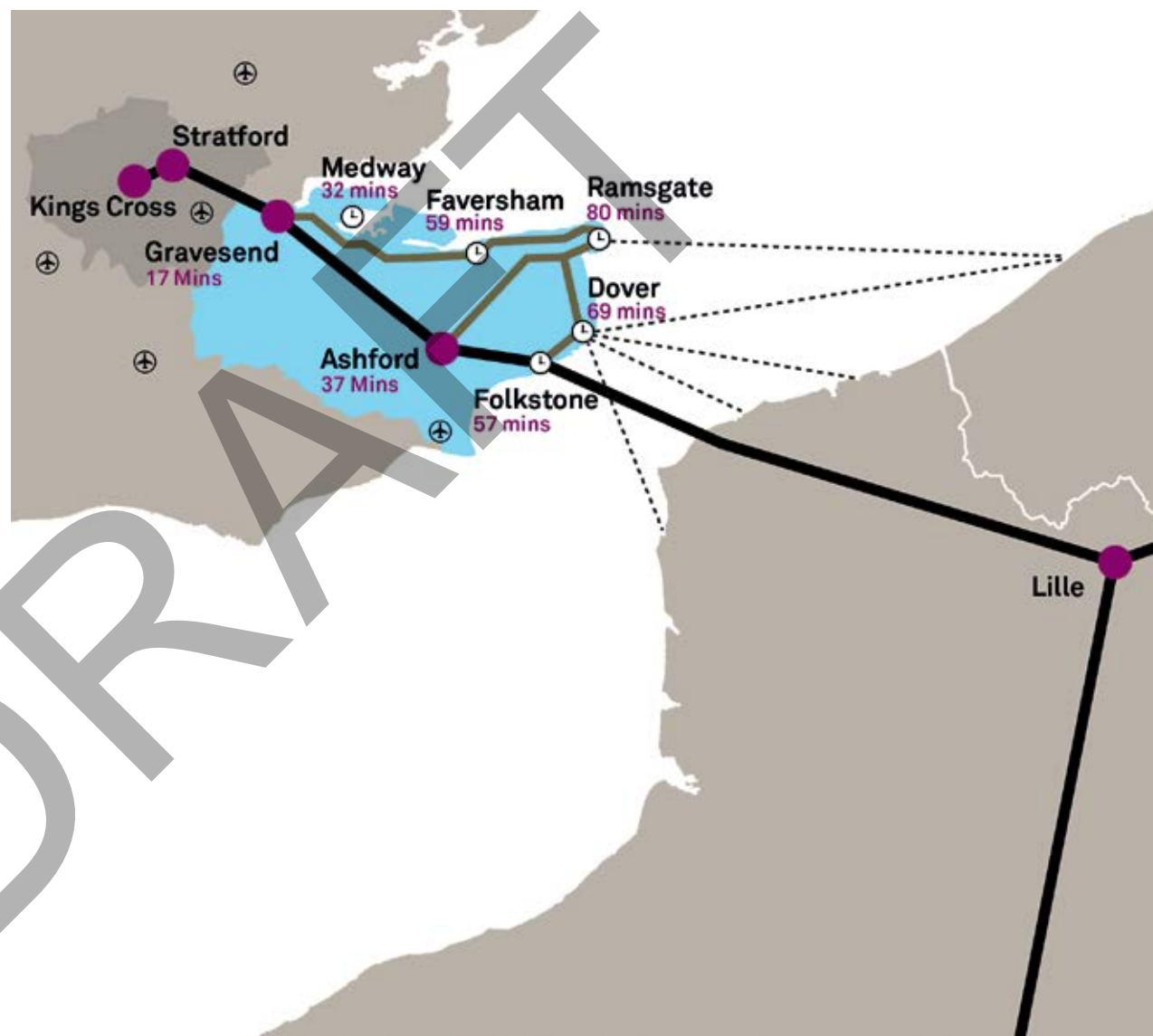
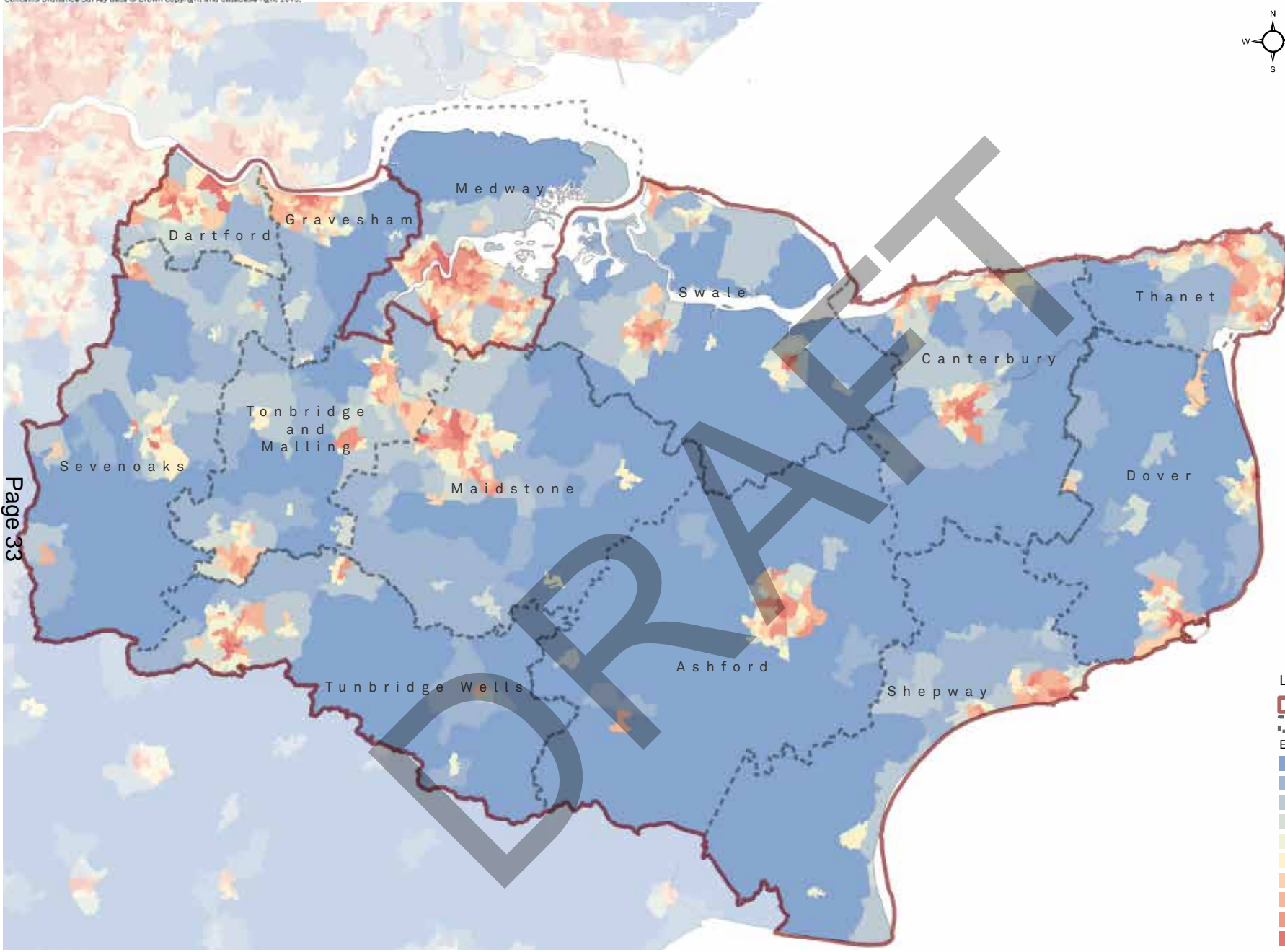
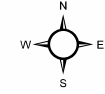


FIGURE 3.19 - STRATEGIC RAIL CONNECTIONS WITH EUROPE



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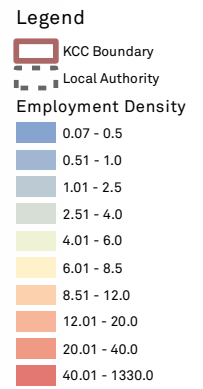


FIGURE 3.20 - CURRENT EMPLOYMENT DENSITY

Gross Value Added (GVA) per head is low on average in Kent and Medway

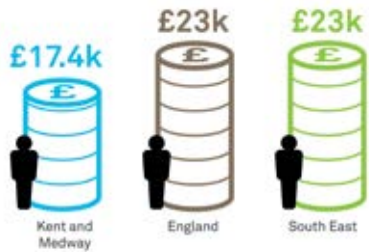


FIGURE 3.21 - GVA PER HEAD

Source: GVA at 2012 (ONS)

There is an imbalance between West Kent and North/East Kent

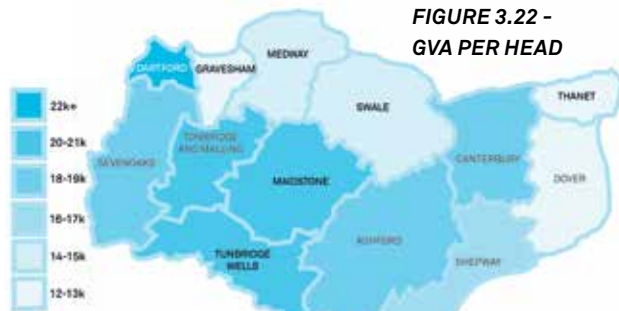


FIGURE 3.22 - GVA PER HEAD

Source: GVA at 2012 (ONS)

West Kent has stronger GVA measurements compared to Coastal & Estuarial Kent

This is also reflected in total GVA growth to 2031

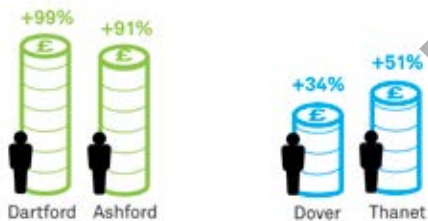


FIGURE 3.23 - TOTAL GVA GROWTH TO 2031

Source: East of England Forecasting Model 2013, Oxford Economics

What does this mean?

Infrastructure investment required to support economic growth in more marginal areas and address imbalances across the County.

There is an under performing workforce skills profile on average

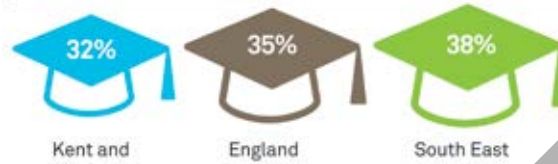


FIGURE 3.24 - % WORKFORCE WITH NVQ4+

Source: Annual Population Survey (ONS), Data period: April 2013 - March 2014

FIGURE 3.25 - % WORKFORCE WITH NVQ4+

The 3 best performing authorities in terms of % workforce with NVQ 4+ are in West Kent

However, highly skilled occupation demand is increasing



FIGURE 3.26 - OCCUPATIONAL CHANGE 2004-14

in managers, directors and professionals in the last decade across Kent and Medway -

Source: ONS

What does this mean?

Infrastructure investment required to support the development of a highly skilled, highly qualified workforce, particularly in more marginal areas in Coastal Kent and Thames Gateway.

Median Salary levels

are higher in Kent & Medway than the English average



Source: ONS

FIGURE 3.27 - KENT AND MEDWAY EARNINGS (2014)

This highlights Kent & Medway as a net exporter of labour which can impact negatively on GVA figures



80%

of Kent & Medway's commuters head for London

Source: ONS

FIGURE 3.28 - EXISTING COMMUTER PATTERNS



Dartford & Canterbury are the only 2 districts to see an increasing commuter "inflow" to 2031

6 districts will see an outflow of over 12,000 commuters in 2031

FIGURE 3.29 - NET COMMUTING IN 2031

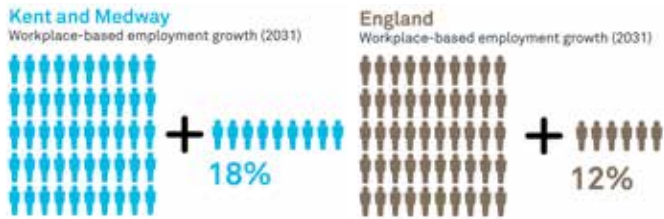
Source: East of England Forecasting Model 2013, Oxford Economics

What does this mean?

Investment required to support economic growth in more marginal areas and general work mobility patterns to reduce out-commuting in the longer term.

Above average

job growth forecast to 2031



135,000

new jobs in Kent & Medway to 2031

Source: East of England Forecasting Model 2013, Oxford Economics

FIGURE 3.30 - JOB GROWTH FORECAST TO 2031

There are clear local disparities

in forecast workplace-based employment - low growth forecast in more peripheral areas

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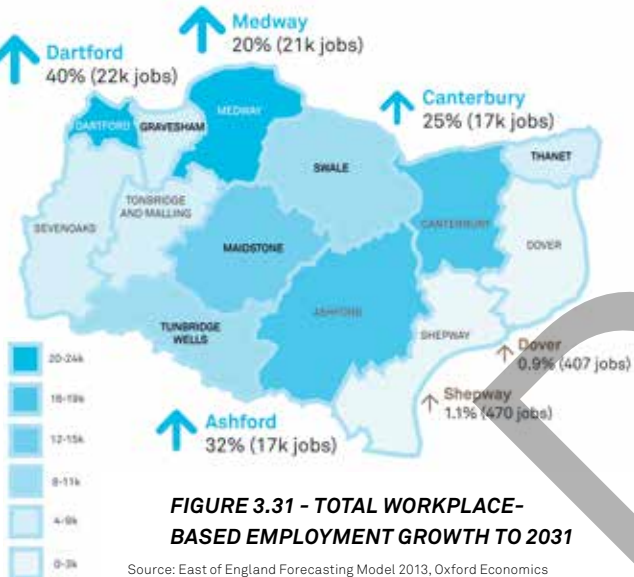


FIGURE 3.31 - TOTAL WORKPLACE-BASED EMPLOYMENT GROWTH TO 2031

Source: East of England Forecasting Model 2013, Oxford Economics

What does this mean?

Infrastructure investment required to support job growth in more marginal areas and address imbalances across the County.

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

in line with the rest of the country

Wholesale & retail



18%

(120,000 jobs)

Public-related services



29%

(190,000 jobs)

Source: KCC Business Intelligence Research & Evaluation - BRES (2013)

FIGURE 3.32 - LARGEST EMPLOYMENT SECTORS IN KENT AND MEDWAY

Employment Growth in the following sub-sectors:

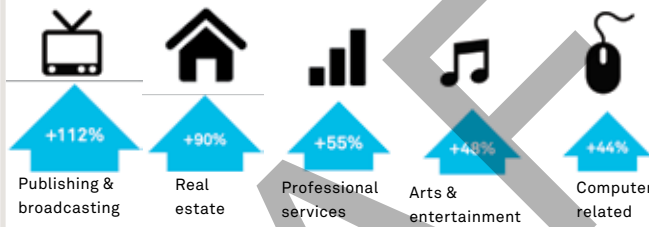
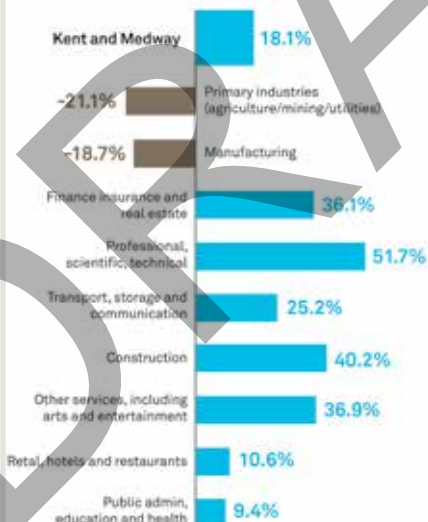


FIGURE 3.33 - SUB-SECTOR GROWTH TO 2031

Source: East of England Forecasting Model 2013, Oxford Economics

However, the following sectors are expected to decline:



Source: East of England Forecasting Model 2013, Oxford Economics

FIGURE 3.35 - SECTOR CHANGE TO 2031

What does this mean?

Infrastructure investment required to support growth opportunities in emerging sectors.

On average, Kent & Medway has an under-representation in the knowledge economy



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 3.36 - % OF EMPLOYEES IN THE KNOWLEDGE ECONOMY

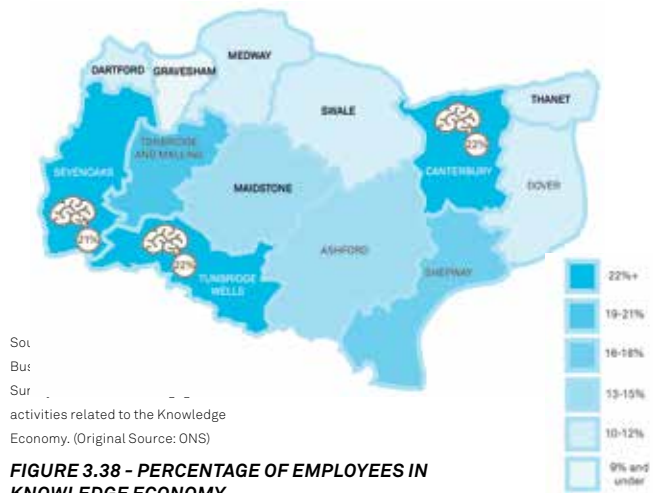
However, there is recent growth...



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

FIGURE 3.37 - GROWTH IN KNOWLEDGE ECONOMY EMPLOYEES (2008-12)

The knowledge economy is strongest in Canterbury, Tunbridge Wells and Sevenoaks 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 3.38 - PERCENTAGE OF EMPLOYEES IN KNOWLEDGE ECONOMY

What does this mean?

Infrastructure investment is required to support growth in the knowledge economy. This should include attention to softer skills infrastructure provision.

3.4 SITES TO SUPPORT ECONOMIC GROWTH

In order to ensure ongoing economic growth, a number of key employment sites exist across local authorities in Kent and Medway.

Planning permissions, Local Plan employment allocations and existing employment sites with identified capacity have been recorded and those sites with over 1,000 sq.m of additional floorspace have been noted in Tables 3.1 and illustrated in Figure 3.39 and Figure 3.40.

As illustrated, Kent and Medway 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.

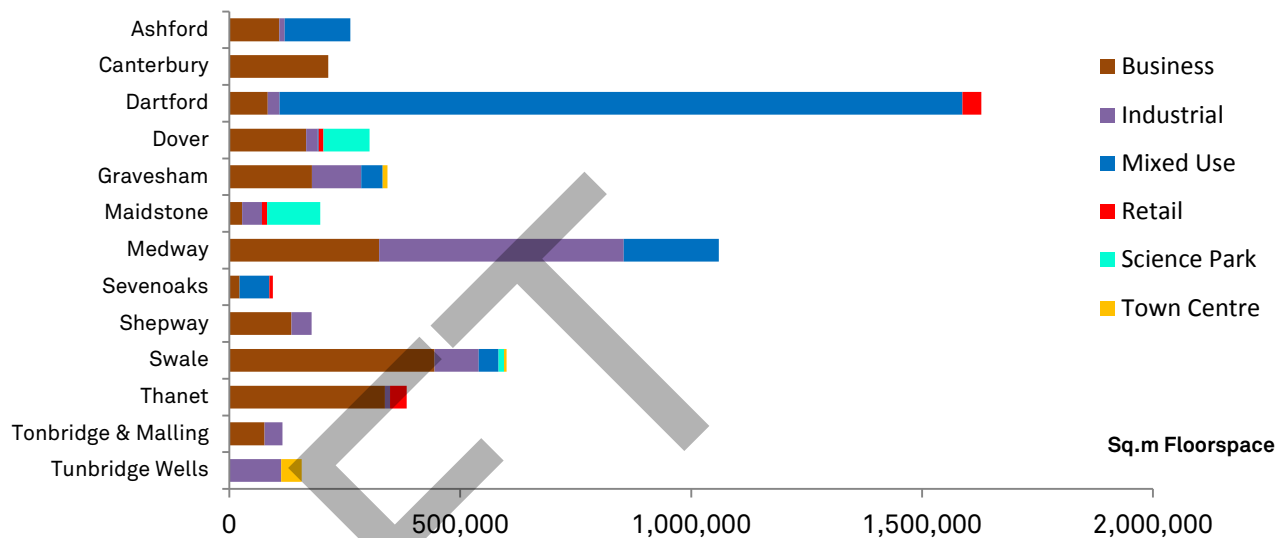


FIGURE 3.39 - QUANTUM OF FUTURE FLOORSPACE (SQ.M) IDENTIFIED FROM KEY SITES IN TABLE 3.1 & FIGURE 3.39

	BUSINESS	INDUSTRIAL	MIXED USE	RETAIL	SCIENCE PARK	TOWN CENTRE	TOTAL
Ashford	3	1	4				8
Canterbury	14						14
Dartford	2	1	3	2			8
Dover	5	2	1	1	1		10
Gravesham	5	3	1			1	10
Maidstone	4	5		2	1		12
Sevenoaks	2		5	1			8
Shepway	5	3					8
Swale	12	1	1		1	1	16
Thanet	4	1		1			6
Tonbridge & Malling	2	2					4
Tunbridge Wells		6				1	7
KENT	58	25	15	7	3	3	111
Medway	6	6	2				14
KENT & MEDWAY	64	31	17	7	3	3	125

TABLE 3.1 - KEY EMPLOYMENT SITES IDENTIFIED OVER 1,000 SQ.M - PERMISSIONS, ALLOCATIONS AND EXISTING SITES WITH CAPACITY

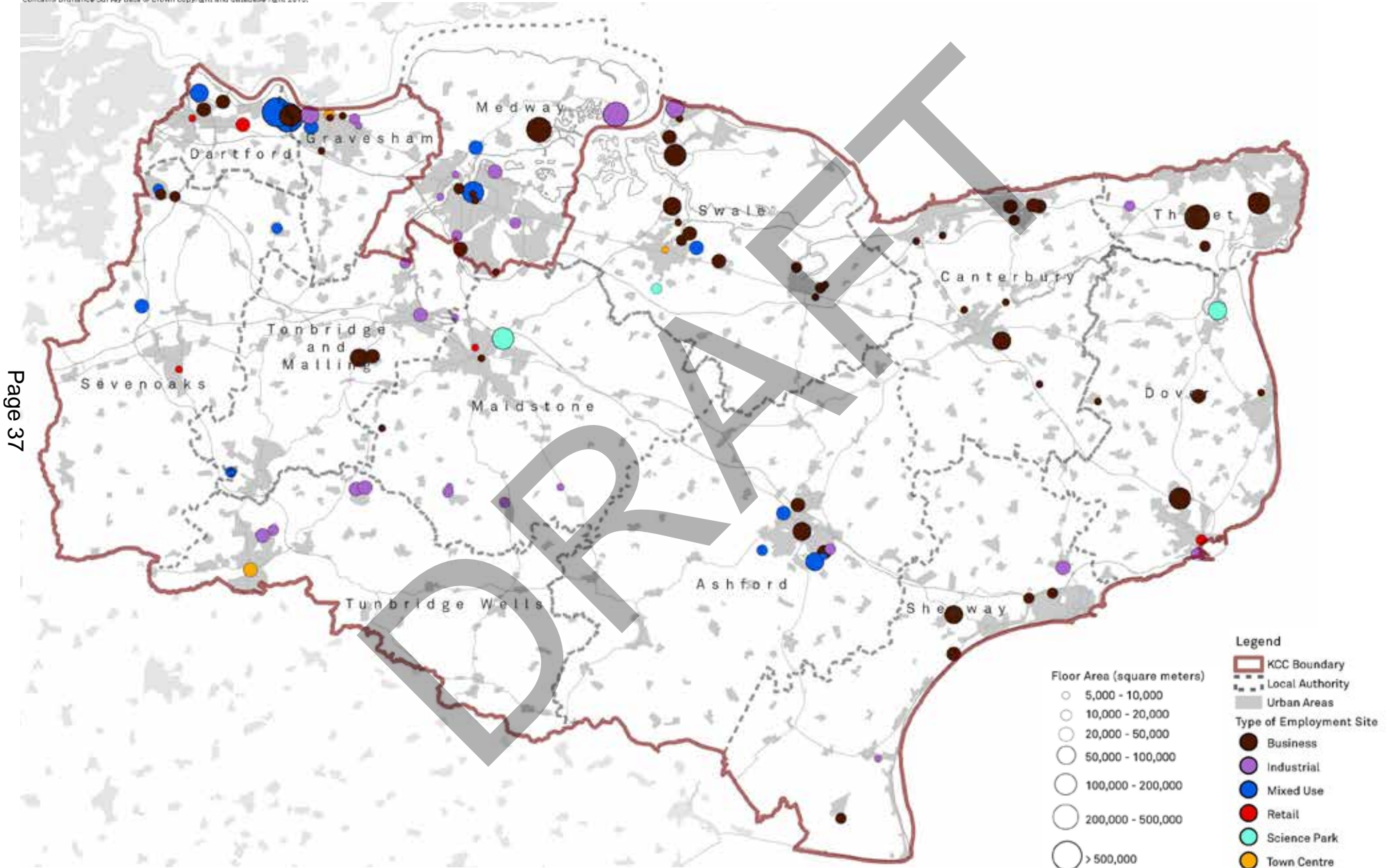


FIGURE 3.40 - KEY EMPLOYMENT SITES IN KENT AND MEDWAY

04

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DRAFT



INFRASTRUCTURE NEEDS AND REQUIREMENTS

THIS SECTION PRESENTS AN ASSESSMENT OF CURRENT INFRASTRUCTURE PROVISION AGAINST GROWTH FORECASTS TO 2031.

This covers the following infrastructure categories:

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4.1 TRANSPORT

- Motorways
- Highways
- Rail
- Public Transport and Other

4.2 EDUCATION

- Primary Education
- Secondary Education & SEN
- Post 16 Education & Skills

4.3 HEALTH

- Primary Care Services
- Hospitals and Mental Health

4.4 COMMUNITY

- Adult Social Care

- Library Services
- Youth Services
- Community & Indoor Sports
- Open Space and Recreation

4.5 GREEN INFRASTRUCTURE

- Green Infrastructure

4.6 UTILITIES & WASTE

- Energy
- Broadband
- Water & Waste Water
- Waste

4.7 FLOOD PROTECTION

- Flood Defences

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.



4.1 TRANSPORT

EXISTING CAPACITY

Kent & Medway	Kent & Medway	Kent & Medway	Kent & Medway
241	7,293	60	179
Miles of Motorways	Miles of Highways	Miles of HE Roads Overcapacity	Rail Stations

CURRENT SITUATION

Kent and Medway is currently facing increased congestion, on both road and rail. Major routes such as the M20 and A2/M2 form important local and strategic links that when congested result in delay on the wider local network.

With increasing congestion in the major town centres such as Ashford, Canterbury and Maidstone, growth across the County will be constrained without investment in increasing capacity. Recent investment such as the High Speed rail service has improved access along its corridor to London but further investment is required on the wider network.

HIGHWAYS

Kent and Medway's highways play a significant role in carrying strategic through traffic as well as intra-urban movements. Reaching a balance between the needs of strategic and international traffic and local traffic will be important to ensuring the effective operation of the road network in the future.

The current levels of congestion on Highway's England's road network and locally within key urban centres across Medway and Kent are shown in Figures 4.1 These plans show that much of Kent's strategic road network and the key urban centres witness delay during peak periods. The growth proposed will further add to this congestion unless suitable intervention is implemented.

PUBLIC TRANSPORT

Kent and Medway's rail network is divided between the High Speed line that runs from London to continental Europe via Ebbsfleet and Ashford and the local network. There is also an extensive bus network run principally by Arriva buses in the West and Stagecoach in the East of Kent delivered on a largely commercial basis.

Growth across the County, particularly from commuting trips will place additional pressure on these modes and improvements are required to accommodate growth.

HEADLINES

Addressing capacity issues on the transport network requires careful consideration of where growth is likely to take place and the movement of people in the future. A Census based analysis was undertaken to identify where trips from the proposed growth would occur.

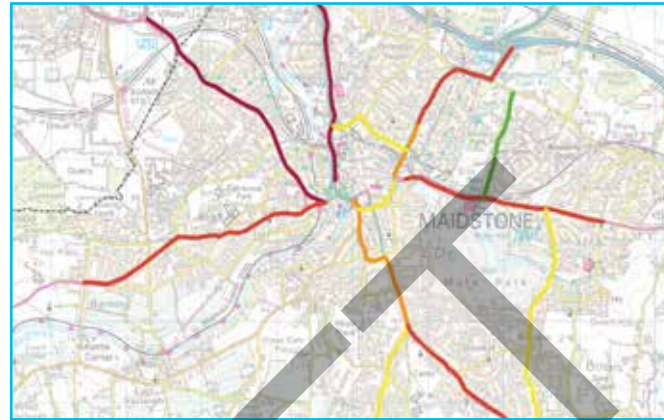
Commuting in the County will predominantly take place intra-district, which suggests that most residents of Kent will continue to work in the same area as where they live.

The growth expected within the framework period will create new capacity issues that will require increased investment in transportation:

- 79% of new commuting trips are forecast to remain within the County
- Dartford will generate 16% of all new work based trips, followed by Maidstone (14%), Medway (13%) and Canterbury (14%)
- London will receive 17% of all new commuting trips, a large proportion expected by rail.
- Largest trip containment within Thanet at 70%, followed by Canterbury (66%) and Tonbridge and Malling (63%)

Figure 4.1 Kent & Medway

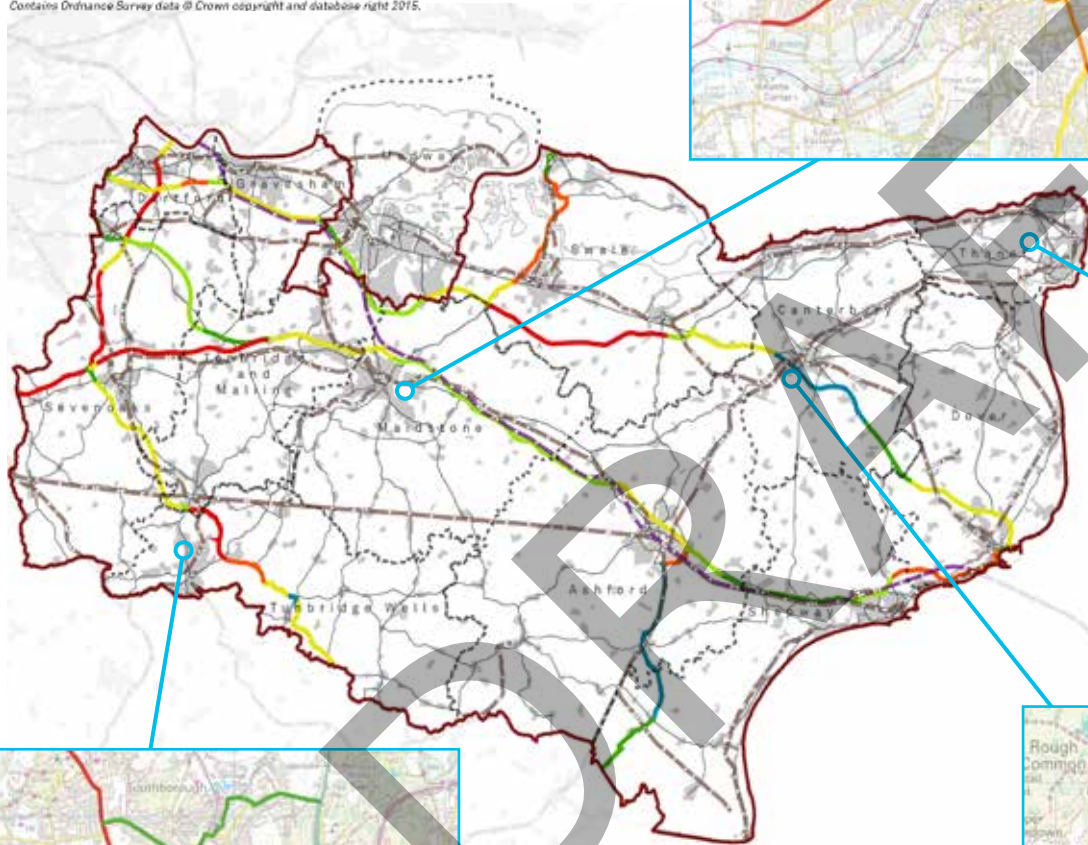
Highway Network Capacity



Contains Ordnance Survey data © Crown copyright and database right 2015.

- Legend**
- KCC Boundary
 - Local Authority
 - Urban Areas
 - Existing Roads
 - High Speed 1
 - Railway

- Vehicle Hours Delay
(April 2012 - March 2013)**
- Top 10%
 - Next 20%
 - Next 20%
 - Next 20%
 - Next 20%
 - Bottom 20%



- Congestion Strategy Roads**
- Low congestion
 - ↓
 - ↓
 - High congestion

CROSS DISTRICT PROJECTS

At a strategic level delivery of improved transport infrastructure is the responsibility of Highways England, Network Rail and Kent and Medway Councils. In order to address capacity issues across the County a number of cross district projects have already been identified.

A summary of strategic transport projects is shown in Figure 4.2, however it should be noted these figures exclude the cost of a new Lower Thames Crossing



MOTORWAYS

Page 42 The trunk and motorway network in Kent and Medway is already congested and further growth both in housing and cross Channel traffic will place additional stress on this network. Delivering a solution to Operation Stack is critical to relieving existing congestion. In the longer term measures such as 'Smart' motorway should be sought to maximise capacity from the existing network. Where appropriate increased capacity such on the A2 to Dover and its junctions will be required to facilitate the additional demand from the Lower Thames Crossing. The key findings of the study relating to motorways are:

- A long term solution to Operation Stack is required to reduce the impact on local residents and businesses on the M20 corridor
- Delivering Lower Thames Crossing should be a priority to relieving congestion at Dartford, facilitating growth across the Kent Thameside and addressing issues relating to continental traffic.
- Improvements to both the A2/M2 and M20 corridors will be required to address local capacity issues and facilitate growth.

- Improvements to the A21 corridor will bring benefits to both west Kent and East Sussex.
- Improvements at Dover will be required in association with redevelopment of the Western Docks.

Cost = £ 636,370,000

Secured Funding = £40,690,000

Expected Funding = £399,990,000

Funding Gap = £170,910,000



HIGHWAYS

The highway network across Kent and Medway is already congested, especially in the major centres of Maidstone, Ashford, Canterbury, Dover and Dartford. Delivery of projects to relieve congestion in these centres will be critical to delivering growth. Key findings include:

- A clear transport strategy for Maidstone will be required once the level of growth has been agreed.
- Growth to the south of Ashford will require new highway connections and improvements to the M20 junction 10.
- Growth at the Port of Dover and at Whitfield will require improvements to the A2 and A20 and this will need to be funded through developer contributions and Highways England.

- An emerging transport strategy for Thanet will deliver a series of highway improvements aimed at facilitating growth and economic development.

- Extension of the northern relief road in Sittingbourne to connect with the A2 will help to improve access to the east of the town with aspirations for a further connection to the M2 to help address capacity issues at Junction 5.

- Growth within the Kent Thameside area will require significant improvements to the highway network, tied to the development that comes forward in this area.

- A transport strategy for Strood and around the Medway City Estate will upgrade the public realm and deliver improvements to traffic flows.

Cost = £812,390,000

Secured Funding = £4,850,000

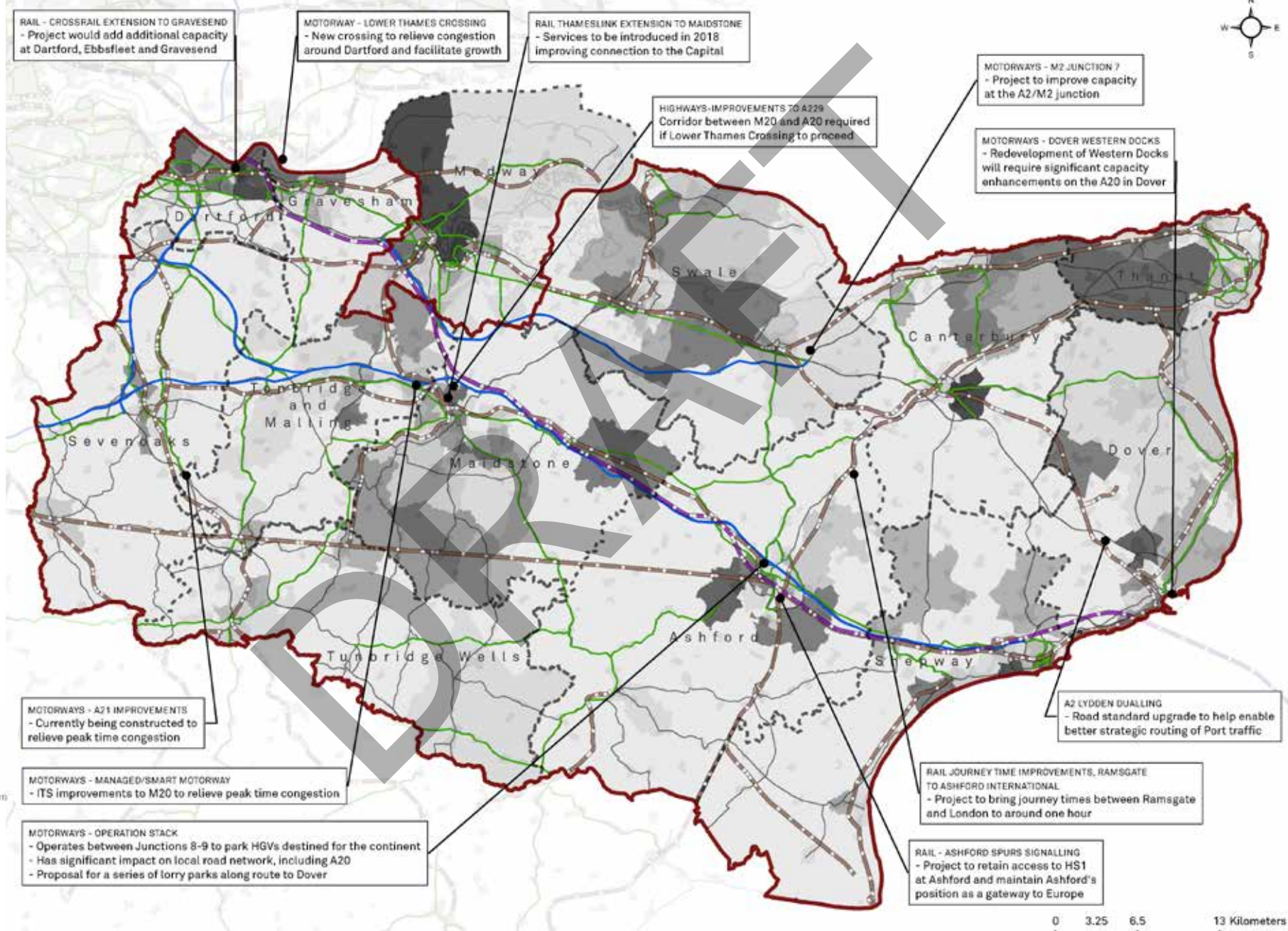
Expected Funding = £487,380,000

Funding Gap = £320,170,000

Figure 4.2 Kent & Medway

Proposed Cross District Transport Projects

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RAIL

Growth across the County will place additional pressure on the rail network, particularly towards London. Projects such as the expansion of Thameslink to Maidstone in 2018 and improving journey times to London from East Kent will help to facilitate growth. However, improvements such as expanding Crossrail to Dartford and Ebbsfleet should also be sought. The key findings of this study relating to rail are:

- Crossrail extension to Dartford, Ebbsfleet and Gravesend will facilitate growth in Kent Thameside area.
- Extension of Thameslink to Maidstone East in 2018 will re-connect the town with central London and relieve congestion at neighbouring stations such as Tonbridge.
- Journey time improvements between Ramsgate and Ashford International will encourage growth in east Kent whilst increasing the attractiveness of Canterbury as a commuter settlement for London.
- A new high speed station at Thanet will provide a much needed new connection facilitating growth at Discovery Park and around Westwood Cross.
- A new station at Rochester and Strood and upgrades at Rainham and Chatham will improve train capacity and the passenger experience.

Cost = £584,720,000

Secured Funding = £0

Expected Funding = £162,220,000

Funding Gap = £422,500,000

LOCAL LEVEL PROJECTS TO SUPPORT GROWTH



PUBLIC TRANSPORT

Bus services in Kent have benefited from the introduction of Bus Rapid Transit (BRT) around Dartford and “premium” services between key locations such as Maidstone and the Medway towns. To continue improvements in public transport, with a view to supporting growth and reducing traffic congestion, the following findings of this study are:

- In Dover the delivery of BRT will facilitate growth and a consistent strategy for park and ride sites across the County’s towns is required to relieve town centre congestion.
- Major development sites should be well connected to key employment areas and transport interchanges.
- Increased use of premium services on key commuter routes could increase the attractiveness of the bus as an alternative to the private car.
- Park and ride has a role to play in capturing commuter and recreational traffic at key junctions on the strategic network and relieving pressure in the town centres.

Cost = £93,010,000

Secured Funding = £5,390,000

Expected Funding = £65,910,000

Funding Gap = £21,710,000



OTHER TRANSPORT

Encouraging walking and cycling for short distance journeys will play an important role in helping to minimise the impact of growth on the highway network and improve air quality with associated health benefits. A number of schemes have been identified across the County to enhance and extend existing pedestrian and cycle infrastructure. Further investment will be required to ensure that residents are provided with modal choice.

Cost = £77,090,000

Secured Funding = £430,000

Expected Funding = £51,990,000

Funding Gap = £24,670,000

A Summary of the major transport projects is shown in Figure 4.3

TOTAL COSTS FOR STRATEGIC AND LOCAL LEVEL TRANSPORT PROJECTS TO 2031

Total Transport Cost = £2,178,810,000

Total Secured Funding = £51,360,000

Total Expected Funding = £1,167,490,000

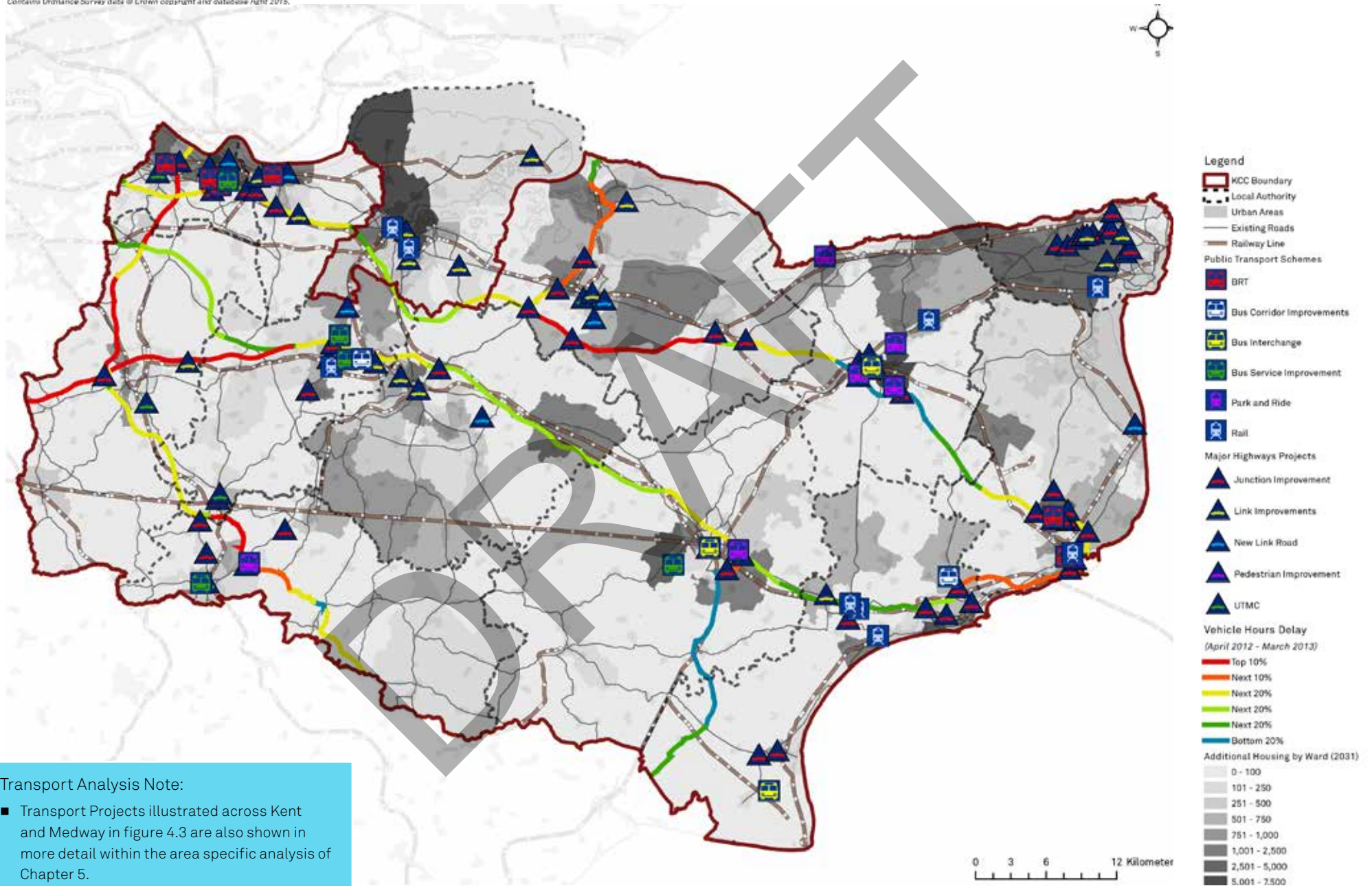
Total Funding Gap = £959,960,000

Figure 4.3 Kent & Medway

Proposed Transport Projects

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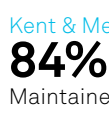
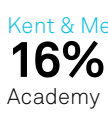


Transport Analysis Note:

- Transport Projects illustrated across Kent and Medway in figure 4.3 are also shown in more detail within the area specific analysis of Chapter 5.

4.2 EDUCATION

PRIMARY EDUCATION

 **529** Primary Schools
 **84%** Maintained
 **16%** Academy

CURRENT SITUATION

Primary schools in Kent and Medway comprise state funded/controlled schools (84%) and academies. There are three free schools. Distribution /capacity is shown in Figure 4.4.

HEADLINES

In 2014 there was a net 6,483 surplus of places (+4.4% of capacity) across Kent and Medway. There was however a deficit of 215 places in Reception years (-1% of capacity) across Kent and Medway as a whole reflecting recent baby boom. There is variation in capacity across local authorities with some areas over capacity and others under. This varies considerably within local authority areas:

Maidstone	Swale
824	-75
surplus places	surplus places

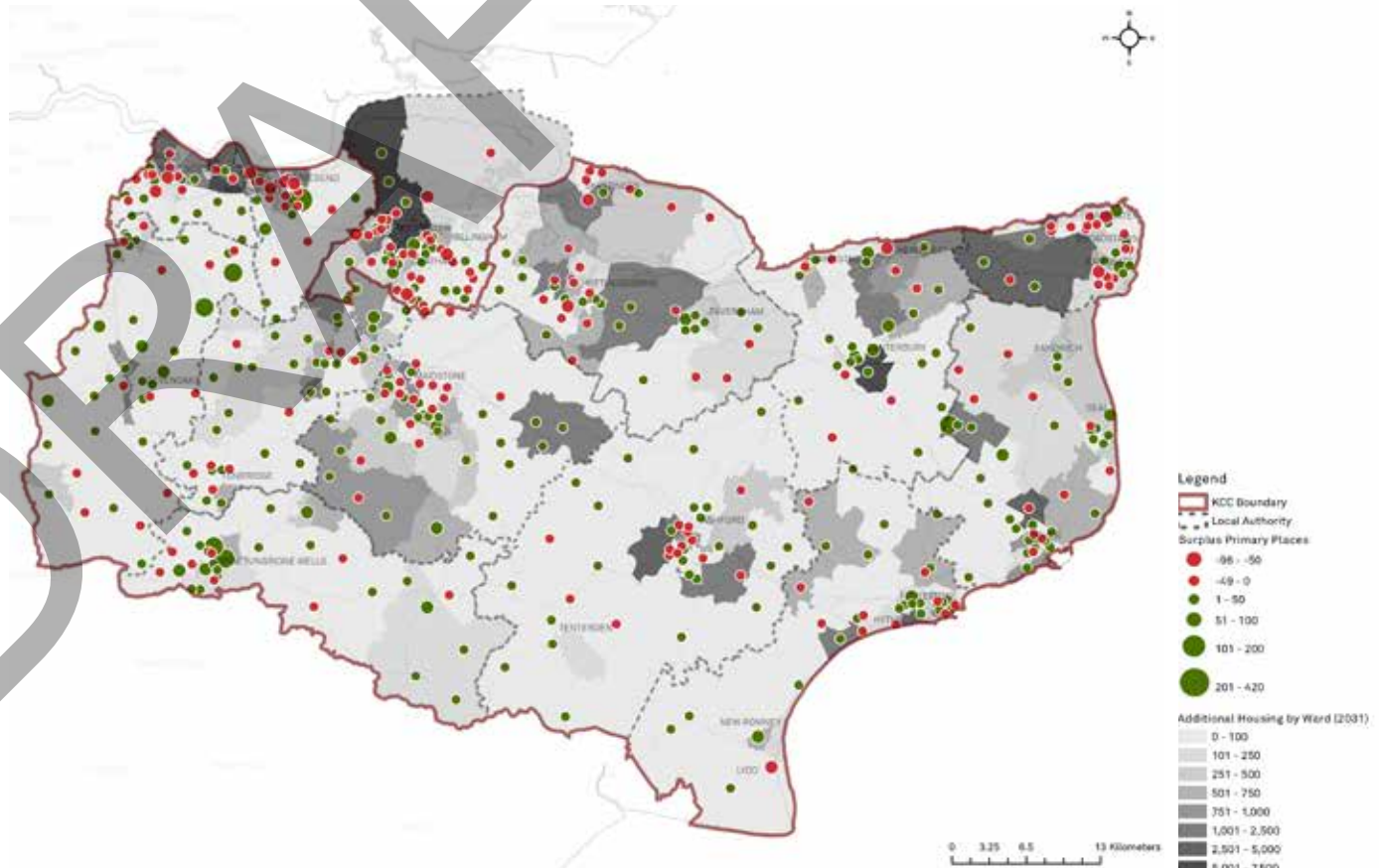
A shortage in provision is seen in locations proposed for growth as shown in Figure 4.4. This includes Darford, Gravesham, Ashford, Thanet, Sheerness and Sittingbourne.

Importantly, the total surplus places are for all year groups in primary schools and hide the pressure on Reception year places across the county. Dartford, Gravesham, Sevenoaks, Swale, Thanet and Medway were all seen to lack sufficient Reception year places in 2014.

Figure 4.4 - Kent & Medway

Primary School Capacity against Housing Growth

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Education Analysis Notes:

- Table of district level capacity and pupil numbers masks local areas of pressure which are shown in figure 4.4
- Analysis represents a snapshot in time with detailed KCC education planning underway to address pupil capacity issues.
- Analysis excludes impacts from bordering counties which will have an impact of service demands within Kent particularly along border areas

Table 4.1 Kent & Medway

Primary school capacity and forecast pupil change

	DISTRICT WIDE BALANCE OF PUPILS TO CAPACITY (2014 DATA)		IDENTIFIED GROWTH IN PUPIL NUMBERS				REQUIRED SCHOOL INVESTMENT
	RECEPTION YEAR	ALL YEARS	ADDITIONAL PRIMARY PUPILS BY 2021	% CHANGE IN PRIMARY PUPILS BY 2021	ADDITIONAL PRIMARY PUPILS BY 2031	% CHANGE IN PRIMARY PUPILS BY 2031	
Ashford	0.2%	5.1%	2,224	22%	1,079	11%	£49,490,000
Canterbury	5.2%	5.3%	1,444	15%	961	10%	£33,340,000
Dartford	-8.1%	1.9%	2,112	24%	2,973	34%	£47,140,000
Dover	3.7%	7.6%	1,550	19%	621	8%	£25,970,000
Gravesham	5.7%	0.4%	979	11%	298	3%	£14,000,000
Maidstone	0.8%	6.5%	1,567	14%	885	8%	£44,550,000
Sevenoaks	2.3%	7.9%	1,167	13%	91	1%	£10,700,000
Shepway	4.1%	5.6%	1,454	18%	18	0%	£15,030,000
Swale	-10.7%	-0.6%	2,122	18%	1,551	13%	£51,500,000
Thanet	-0.5%	3.9%	1,629	15%	379	4%	£33,000,000
Tonbridge & Malling	0.9%	5.4%	942	9%	-34	0%	£30,790,000
Tunbridge Wells	2.4%	6.4%	685	8%	-937	-12%	£21,030,000
KENT	0.9 %	4.6%	17,875	16%	7,885	7%	£376,550,000
Medway	-1.7 %	3.5%	786	3%	-	-	£37,960,000
KENT & MEDWAY	-1.0 %	4.4%	18,661	13%	N.A	N.A	£414,510,000

SOURCE: CAPACITY: DFES 2014 DATA, PUPIL ROLL: KCC & MEDWAY 2014/15 FORECASTS

IDENTIFIED GROWTH IN PUPILS - COMMISSIONING PLAN FOR EDUCATION PROVISION IN KENT 2014-2019, KENT COUNTY COUNCIL, AND MEDWAY COUNCIL CHILDRENS AND ADULTS DIRECTORATE

FUTURE REQUIREMENTS TO MEET GROWTH

Table 4.1 sets out forecast growth in terms of primary school places to 2031 and a summary of current project costs as set out in KCC and Medway's Commissioning Plans. This highlights the following key points:

- There are a large number of proposed new build and expansion projects by 2031 for Kent and Medway.
- Peak growth will be in 2021 across Kent (except Dartford), at 16% across the County, but is forecasted to be reduced in the period 2021-2031 to 7%
- Tunbridge Wells and Tonbridge and Malling are forecast to decline in total primary aged pupil requirements by 2031 (but will increase between now and 2021)
- KCC operate a target of 5% surplus capacity across schools

COSTS AND FUNDING

The following costs and funding have been identified for Kent and Medway:

Cost = £426,160,000

Secured Funding = £129,720,000

Expected Funding = £206,940,000

Funding Gap = £88,500,000

SECONDARY EDUCATION & SPECIAL EDUCATION NEEDS (SEN)



Kent & Medway
118
Secondary Schools

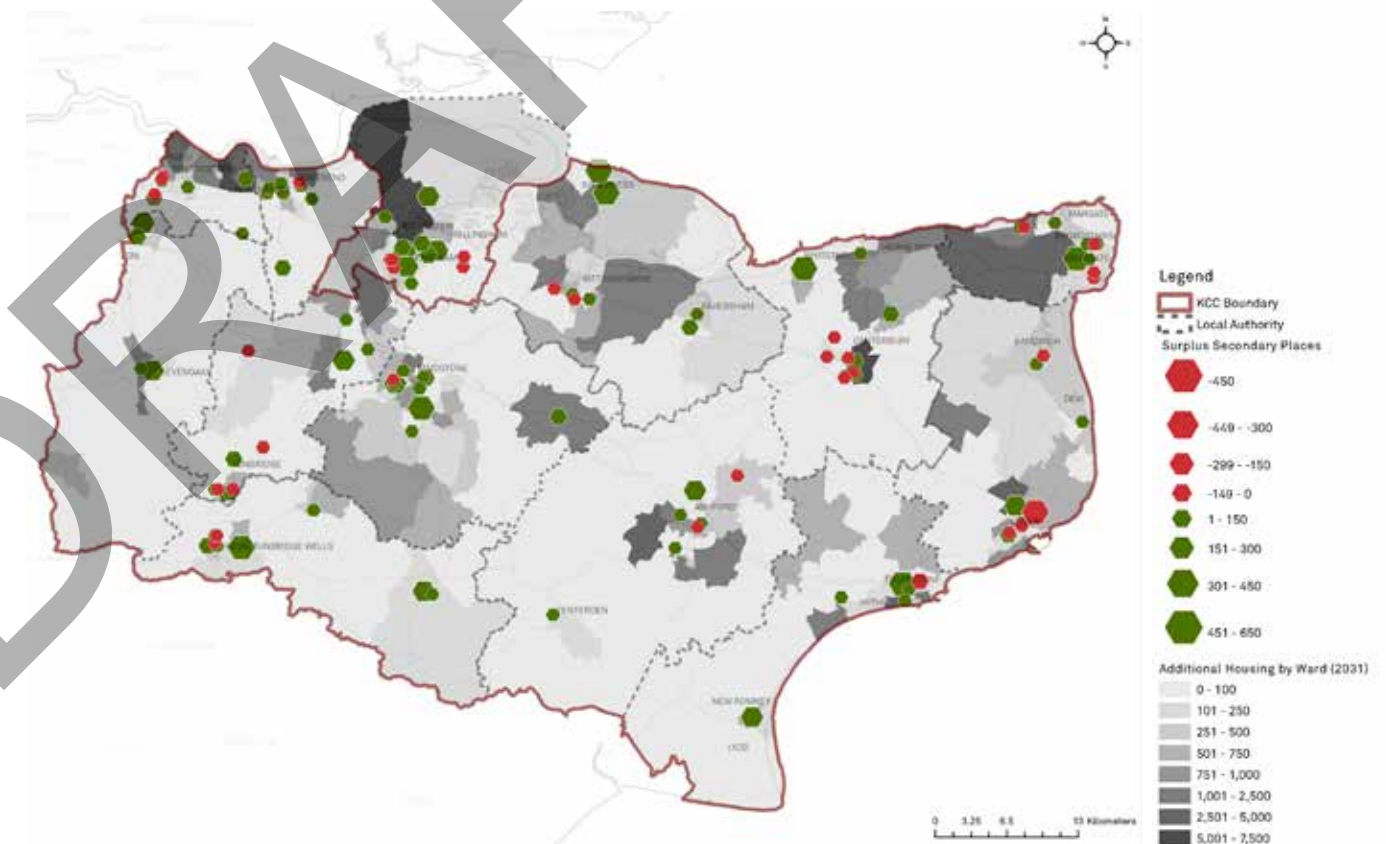
Kent & Medway
33%
Maintained

Kent & Medway
63%
Academy

Figure 4.5 Kent & Medway

Secondary School Capacity against Housing Growth

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CURRENT SITUATION

Secondary schools in Kent and Medway comprise independently run academies (63%), state schools (33%) and free schools (3%). Distribution/capacity is shown in Figure 4.5.

HEADLINES

In 2014 there were 13,318 surplus places (12.1 % of capacity) across all secondary school years in Kent and Medway. There is significant variation between local authorities:

Shepway
1,229
surplus places

Dartford
292
surplus places

Overall, every local authority is running at a positive surplus of more than one form of entry. However the surplus capacity is the greatest in areas with less development pressure and often capacity in more peripheral locations masks shortages in urban areas. Year 7 provision shows less capacity with Dartford running a deficit.

Currently there is a large surplus capacity in Sheerness, Herne Bay, Folkestone, Ashford, Maidstone and Sevenoaks. There appears to be a lack of provision close to areas of proposed major developments in Dartford, Canterbury, East Thanet, Sittingbourne, Dover and Tonbridge.

Table 4.2 Kent & Medway

Secondary school capacity and forecast pupil change

	DISTRICT WIDE BALANCE OF PUPILS TO CAPACITY (2014 DATA)		IDENTIFIED GROWTH IN PUPIL NUMBERS				
	YEAR 7	ALL YEARS	ADDITIONAL SECONDARY PUPILS BY 2023	% CHANGE IN SECONDARY PUPILS BY 2023	ADDITIONAL SECONDARY PUPILS BY 2031	% CHANGE IN SECONDARY PUPILS BY 2031	REQUIRED SCHOOL INVESTMENT
Ashford	8.6%	11.7%	1,397	22%	839	13%	£32,000,000
Canterbury	5.5%	7.8%	1,111	15%	1,484	20%	£33,760,000
Dartford	-1.6%	4.0%	2,187	32%	1,777	26%	£31,850,000
Dover	11.3%	10.1%	806	13%	871	14%	£12,510,000
Gravesham	9.3%	9.5%	1,625	27%	1,014	17%	£7,080,000
Maidstone	8.9%	10.9%	2,348	26%	1,195	13%	£29,360,000
Sevenoaks	30.1%	36.9%	755	39%	235	12%	£24,000,000
Shepway	22.8%	20.1%	286	6%	285	6%	£1,300,000
Swale	8.8%	9.2%	1,815	24%	1,331	17%	£27,370,000
Thanet	11.2%	9.0%	1,388	19%	692	10%	£26,840,000
Tonbridge & Malling	10.5%	13.3%	1,331	17%	463	6%	£4,500,000
Tunbridge Wells	16.9%	12.4%	1,374	20%	270	4%	£22,790,000
KENT	10.7%	11.6%	16,423	21%	10,456	13%	£253,340,000
Medway	26.4%	14.2%	2,065	11%	-	-	£39,900,000*
KENT & MEDWAY	13.0%	12.1%	18,488	19%	N.A	N.A	£293,240,000

*REQUIRED SCHOOL INVESTMENT INCLUDES SEN PROVISION WITHIN THE TOTAL

SOURCE: CAPACITY: DFES 2014 DATA, PUPIL ROLL: KCC & MEDWAY 2014/15 FORECASTS

IDENTIFIED GROWTH IN PUPILS - COMMISSIONING PLAN FOR EDUCATION PROVISION IN KENT 2014-2019, KENT COUNTY COUNCIL, AND MEDWAY COUNCIL CHILDRENS AND ADULTS DIRECTORATE

FUTURE REQUIREMENTS TO MEET GROWTH

Table 4.2 sets out forecast growth in terms of secondary school places to 2031 and a summary of current projects as set out in KCC and Medway's Commissioning Plans. This highlights the following key issues:

- There are a significant number of expansion and new build projects proposed by 2031 for Kent and Medway
- Special School expansions are also planned including 250 additional places across Kent within the commissioning plan period and Dancourt and Abbey Court Schools in Medway
- Peak Growth will be in 2023 Across Kent, with the exception of Canterbury and Dover
- No significant capacity issues, however Canterbury, and Dartford have relatively low surplus capacities
- Infrastructure does not match growth in some local authorities, however a detailed review is necessary district by district
- KCC operate a target of 5% surplus capacity across schools

COSTS AND FUNDING

The following costs and funding have been identified for Kent and Medway:

Cost = £296,240,000

Secured Funding = £51,890,000

Expected Funding = £143,640,000

Funding Gap = £100,700,000

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



Kent & Medway
10
HE Campus

Kent & Medway
15
FE Campus

Kent & Medway
74
Community Learning
Delivery Points

CURRENT SITUATION

Post-16 education within Kent County Council can be divided into two sectors: 1) Further Education (FE) and Higher Education (HE) including VI Form Colleges, vocational training; 2) Community Learning - where programmes and activities are developed within communities, rather than educational institutions.

HEADLINES

In order to properly evaluate capacity, and in particular Community Learning, an assessment of the current skills gap needs to be undertaken within Kent.

To assess and develop post 16 education, the skills gap needs to be identified in conjunction with new development, in order to train the population to support growth.

Post 16 education in the future may increasingly become less about physical infrastructure and more about providing appropriate online training.

Canterbury and Medway are primary centres for higher education as the University of Kent and Canterbury Christ Church and the University of the Creative Arts are located there, and the University of Greenwich at Medway.

Community learning is highly dispersed throughout Kent, with larger concentrations to the east in Thanet, Shepway and Swale.

There is a current gap in provision in Sevenoaks and Ashford

Table 4.3 Kent & Medway

Post 16 Education Capacity

	UNIVERSITY CAMPUS	COLLEGE CAMPUS	ADULT EDUCATION & COMMUNITY LEARNING DELIVERY POINTS
Ashford		1	4
Canterbury	3	2	5
Dartford		1	6
Dover		1	5
Gravesham		1	6
Maidstone		1	6
Sevenoaks			3
Shepway		1	7
Swale		1	6
Thanet	1	1	8
Tonbridge & Malling	1	2	6
Tunbridge Wells	1	2	5
KENT	6	14	67
Medway	4	1	7
KENT & MEDWAY	10	15	74

SOURCE: KENT COUNTY COUNCIL, DISTRICT DATAPACK 2014

Table 4.4 Kent & Medway

FE College proposed infrastructure

DISTRICT	FE INVESTMENT	TIMESCALE
Ashford	Hadlow College Campus Regeneration	2016+
Canterbury	Canterbury College - Canterbury Campus - Art, Sports and Business Centre	2015
Dartford	North West Kent College - Dartford Campus - New Arts Centre	2017 - 2019
Dover	East Kent College - Dover Campus - Upgrade	2015
	East Kent College - Dover Campus - Port of Dover Support	2016
	East Kent College - Dover Campus - Skills Facility	2019 +
Maidstone	MidKent College - Maidstone Campus - Sport and Lesiure Centre	2017 +
	MidKent College - Oakwood Park Campus - Professional Development Centre	2015
Shepway	East Kent College - Folkestone Campus - Upgrade	2015
	East Kent College - Folkestone Campus - Centre for Learners with Learning Difficulties and Disabilities	2015
	East Kent College - Folkestone Campus - New Campus Frontage	2018
	East Kent College - Folkestone Campus - Further Skills Build	2019 +
Swale	Canterbury College - Sheppey Campus - Extension	2016-20
Thanet	East Kent College - Broadstairs Campus - Construction / Renewables / Engineering	2013
	East Kent College - Broadstairs Campus - Nursery	2014
	East Kent College - Broadstairs Campus - Classroom Modernisation	2014
	East Kent College - Broadstairs Campus - Training Hotel	2015
	East Kent College - Broadstairs Campus - Centre for Creative Industries	2015
	East Kent College - Broadstairs Campus - Final Phase of Development	2019 +

SOURCE: PROJECT FEEDBACK FROM KENT ASSOCIATION OF FE COLLEGES (KAFEC)

FUTURE REQUIREMENTS TO MEET GROWTH

Table 4.4 sets out the current known FE College planned investment to support population change and growth across Kent and Medway.

In addition to these FE projects KCC has a series of community learning projects planned to support population change across Kent. Examples of those projects include:

- Cheeseman's Green on-site Lifelong Learning centre
- Eastern Quarry on-site Lifelong Learning Centre
- Sittingbourne Library/Gateway Plus
- Enhancement of Skills Plus at Graves Adult Education Centre
- Expansion of Broadstairs library to include Adult Education
- Tunbridge Wells Culture and Learning Hub

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

COSTS AND FUNDING

The following costs and funding have been identified for Kent and Medway and include both community learning and FE College proposals.

Cost = £113,710,000

Secured Funding = £30,430,000

Expected Funding = £20,570,000

Funding Gap = £62,710,000



4.3 HEALTH

PRIMARY CARE SERVICES



Kent & Medway
1040
GPs

Kent & Medway
833
dentists

Kent & Medway
323
community
pharmacies

Kent & Medway
144
opticians

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

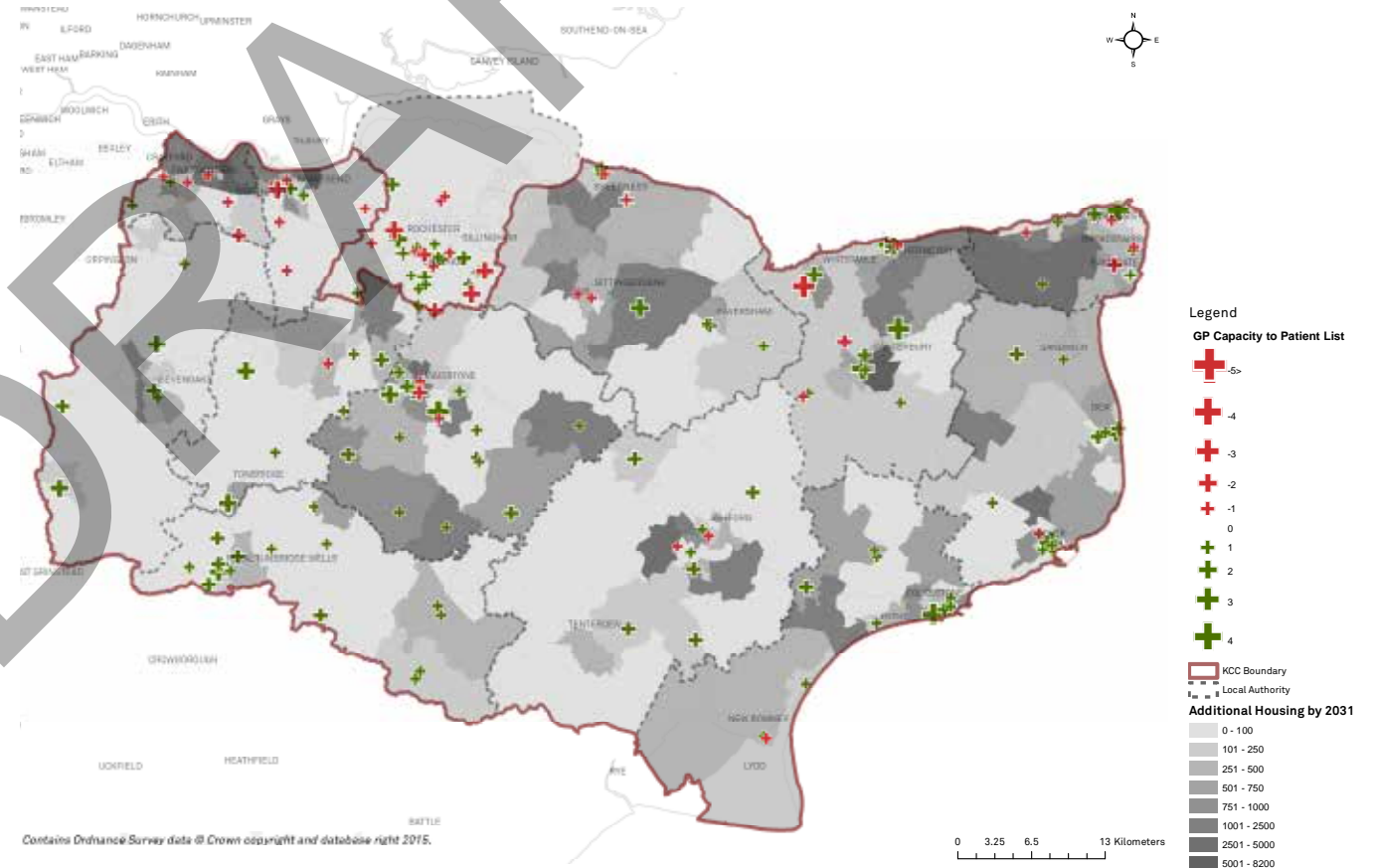
- Dover and Tunbridge Wells have the lowest average patient list sizes to number of GPs
- Average Patient list sizes are below the UK guidelines in Ashford, Canterbury, Maidstone, Sevenoaks, Shepway and Tonbridge & Malling
- Average Patient list sizes are above the UK guidelines in Dartford, Gravesham and Medway
- According to the mapping of provision and GP numbers there is a lack of capacity in proposed growth areas.

HEADLINES - DENTISTS

- The poorest provision in Kent is in Swale with 2,800 people per dentist. Dover also has limited capacity.
- Medway has most capacity at present with 1,680 people per dentist. Canterbury, Dartford, Shepway and Tunbridge Wells also have good provision.

Figure 4.6 Kent & Medway

Primary care capacity against housing growth areas



Primary Care Case Study: Estuary View Medical Centre

In Kent and Medway the picture of existing health services is unsustainable and will require a significant redesign and modernisation to move towards an integrated care strategy. This will place additional pressures on consolidation and refreshing existing healthcare infrastructure.

In recognition of this, there will be additional pressures to consolidate existing healthcare infrastructure. An integrated Health and Social Care model could look like the proposed vanguard development at Estuary View in Whitstable (See Case Study).

The costing for nursing and extra care housing provision is insufficient within Kent and Medway, creating difficulties to meet the adult social care requirement. If we were however to modernise our healthcare model to provide fit for purpose facilities along the lines of the integrated Estuary View model, the cost for Kent and Medway would be approximately £500 million.

CASE STUDY: ESTUARY VIEW MEDICAL CENTRE, WHITSTABLE **INNOVATIVE ASSET MANAGEMENT FOR HEALTH AND SOCIAL CARE**

Estuary View in Whitstable is a combined medical centre providing a precedent example of maximising investment in capital assets. Construction was completed in 2009 at an estimated cost of £4million providing 2,400 sq m of floorspace. It comprises the following co-located facilities:

- Long Term Conditions
- Community Elective Services
- Screening Services
- Day Surgery
- Therapists
- GPSI/Specialist Clinics
- Consultant-led outpatient clinics
- Diagnostics
- Urgent Care

The existing medical centre has already seen reduced costs to the NHS with a 2 year study highlighting £1.6million in savings versus standard NHS tariffs achieved through lower tariffs, use of GPs with a special interest, less outpatient follow-ups and A&E avoidance.

Estuary View is part of the Whitstable Medical Practice (WMP), a super partnership of 19 NHS GPs, serving 34,000 patients from 3 medical centres. WMP has expansion plans to develop the existing Estuary View Medical Centre into a **Community Integrated Health & Social Care Village**.

These plans include wider services in addition to the medical centre such as:

- A new, linked community hospital

- Day-centre for care of the elderly, dementia, other patient groups.
- A co-located/linked teaching nursing home
- A co-located extra care facility.
- A co-located base for integrated community nursing and social care teams

It is estimated that the cost of delivering the integrated Health & Social Care Village would be between £20-30 million.

The community hub model also has the potential to deliver council services and complementary social infrastructure including an ambulance response base, dentists, opticians, pharmacies, crèche, library space, Citizens Advice Bureau and meeting rooms.

The “Delivering better health care for Kent” discussion document supports and encourages community integrated health and social care. KCC are considering how the lessons learned from Estuary View can be applied to the delivery of future health and social care facilities in Kent.

Reflecting on the population growth and associated requirements for health and social care facilities set out earlier in this report, the Hub approach provides an opportunity to deliver a proportion of that infrastructure with the cost savings associated with co-location and integrated services. Theoretically, the health and social care village hub is expected to serve a population of between 40 and 50,000 people. The additional 293,900 people forecast in Kent & Medway to 2031 would require the equivalent of 6 to 7 additional Health & Social Care Villages.

Table 4.5 Kent & Medway

Primary healthcare capacity & proposed infrastructure

	PROVISION OF GP PROVISION			PROVISION OF OTHER PRIMARY HEALTHCARE			REQUIREMENT TO SUPPORT POPULATION GROWTH	
	NUMBER OF GP	PATIENT LIST SIZE	PATIENTS PER GP	POPULATION PER DENTIST	POPULATION PER PHARMACY	POPULATION PER OPTICIAN	ADDITIONAL GP	ADDITIONAL DENTISTS
Ashford	71	121,960	1,718	2,191	6,572	11,352	13	11
Canterbury	99	177,896	1,797	1,805	4,964	8,824	15	12
Dartford	52	111,549	2,145	2,054	5,622	9,710	22	18
Dover	76	109,636	1,443	2,770	5,678	11,356	9	7
Gravesham	52	115,881	2,228	2,339	4,577	21,055	6	5
Maidstone	98	154,488	1,576	2,409	7,121	14,890	14	12
Sevenoaks	49	74,502	1,520	2,509	7,860	14,738	1	1
Shepway	72	113,334	1,574	2,083	4,415	11,038	7	6
Swale	77	142,655	1,853	2,822	5,039	14,110	9	8
Thanet	79	142,952	1,810	2,492	4,502	12,688	10	8
Tonbridge & Malling	77	129,642	1,684	2,425	7,005	11,463	14	11
Tunbridge Wells	82	118,694	1,447	1,849	7,279	8,959	4	3
KENT	884	1,513,189	1,712	2,269	5,668	11,819	123	102
Medway	156	313,143	2,007	1,683	5,019	18,067	23	19
KENT & MEDWAY	1040	1,826,332	1,756	2,156	5,559	12,470	146	121

SOURCE: PRIMARY HEALTHCARE CAPACITY AND PATIENT LIST SIZE ACCORDING TO NHS CHOICES 2014 DATA

SHADING OF PATIENT / GP PROVISION ACCORDING TO UK BENCHMARK OF 1800 PATIENTS TO 1 GP

SHADING OF OTHER PRIMARY CARE PROVISION ACCORDING TO HIGHER OR LOWER THAN KENT & MEDWAY AVERAGE

Healthcare Analysis Notes:

- Existing primary care baseline figures are based upon NHS Choices data which has limitations and does not represent a 100% accurate record of current provision.
- Future requirements and associated costs and funding assumptions for primary, acute and mental healthcare based upon benchmark modelling and has not been validated or agreed by the NHS.
- Analysis based on a continuation of current models of provision and does not take account of the emerging changes to service delivery set out in the NHS Five year forward view. See Chapter 6 for the potential impacts and savings from joining up health and social care provision.

FUTURE REQUIREMENTS TO MEET GROWTH

Table 4.5 sets out additional primary healthcare facility requirements across Kent and Medway to 2031, this is based on the application of best practise standards per patient list size with the following additional infrastructure required:

- 146 additional GPs and associated premises of 24,100 sq.m
- 121 additional dentists and associated premises of 6,000 sq.m

COSTS AND FUNDING

AECOM has estimated costs based upon a standard multiplier and benchmark costs. It identifies the following costs for Kent and Medway:

Cost = £71,680,000
(£500,000,000*)

Secured Funding = £4,000,000

Expected Funding = £56,400,000
(£556,400,000*)

Funding Gap = £11,290,000

*COSTS/FUNDING TO MODERNISE EXISTING HEALTH AND SOCIAL CARE TO INTEGRATED MODEL BASED ON VANGUARD ESTUARY VIEW OPERATION



HOSPITALS AND MENTAL HEALTH



Kent & Medway
3,115
NHS hospital
beds



Kent & Medway
502
mental health
hospital beds

CURRENT SITUATION

Kent and Medway include nine acute NHS trust hospitals, 12 community hospitals, one NHS independent sector hospital, nine private hospitals and seven A+E Departments. These are all commissioned by NHS England and the eight CCGs, except the private hospitals.

Mental health trusts provide community, inpatient and social care services for psychiatric and psychological illnesses.

HEADLINES - HOSPITALS

- West Kent has the most acute and hospital beds (30%), followed by East Kent (28%), North Kent (23%) and South Kent (18%)
- 96% of hospital and mental health beds were utilised in Kent and Medway according to 2014 data, compared to 90% in England and Wales
- Dartford, Gravesham, Medway and Canterbury are all near capacity in bed provision, despite facing significant housing growth.
- Higher capacity of beds appears to be available in Sevenoaks, Tunbridge Wells and around Faversham

Figure 4.7 Kent & Medway

Hospitals and Mental Health capacity against housing

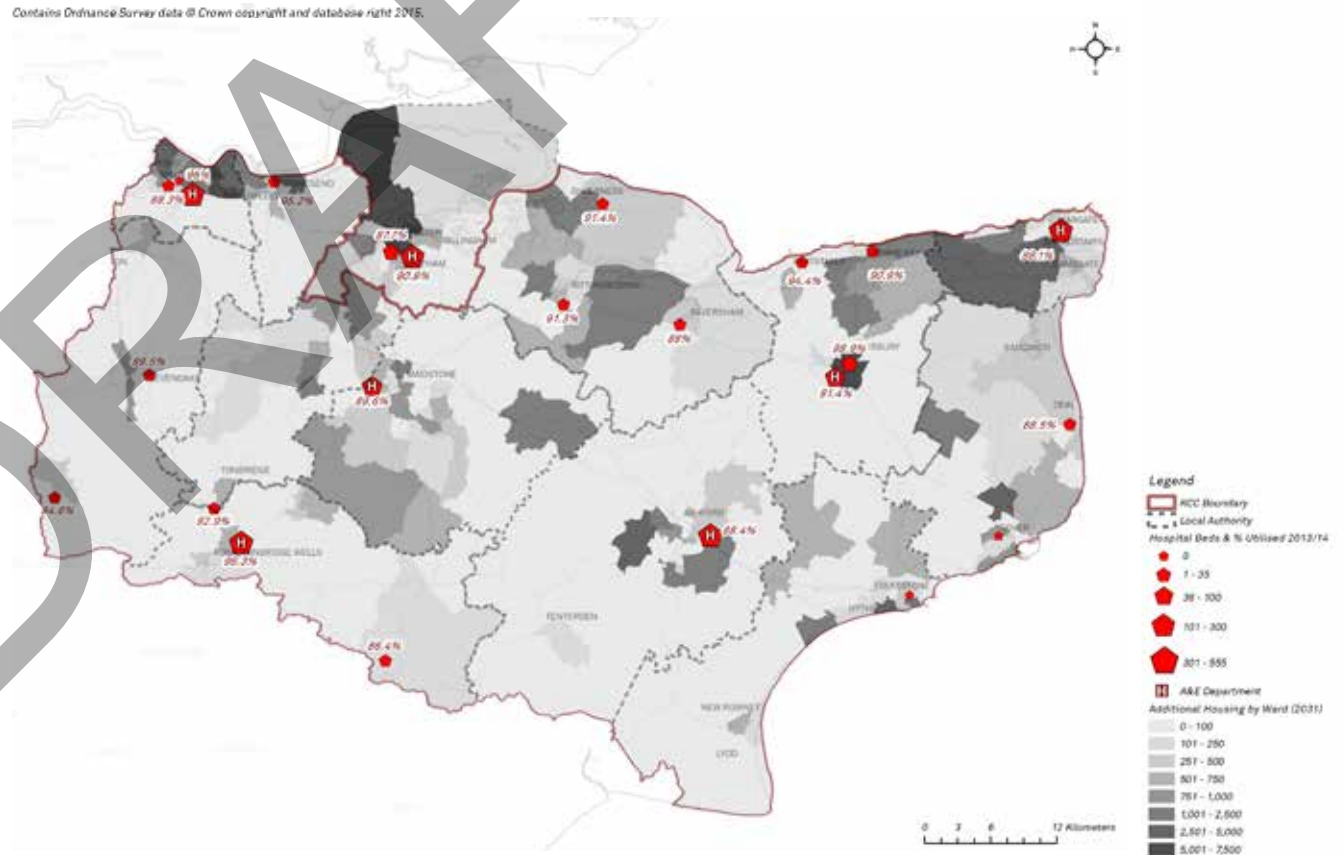


Table 4.6 Kent & Medway

Hospital capacity & proposed infrastructure

	EXISTING ACUTE NHS HOSPITALS		EXISTING COMMUNITY HOSPITALS		ADDITIONAL BEDS REQUIRED TO SUPPORT POPULATION GROWTH	
	BEDS (2014)	OCCUPIED OVERNIGHT (2014 SAMPLE)	BEDS (2014)	OCCUPIED OVERNIGHT (2014 SAMPLE)	HOSPITAL BEDS	MENTAL HEALTH BEDS
Ashford	432	88%	-	-	46	9
Canterbury	255	91%	40	93%	52	11
Dartford	503	96%	28	89%	77	16
Dover	-	-	26	88%	32	6
Gravesham	-	-	21	95%	21	4
Maidstone	289	90%	-	-	50	10
Sevenoaks	-	-	32	88%	3	1
Shepway	-	-	-	-	24	5
Swale	-	-	83	90%	32	7
Thanet	328	88%	-	-	35	7
Tonbridge & Malling	-	-	14	93%	48	10
Tunbridge Wells	431	96%	22	86%	13	3
KENT	2,238	92%	266	90%	434	89
Medway	554	91%	57	88%	81	17
KENT & MEDWAY	2,792	92%	323	90%	515	106

FUTURE REQUIREMENTS TO MEET GROWTH

Table 4.6 sets out forecast growth in terms of acute hospital and mental health beds to 2031. This is based upon application of current UK bed to person ratios to the forecast population growth. This highlights the following key issues:

- The forecast population growth could equate to 515 additional hospital beds across Kent and Medway, with a further 106 additional mental health beds

It is acknowledged that the health service is in the process of change and that future secondary care is more likely to be provided away from acute settings and within the community at local points of contact such as primary care and intermediate facilities. This will have major implications on local healthcare infrastructure.

COSTS AND FUNDING

AECOM has estimated costs based upon a standard multiplier and benchmark costs. It identifies the following combined costs for Acute and Mental Health beds for Kent and Medway:

Cost = £289,300,000

Secured Funding = £0

Expected Funding = £220,740,000

Funding Gap = £68,570,000

SOURCE: NHS ENGLAND DATA AND AECOM MODELLING (SEE TECHNICAL NOTE 5)



4.4 COMMUNITY

ADULT SOCIAL SERVICES



CURRENT SITUATION

Adult social services are provided by Kent County Council's Social Care, Health and Well Being (SCHW) team. The KCC Adult Social Care client groups include: People with learning disabilities; people with mental health needs; older people; and people with physical disabilities people with physical disabilities; and older people (over 65 years).

HEADLINES

Learning disabilities

Capacity issues in 6 Districts

Accommodation Investment priority in Ashford, Dartford, Dover, Sevenoaks, Tonbridge & Malling and Tunbridge Wells

Mental health

Capacity issues in 3 Districts

Accommodation Investment priority in Dartford, Dover, and Tonbridge & Malling

Physical disabilities

Capacity Issues in 8 Districts

Accommodation Investment priority in Dartford, Gravesham, Maidstone, Swale, Thanet, Tonbridge & Malling and Tunbridge Wells

Older people

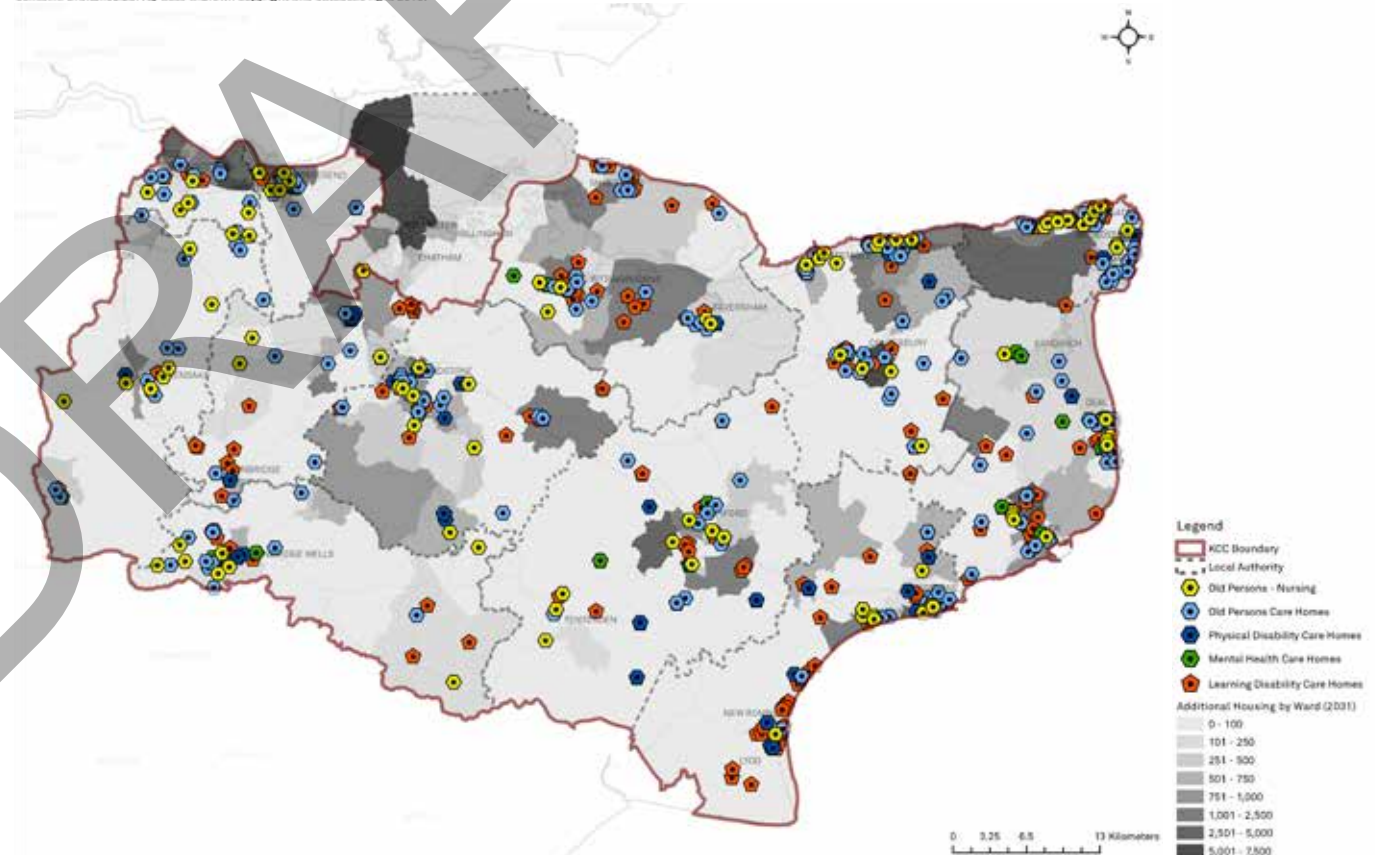
Capacity Issues in 3 Districts

Accommodation Investment priority in Dartford, Swale and Thanet

Figure 4.8 Kent & Medway

Adult social care facilities

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Table 4.7 Kent & Medway

Social care accomodation capacity & infrastructure

	LEARNING DISABILITY	MENTAL HEALTH	PHYSICAL DISABILITY	OLDER PEOPLE
Ashford	Red	Green	Green	Green
Canterbury	Green	Yellow	Green	Yellow
Dartford	Red	Red	Red	Red
Dover	Red	Red	Red	Yellow
Gravesham	Green	Yellow	Red	Green
Maidstone	Green	Yellow	Red	Green
Sevenoaks	Red	Green	Green	Green
Shepway	Yellow	Green	Yellow	Yellow
Swale	Green	Green	Red	Red
Thanet	Green	Green	Red	Red
Tonbridge & Malling	Red	Red	Red	Yellow
Tunbridge Wells	Red	Green	Red	Green

SOURCE: KENT ADULT ACCOMMODATION STRATEGY: EVIDENCE BASE, KENT COUNTY COUNCIL

RED & AMBER SHADING INDICATES REQUIREMENT FOR ADDITIONAL CAPACITY / FACILITIES.

EXAMPLE COMMUNITY CAPACITY PROJECTS PROPOSED

Chilmington Green

Adult social services space in new Chilmington Green Community Hub, Ashford

Lowfield Street, Dartford

New social care hub

Aylesham Health & Social Care Centre

Delivery of new centre in Dover

West Kent Cold Store Site



Delivery of learning disability accommodation within 2 miles of site - Sevenoaks

Development contributions

Contributions from new developments to ensure that new community facilities buildings are suitable for use by commissioned service providers to deliver services to FSC clients:

- Hillborough, South Canterbury and Sturry/Broad Oak - Canterbury
- Whitfield - Dover
- Creekside - Swale
- Land North of Haine Road - Thanet
- Peter's Pit - Tonbridge & Malling

FUTURE REQUIREMENTS TO MEET GROWTH

-  **Kent & Medway**
64
Additional Nursing Care Facilities (60 bed)
-  **Kent & Medway**
58
Additional Extra Care Facilities (60 bed)
-  **Kent & Medway**
39
Additional Learning Disability Support Units

COSTS AND FUNDING

In addition to the community capacity based project requirements to support population growth KCC have also developed a detailed Social Care Accommodation Strategy which sets out the forecast change in demand for the full range of care clients. This has highlighted the need for considerable investment in older persons nursing and extra care accommodation and also supported accommodation for clients with learning disabilities. While KCC is unlikely to directly deliver this future accommodation the cost of the development has been identified but assumed to be funded by private sector and voluntary organisations.

The following costs and funding have been identified for Kent:

Cost = £1,081,490,000

Secured Funding = £3,420,000

Expected Funding = £973,520,000

Funding Gap = £104,540,000

LIBRARY SERVICES



Kent & Medway
115
libraries

CURRENT SITUATION

Figure 4.9 and Table 4.7 set out existing library provision in Kent. Library services in Kent are organised by the County Council's Library, Registration and Archive Service. KCC continues to explore the potential for a charitable trust to deliver the service which will have implications to future service delivery.

HEADLINES

Kent

15.5 sqm

library space for every 1,000 people on average

Thanet - comparatively high level of provision

25 sqm

library space for every 1,000 people

Medway also rates well with 22 sq.m

Dartford and Dover also rate well with 17 sqm

Canterbury - comparatively poor provision

9 sqm

library space for every 1,000 people

Below average provision also in Ashford, Maidstone, Swale, Tonbridge & Malling and Tunbridge Wells

Figure 4.9 Kent & Medway

Library provision against housing growth

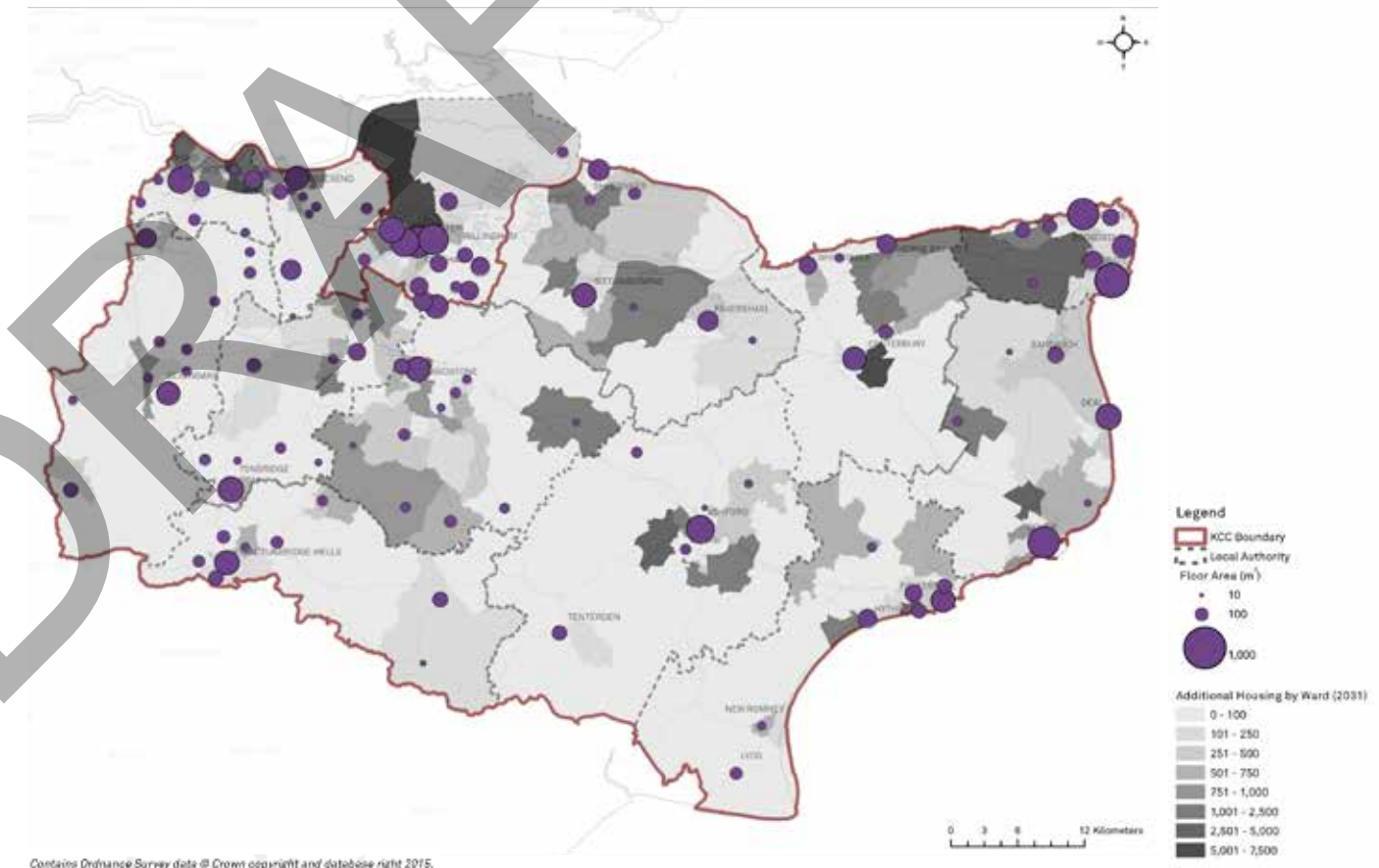


Table 4.8 Kent & Medway

Library capacity and proposed infrastructure

	NUMBER OF LIBRARIES	USABLE FLOORSPACE (SQ.M)	USABLE FLOORSPACE PER 1,000 POPULATION
Ashford	6	1,250	10.2
Canterbury	5	1,379	9.0
Dartford	9	1,712	16.9
Dover	6	1,931	17.2
Gravesham	10	1,594	15.3
Maidstone	11	1,651	10.3
Sevenoaks	11	1,870	15.9
Shepway	8	1,794	16.4
Swale	7	1,673	11.9
Thanet	8	3,482	25.3
Tonbridge & Malling	9	1,582	12.7
Tunbridge Wells	9	1,636	14.0
KENT	99	21,554	14.3
Medway	16	5,983	21.9
KENT & MEDWAY	115	27,537	15.5

EXAMPLE INFRASTRUCTURE PROJECTS PROPOSED

The list below sets out key library investments expected to support population growth to 2031:

Chilmington Green

capital cost to build library space in a **new Community Hub** in Ashford, contributions towards **Stanhope Library, Ashford Gateway** and the **mobile library service**.

Library expansion at Queenborough

Development of Library Services in Queenborough and Rushenden - Swale

New Cultural & Learning Hub

Tunbridge Wells

Southborough Community Hub

New library provision in Tunbridge Wells

Ebbsfleet Garden City

New library provision to support new community

Sittingbourne

Town centre development - new multi Service centre including library and other KCC and District services

COSTS AND FUNDING

The following costs and funding have been identified for Kent and Medway:

Cost = £33,900,000

Secured Funding = £3,980,000

Expected Funding = £4,480,000

Funding Gap = £25,440,000

YOUTH SERVICES



Kent & Medway

72

youth service providers in total
Includes hubs, youth tutors and commissioned services

CURRENT SITUATION

Youth services in Kent are run either by KCC or on behalf of KCC under contract to a range of commissioned providers with the aim to provide a core offer comprising a 'Hub' youth centre, one street based project and one or more school based workers. This is enhanced through the provision of commissioned youth work activities.

HEADLINES

Kent & Medway

0.46

youth service providers per 1,000 young people

Shepway - good provision

0.67

youth service providers per 1,000 young people

Thanet and Tonbridge & Malling also rate well in comparison to the Kent & Medway average.

Gravesham - poor provision

0.32

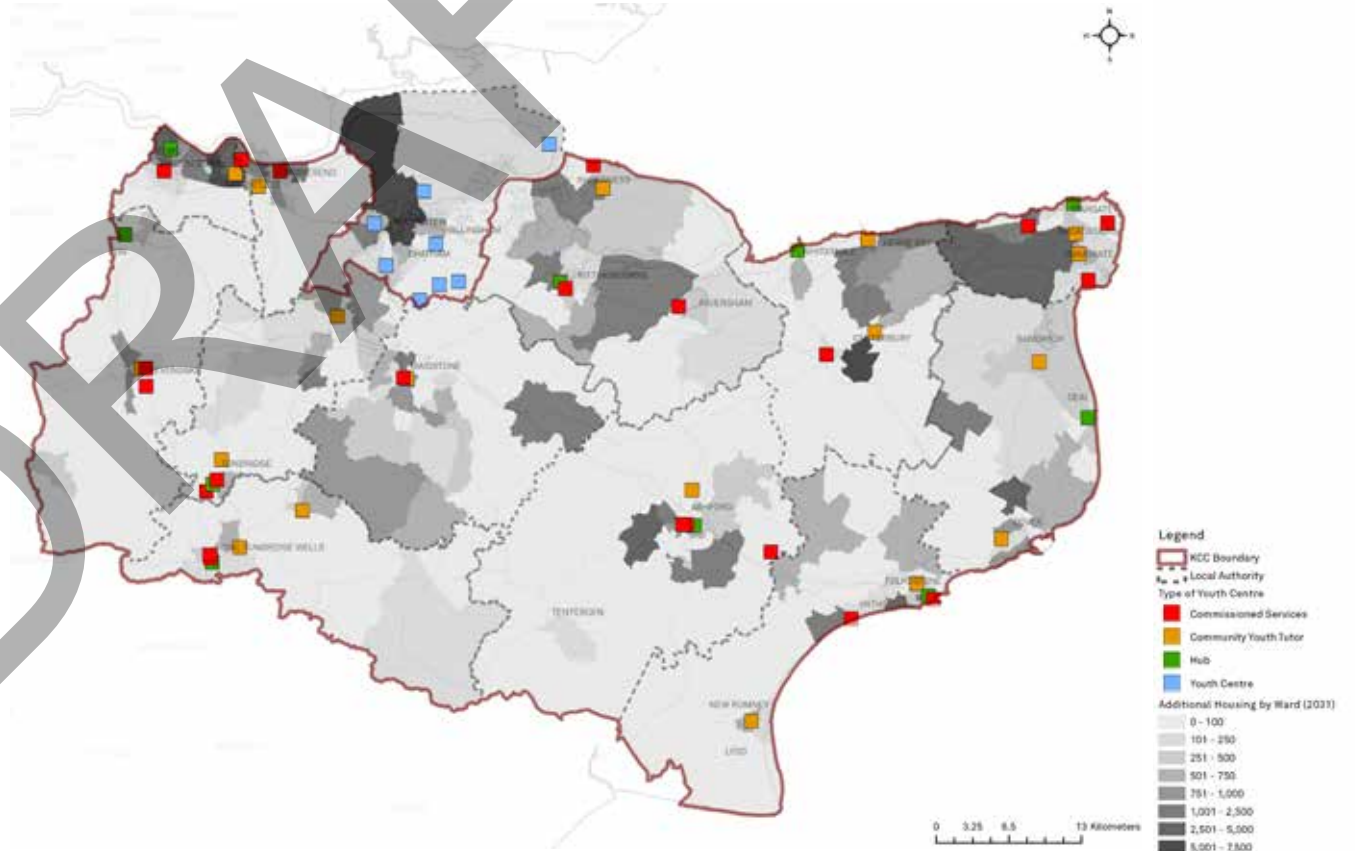
youth service providers per 1,000 young people

Ashford, Canterbury and Maidstone also rate poorly in comparison to the Kent & Medway average.

Figure 4.10 Kent & Medway

Youth service provision against housing growth

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Table 4.9 Kent & Medway

Youth services capacity and proposed infrastructure

	'HUB' YOUTH CENTRE	COMMUNITY YOUTH TUTOR	COMMISSION SERVICES	TOTAL YOUTH SERVICE PROVIDERS	SERVICES PER 1,000 YOUNG PEOPLE
Ashford	1	1	2	4	0.37
Canterbury	1	4	1	6	0.38
Chatham	1	1	2	4	0.48
Dover	1	2	2	5	0.52
Gravesham	1	1	1	3	0.32
Maidstone	1	1	3	5	0.38
Sevenoaks	1	1	3	5	0.52
Shepway	1	2	3	6	0.67
Swale	1	1	3	5	0.40
Thanet	1	2	5	8	0.66
Tonbridge & Malling	1	2	4	7	0.60
Tunbridge Wells	1	2	3	6	0.57
KENT	12	20	32	64	0.48
Medway	8	-	-	8	0.33
KENT & MEDWAY	20	-	-	72	0.46

SOURCE: INTEGRATED YOUTH SERVICES (KENT COUNTY COUNCIL) AND MEDWAY YOUTH SERVICE

EXAMPLE INFRASTRUCTURE PROJECTS IDENTIFIED

Chilmington Green

Capital cost to build youth service space in a new community hub in Ashford

Riverside & Whitstable

Youth centre expansions in Canterbury

Aylesham Youth Club Grant

funding towards the provision of youth services at Aylesham Youth Centre in Dover

New Deal Youth Centre

New youth centre building in Dover

Queenborough and Rushenden

Delivery of youth services at new developments in Swale

Tonbridge AEC

Enhancement of centre into a youth hub in Tonbridge & Malling

Tunbridge Wells District Youth Hub

New provision for Tunbridge Wells

COSTS AND FUNDING

The following costs and funding have been identified for Kent and Medway:

Cost = £9,390,000

Secured Funding = £4,610,000

Expected Funding = £730,000

Funding Gap = £4,050,000

COMMUNITY & INDOOR SPORTS FACILITIES



Community Facilities



Sports Facilities

CURRENT SITUATION

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

HEADLINES

- Swale, Thanet and Gravesham have the largest gaps in indoor sports provision, with the supply below the Kent + Medway average in 4 of the 5 categories.
- There are gaps in current facility distribution against the focus areas of housing growth. This can be seen in Maidstone, Thanet, North East Canterbury and North West Medway.
- Ashford, Canterbury, Sittingbourne and Dartford all have relatively strong provision of indoor sports provision where future housing growth is projected.

Figure 4.11 Kent & Medway

Sports provision against housing growth

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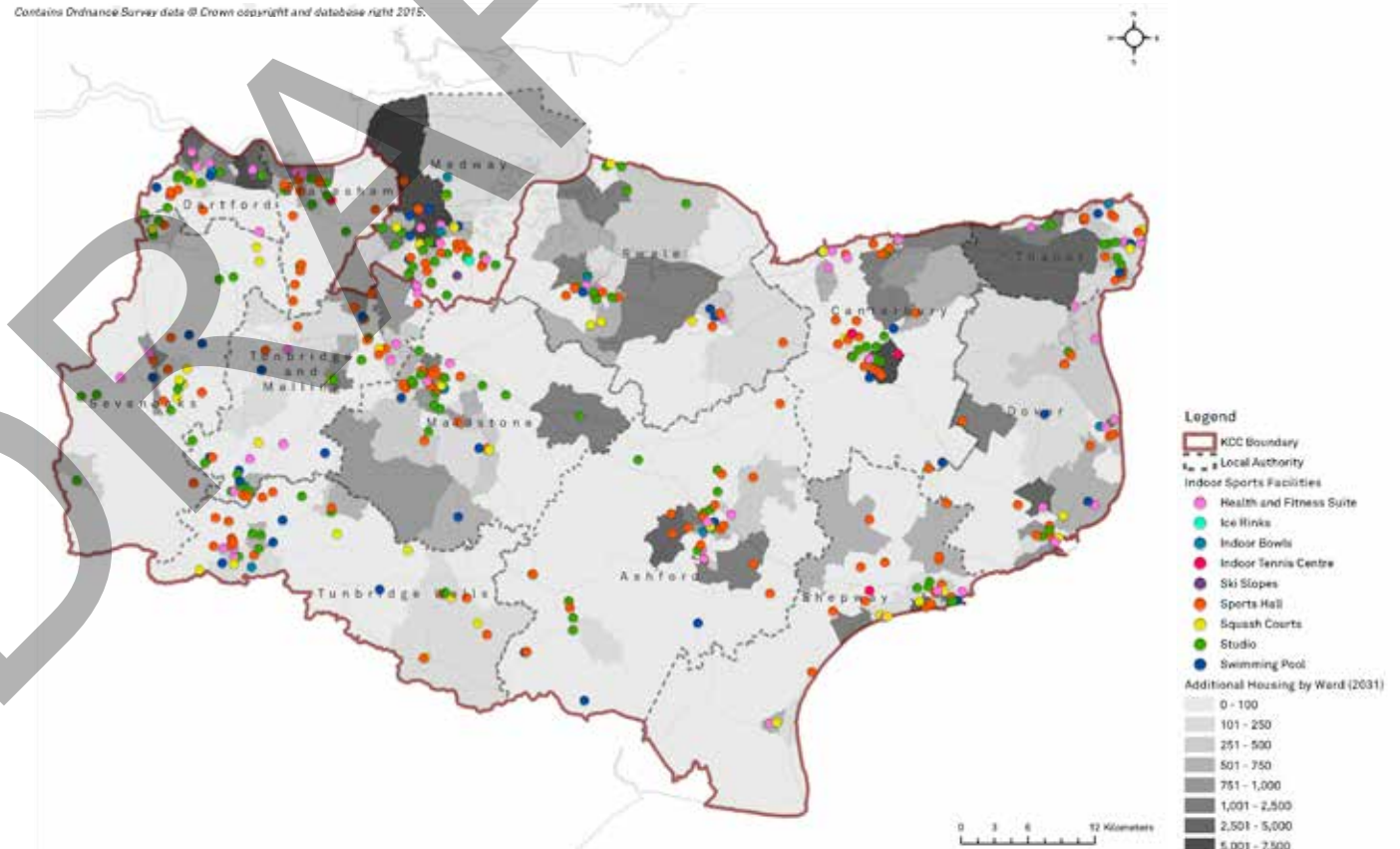


Table 4.10 Kent & Medway

Community / Sports capacity

	SPORTS HALL COURTS	SWIMMING POOL LANES	SQUASH COURTS	GYM STATIONS	INDOOR BOWLS RINKS
Ashford	57	25	6	712	6
Canterbury	101	34	14	918	8
Dartford	49	15	5	637	6
Dover	53	15	10	595	4
Gravesham	66	14	7	403	0
Maidstone	63	31	8	1,044	8
Sevenoaks	58	47	18	326	16
Shepway	43	17	10	702	7
Swale	58	24	10	573	6
Thanet	67	25	8	543	8
Tonbridge & Malling	66	31	12	825	6
Tunbridge Wells	83	42	19	589	6
KENT	764	320	127	7,867	81
Medway	117	44	12	1,388	14
KENT & MEDWAY	881	364	139	9,255	95

SOURCE: SPORT ENGLAND FACILITY DATABASE

SHADING INDICATES WHETHER SUPPLY IS ABOVE OR BELOW KENT & MEDWAY AVERAGE SUPPLY TO POPULATION RATIO.


FUTURE REQUIREMENTS TO MEET GROWTH

-  Kent & Medway
17,100 sqm
new flexible community space
-  Kent & Medway
13
new swimming pools
-  Kent & Medway
18
new sports halls
-  Kent & Medway
3
new indoor bowl centres

INFRASTRUCTURE COSTS

The following 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 best practice standards.

 **£43,320,000**
community facilities

 **£117,780,000**
indoor sport facilities

The following costs and funding have been identified for Kent and Medway:

Cost = £161,100,000

Secured Funding = £3,530,000

Expected Funding = £33,940,000

Funding Gap = £123,630,000

OPEN SPACE AND RECREATION



Open Space & Recreation



Children's Play Space

CURRENT SITUATION

Page 66
Kent has a wide range of open spaces, outdoor sports pitches, outdoor sports facilities and children's playgrounds. Outdoor sports and playspaces are owned and operated by a mixture of private sector, voluntary organisations and local authorities.

HEADLINES

- Shepway, Swale and Medway have the largest gaps in outdoor sports provision with the supply below the Kent + Medway average supply in 4 of the 5 categories.
- Ashford, Sevenoaks and Tonbridge and Malling have the highest levels of outdoor sport provision, with capacity above the Kent + Medway average in 4 of the 5 categories.
- There are several gaps in outdoor sports provision around future housing development sites, such as developments north of Dover and east of Herne Bay.
- The larger urban centres of Maidstone, Ashford, Canterbury, and northern parts of Dartford and Gravesham all have strong provision of existing outdoor recreational facilities.

Figure 4.12 Kent & Medway

Open Space and Recreation Facilities

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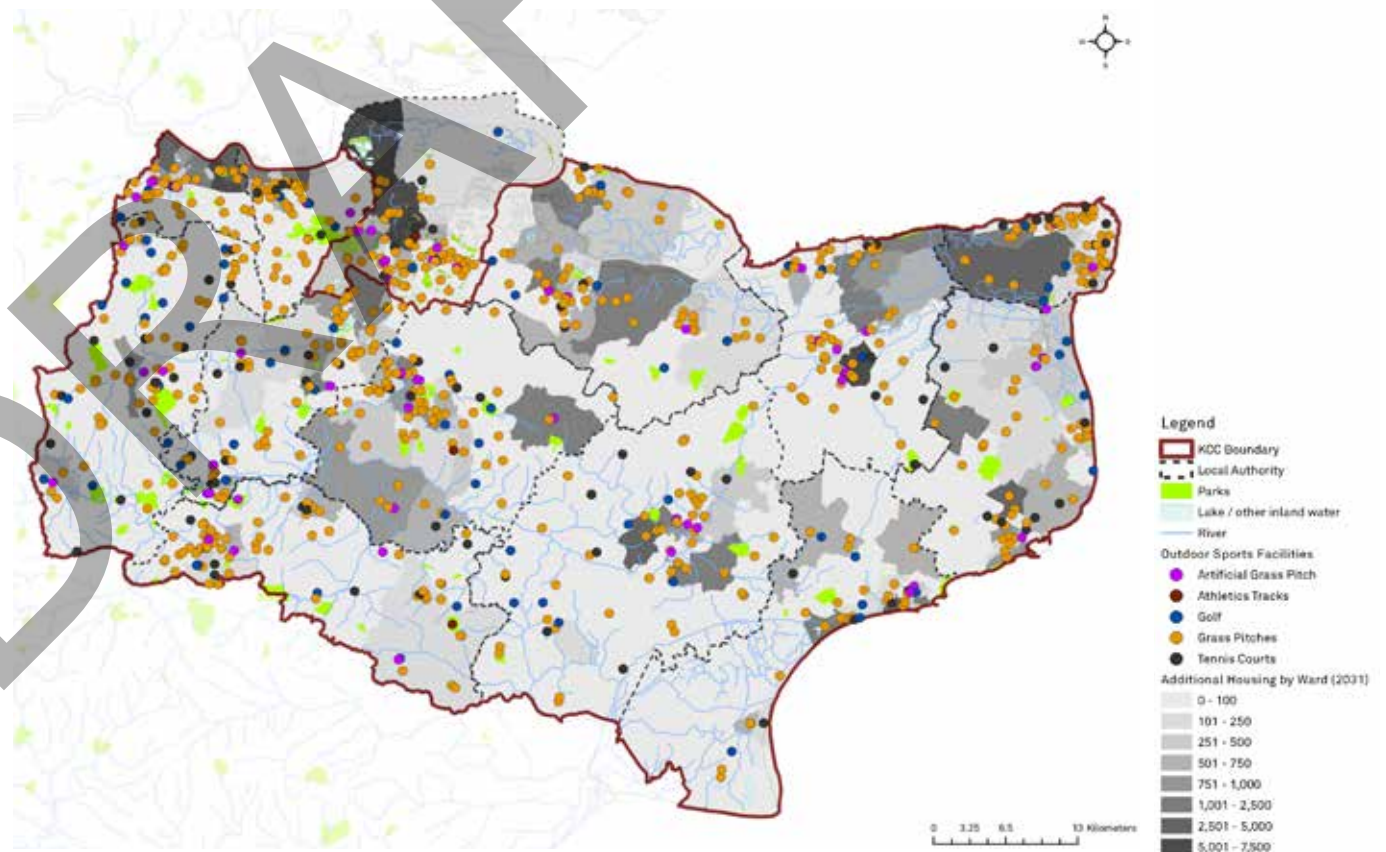


Table 4.11 Kent & Medway

Open space and recreation capacity

	GRASS PITCHES	ARTIFICIAL TURF PITCHES	TENNIS COURTS	ATHLETICS TRACKS	GOLF COURSES
Ashford	182	8	17	8	11
Canterbury	243	15	30	6	5
Dartford	118	19	8	6	5
Dover	186	8	42	8	7
Gravesham	165	9	18	0	6
Maidstone	208	13	22	16	11
Sevenoaks	217	12	49	6	26
Shepway	100	4	15	0	12
Swale	179	7	13	0	12
Thanet	163	13	31	8	10
Tonbridge & Malling	268	10	29	6	15
Tunbridge Wells	292	11	57	6	4
KENT TOTAL	2,321	129	331	70	124
Medway	220	26	19	14	6
KENT & MEDWAY TOTAL	2,541	155	350	84	130

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FUTURE REQUIREMENTS TO MEET GROWTH



Kent & Medway

8

Artificial Turf Pitches



Kent & Medway

315ha

Playing fields



Kent & Medway

42ha

Childrens Playspace

INFRASTRUCTURE COSTS

The follow infrastructure requirements have been identified based on AECOM analysis using Fields In Trust standards cost estimates have been applied using UK benchmarks.



Kent & Medway

£112,130,000

open Space and Recreation



Kent & Medway

£49,530,000

Childrens Playspace

The following costs and funding have been identified for open space, recreation and children's playspace for Kent and Medway:

Cost = £161,670,000

Secured Funding = £0

Expected Funding = £115,980,000

Funding Gap = £45,680,000

SOURCE: NUMBER OF SITES ACCORDING TO SPORT ENGLAND FACILITY DATABASE

SHADING INDICATES WHETHER SUPPLY IS ABOVE OR BELOW KENT & MEDWAY AVERAGE SUPPLY TO POPULATION RATIO.



4.5 GREEN INFRASTRUCTURE

GREEN INFRASTRUCTURE



Natural Green Space & Strategic Projects



Parkland

CURRENT SITUATION

Kent's high quality natural and semi natural environment plays a valuable role, providing natural goods such as food and timber as well as space for recreation; regulating air quality, water quality whilst reducing climate risks; and creating an attractive, characterful identity that draws residents, employers and visitors into the county.

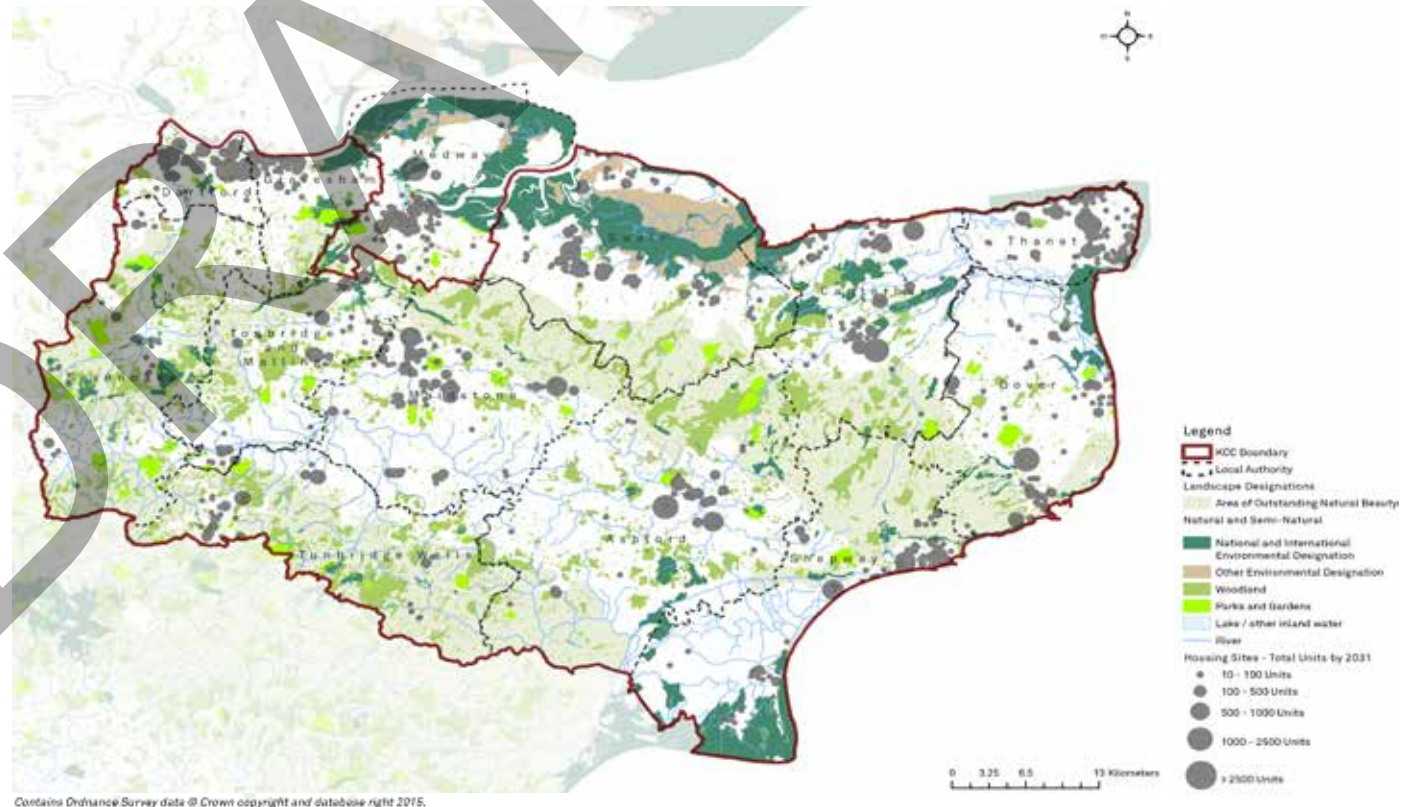
The broader natural environment is supported by a network of more formal green infrastructure assets. Natural England defines GI as strategically planned and delivered network comprising the broadest range of high quality green spaces and other environmental features including natural and semi natural 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

- 90 strategic parks and gardens
- 45,000ha of broadleaf woodland
- The Kent Downs and High Weald Areas of Outstanding Natural Beauty cover approximately 32 % of the county.
- 116 sites of national and international importance for nature conservation

Figure 4.13 Kent & Medway

Existing Green Infrastructure



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GREEN INFRASTRUCTURE AND THE NATURAL ENVIRONMENT

KCC take a holistic view of green infrastructure by including the natural assets that make up the countryside as well as strategic sites. These assets provide a range of productive, regulating and cultural services that have tangible economic value for the County. Work by Kent County Council and Kent Nature Partnership in developing a county-wide 'Natural Capital Account' will provide greater insight into the role of the natural environment plays in supporting a range of cross cutting priorities including economic prosperity, improved health and well-being, reduced flood risks, carbon reduction and water quality improvements. This evidence will help target green infrastructure investment to accommodate growth in a way that not only minimises the impact on the value derived from the county's 'Natural Capital' but delivers opportunities to leverage greater economic and societal benefits from green space.

Investment will be needed to enhance existing green spaces and provide new multifunctional green infrastructure to:

- Reduce the impact of development on the landscape character. A survey of tourists to Kent, who add £2.5bn to the Kent economy each year, cites the landscape as the main reason for visiting.
- Support the AONBs to the same extent to which National Parks are funded, country parks and the wider countryside
- Provide alternative natural and semi natural greenspace to mitigate the potential impact of additional visitors and residents on both protected habitats and more broadly the ecosystems that underpin the services provided

- Provide access to both urban green space and the wider countryside in order to realise community benefits such as recreation, health and well-being.
- Improve connectivity both for biodiversity and people,
- Deliver natural approaches to managing climate risks, such as Natural England's work to reduce flood risk through woodland planting, reducing the urban heat island effect in towns and cities and providing more sustainable drainage. w
- Utilise and enhance the rights of way network more effectively to address safer walking and cycling routes to schools and local facilities, supporting sustainable transport initiatives, the rural economy and a healthier population.

EXAMPLE SPECIFIC PROJECTS IDENTIFIED

Around 149 Green Infrastructure projects covering new natural and semi-natural green space, amenity green space, parks and gardens, and allotments have already been identified in relation to growth requirements across Kent. Some strategic projects include:





- Kent Downs AONB improvements, especially to improve the condition of the chalk grassland – £2.4m
- Sandwich Bay Special Area of Conservation Mitigation project, to reduce the impact of growth on sensitive ecological environments - £500k
- Green Grid links in Dartford to improve connectivity over and along the River Darent - £1.4m
- Medway's Country Park Development funding for new and improved country park provision - £500k

FUTURE REQUIREMENTS TO MEET GROWTH

-  Kent & Medway
263ha
Natural Green space
-  Kent & Medway
105ha
new parkland
-  Kent & Medway
53ha
allotment space

INFRASTRUCTURE COSTS

The following infrastructure requirements have been identified based on AECOM analysis using Natural England standards and Cost estimates have been applied using UK benchmarks.

-  Kent & Medway
£23,120,000
Parks
-  Kent & Medway
£11,560,000
allotment space
-  Kent & Medway
£28,897,000
natural green space
-  Kent & Medway
£20,520,000
Other Specific Projects

The following costs and funding have been identified for Kent and Medway:

Cost = £84,100,000
Secured Funding = £6,030,000
Expected Funding = £31,240,000
Funding Gap = £46,830,000



4.6 UTILITIES

ENERGY



ELECTRICITY

There are three electricity operators within Kent. Electricity is transmitted through the National grid. The Electricity distribution company is UK Power Networks (UKPN) and the Electricity Distribution Network is South East Distribution Network (SEPN). Due to the lack of information available from utility providers, AECOM are not able to provide the current capacity through the county.

HEADLINES

There are 2,308,609 SEPN customers in the South East of England including Kent and Medway.

Electricity is transmitted through a national network of electricity lines operating at 275 kv and 400kv before connecting to local networks owned by distribution companies

Kent and Medway

92%
of customers are domestic, with 8% on commercial premises

Kent and Medway

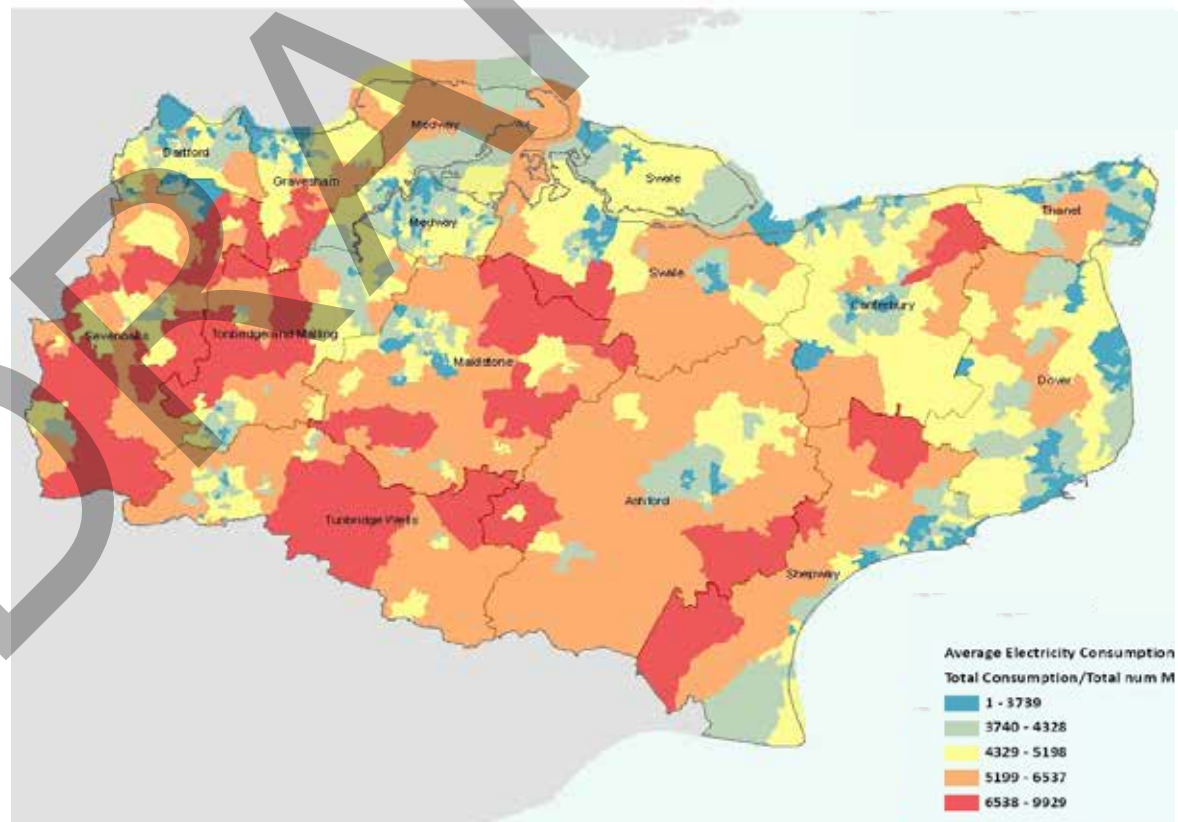
3,672MW
estimated power consumption for SEPN area

Kent and Medway

175MW
Pro-rata consumption for Kent

Figure 4.14 Kent & Medway

Existing Domestic Electricity Consumption



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KEY SHORT TERM ELECTRICITY INVESTMENT PLANNED FOR KENT AND MEDWAY:

The Long Term Development Statement for the South East (SEPN):

- Demand modelled on an annual basis on 'natural growth' in energy demand
- Estimates future loads within the network and identifies future requirements
- Focuses on growth to 2023, but not beyond
- Indicative planning and construction timeframes of local distribution to take up to 2 years for the larger Kent developments

FUNDING OF ENERGY FOR NEW HOMES

Distributor companies are not allowed to use revenues from existing customers to pay for infrastructure and serve new development; therefore it is usual for Developers to pay for the necessary new or upgraded infrastructure.

Where this infrastructure is used solely to supply a specific development, the developer will usually pay the whole cost, whereas if a development triggers the need for a piece of infrastructure which is required to serve an area larger than just the development, the developer will be expected to pay a fair proportion of the cost of provision, with the remainder funded by subsequent developments or the distributor company.

Table 4.12 Kent & Medway

UKPN Long Term Development Strategy (fully funded)

DISTRICT	UKPN AREA	PLANNED SPEND ON REINFORCEMENTS & ASSET REPLACEMENTS BY 2023
Ashford	Canterbury Sellindge	£15,350,000
Canterbury	Canterbury Sellindge	£26,120,000
Dartford	Dartford	£43,660,000
Dover	Canterbury Sellindge	£7,850,000
Gravesham	Northfleet	£8,430,000
Maidstone	Canterbury Sellindge	£1,160,000
Medway	Kingsnorth	£6,810,000
Sevenoaks	Northfleet	£7,020,000
Shepway	Canterbury Sellindge	£9,520,000
Swale	Kemsley	£11,740,000
Thanet	Canterbury Sellindge	£8,870,000
Tonbridge & Malling	Northfleet	£3,140,000
Tunbridge Wells	Northfleet	£4,950,000
Kent & Medway		£154,630,000

SOURCE: UKPN RII0-ED1 VERSION 1.5, 2014

RENEWABLE ENERGY

Kent is committed to reducing greenhouse gas emissions by 24% by 2020 and 60% by 2030. 10% reduction in carbon emissions through renewable energy is deliverable in Kent by 2020

HEADLINES

Kent and Medway **57%**

of renewable energy generated by energy from waste in Maidstone

Kent and Medway **15%**

of renewable energy generated by the Shepway Wind Farm

Kent and Medway **54**

locations supply or are capable of supplying electricity back to the grid

Kent and Medway currently generate over 640 GWh of renewable energy annually, with power production ranging from 1.0MW to 390MW. There are currently 6 types of renewable energy operating within Kent: PV, Biogas, Biomass, Landfill Gas, CHP and Wind. Nine of the Kent and Medway authorities operate biomass schemes (mostly small scale).

In the context of planned growth across Kent, additional low carbon and renewable energy infrastructure, along with increased uptake of energy demand reduction initiatives, will be needed if the county is to play a proportionally representative role in meeting the UK's carbon reduction target and renewable energy generation target of 15% by 2020.

The Renewable Energy Kent Action Plan (2012) sets out opportunities and actions for delivering low carbon and renewable energy infrastructure in order to meet the priorities set out in the Kent's Environment Strategy.

GAS SUPPLY

There are three gas operators within Kent. 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 Kent is Scotia Gas Networks (SGN).

HEADLINES

National Transmission System:

- Up to 20% of UK gas enters the National Grid via the LNG terminal at Grain.
- SGN has a duty to extend or improve the 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.

Local Distribution Zone:

- 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 Kent. It can however be assumed that the necessary capacity will be developed on a reactive basis by the gas Distribution Network Operator.
- Not possible for the G&I Framework to determine reinforcement costs at this time.

FUTURE REQUIREMENTS FOR ENERGY

UKPN strategic Investments to 2023 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.

COST OF CONNECTING THE GROWTH SITES

AECOM have undertaken development based utility costings to establish the potential scale of cost associated with connecting the proposed housing and key employment sites to the existing energy 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 Kent and Medway to 2031

Cost = £433,010,000

Secured Funding = £157,130,000

Expected Funding = £275,880,000

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

BROADBAND



Kent
89.4%
Of properties
receive 2Mbps
in 2013

Medway
92.3%
Of properties
receive 2 Mbps in
2013

Kent
68.6%
of properties
receive Superfast
broadband

CURRENT SITUATION

Broadband Delivery UK (BDUK) have set 95% provision of superfast broadband to all UK premises, with universal basic broadband to all. Within Kent and Medway this will be provided by 2017, however 5% of premises will remain commercially unviable.

BROADBAND DELIVERY UK (BDUK) - SUPERFAST BROADBAND PROGRAMME

- The ambition is 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 KENT AND MEDWAY

Broadband Delivery UK (BDUK) Phase 1 programme:

- Provide broadband to 91% of Kent & Medway by 2015
- £40 million Government Funding

Broadband Delivery UK (BDUK) Phase 2 programme:

- Provide broadband (24Mb per second) to 95% of Kent & Medway by 2017
- £5.6 million Government Funding
- Additional KCC Funding to match Government funding

REACHING THE REMAINING 5% OF KENT AND MEDWAY PROPERTIES THAT DO NOT HAVE BROADBAND

- KCC is currently working with BDUK on a pilot market testing scheme involving 8 locations within the 5% areas using new technological approaches for delivering superfast broadband.
- Results of the pilot scheme will determine the appropriate and most economic form of technology to use and necessary funding - The result are not yet available.
- Wired solutions such as fibre connecting the final 5% of Kent is estimated to potentially cost £100 million – reflecting the sparsity and rurality of many of these location. This has been adopted as a worst case position for the purposes of the framework.

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 Kent and Medway to 2031:

Cost = £214,360,000

Secured Funding = £40,000,000

Expected Funding = £74,360,000

Funding Gap = £100,000,000

It should be noted that the costs and funding set out above include both the developer funded connection costs for new housing and commercial development and also the County-wide BDUK programme and future ambition to connect the remaining 5% of premises. The £100,000,000 funding gap relates specifically to the potential cost of connecting the remaining 5% of premises.

WATER & WASTE WATER



CURRENT SITUATION

There are currently five water supply and waste water companies operating in Kent. These are Affinity Water, South East Water, Southern Water, Sutton and East Surrey Water and Thames Water. The distribution of water companies across Local Authority area is shown in Table 4.13. Southern Water are the waste water authority for most of Kent with the exception of Dartford and Sevenoaks which is also covered by Thames Water.

Table 4.13 Kent & Medway

Water Supply and Waste Providers

	AW	SW	SEW	TW	SESW
Ashford		WW	W		
Canterbury		WWW	W		
Dartford		WW	W	WWW	
Dover	W	WWW			
Gravesham		WW	W		
Maidstone		WW	W		
Medway		WWW			
Sevenoaks		WW	W	WWW	W
Shepway	W	WWW			
Swale		WW	W		
Thanet		WWW	W		
Tonbridge+Malling		WW	W		
Tunbridge Wells		WW	W		

AW - AFFINITY WATER / SW - SOUTHERN WATER

SEW - SOUTH EAST WATER / TW - THAMES WATER

SESW - SUTTON & EAST SURREY WATER

W - WATER SUPPLY / WW - WASTE WATER / WWW - WATER SUPPLY & WASTE

HEADLINES

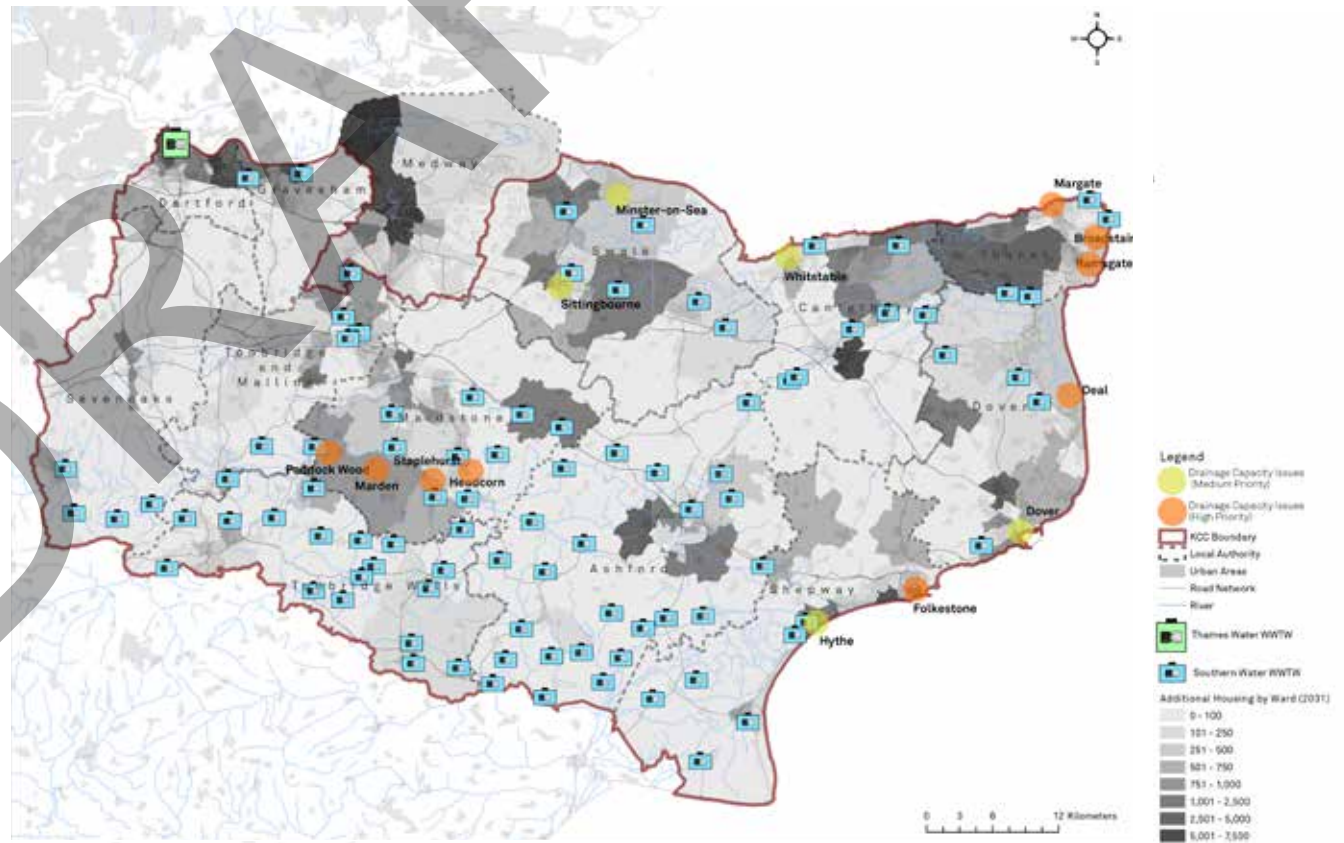
Water and waste water capacity

- The existing supply infrastructure serving the county is should meet demand up to 2035, however increasing pressures in the longer term is likely to require strategic interventions
- There is a significant deficit in the London area driven largely by a combination of population growth and the impact of climate change (Affecting Thames Water – therefore Sevenoaks and Dartford)

- Water Cycle Studies are in place in Ashford, Dartford, Dover, Gravesham, Maidstone and Shepway.
- There are 93 waste water treatment plants across local authorities in Kent as shown in the figure 14.5.
- Limited capacity within existing drainage infrastructure (be it surface water or combined systems) in some urban areas as illustrated on figure 4.14 as high and medium priority areas.

Figure 4.15 Kent County

Water Treatment & Drainage against Housing Growth



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INFRASTRUCTURE REQUIRED TO SUPPORT GROWTH

Water Supply - Water Resource Management Plans

All five 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.

Key actions to 2031 as highlighted in each plan are shown in Table 4.14..

Waste Water - Water Treatment Plans to support growth

Examples of planned improvements to treatment works in order to facilitate growth have been identified below and show the planned upgrade requirements as follows:

Ashford – Ashford waste water treatment works (Southern Water)

- £12.6m investment to modify the process units to support population to 2020.

Dartford - Long Reach sewage treatment work (Thames Water)

- Extension of the existing Activated Sludge Plant, additional Final Settlement Tanks; Modifications to Return Activated Sludge and Surplus Activated Sludge pumping; Additional blowers and ancillaries.

Dartford - Northfleet sewage treatment works (Southern Water)

- Possible re-siting depending on exact growth in area. 2009 Cost estimates range from £7.8m for like for like replacement to £34.5m for 50% growth and tighter consents.

Gravesham - Gravesend sewage treatment works (Southern Water)

- Capacity for future new development will be required and will be progressed through the current Periodic Review process.

Table 4.14 Kent & Medway

Water Supply Provider Plans

PROVIDER	INFRASTRUCTURE INVESTMENT PLANNED	TIME FRAME
Affinity Water	Reductions in network leakage	2015-2020
	Universal metering programme;	2015-2020
	Implementation of water efficiency	2015-2020
	Increased water abstraction;	2015-2020
	Increase in bulk transfer of water.	2015-2020
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 adjoining areas	2020-2040
	Creation of 3 new WRZ transfers.	-
Southern Water	Additional leakage reduction required over the planning period.	-
	Water reuse scheme to commence	2027-2028
	Two desalination schemes	2027-2028
Sutton & East Surrey Water	Selective Metering across East Sutton & Surrey	2015-2020
	Increase Water Treatment Works capacity	2021-2030
	Leakage reduction measures	2015-2020
Thames Water	Commencement of 'full' metering programmes to households (70% of households by 2025)	2015-2020
	New groundwater schemes providing additional water supply	2015-2020
	Promotion of water efficiency	2015-2020
	Rollout innovative tariffs to promote water efficiency	2020 +
	Further development of small groundwater schemes	2020 +
	Larger scale projects to secure long-term resilience including 150 ML/d wastewater re-use scheme	2020 +

Key Issues / Recommendations

- Service providers conclude there are no key issues regarding water supply for the proposed growth to 2030 in Kent, however it will be important that local authorities are involved in updating local plans.
- Further modelling work is being undertaken across the south east to determine cumulative pressures on water resources and to identify strategic options for longer term water management plans.
- Opportunities for sharing existing and new water resources across resource zones.
- Options being considered for a potential regional water resource strategy.
- Wastewater network and treatment capacities cannot be confirmed past the current AMP6 period (2015-2020).
- Further discussions required with Thames Water, Southern Water and OFWAT - Essential to provide certainty on development outside existing sewer networks and agree future capacity requirements.
- Waste Water capacity issues highlighted for Maidstone by recent Halcrow /Amey study.

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 Kent and Medway to 2031:

Cost = £410,710,000

Secured Funding = £2,520,000

Expected Funding = £408,190,000

Funding Gap = £0

These costs are assumed funded by the developer and service providers.

WASTE



Kent and Medway

229

Waste treatment sites across Kent (Exc waste water treatment sites)

Kent and Medway

21

Household waste facilities operated by Kent County Council & Medway Council

CURRENT SITUATION

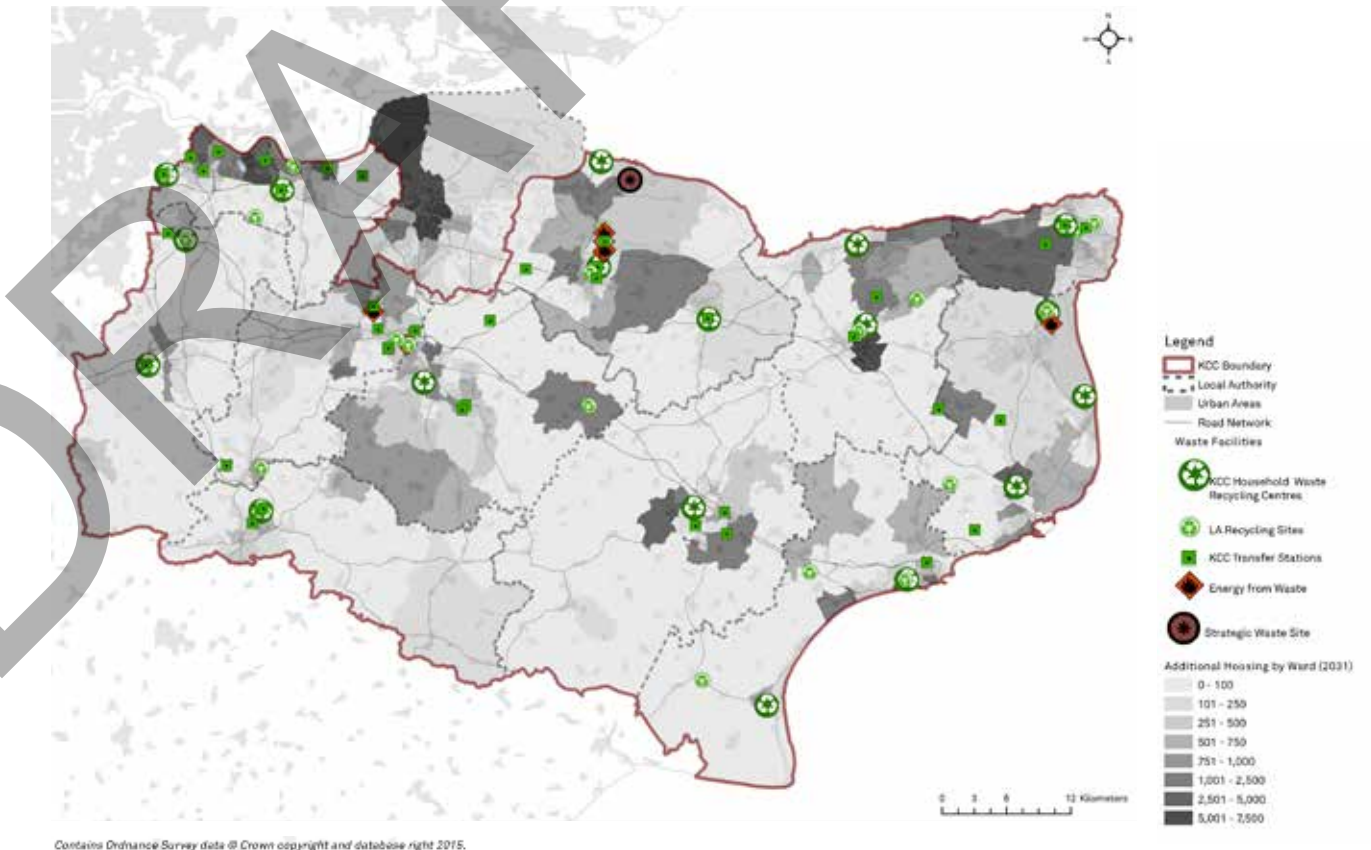
Kent currently achieves self-sufficiency in waste management, with some spare capacity, such as Allington EfW and Sittingbourne recycling facility which import waste, including from London. This is not however the case in Medway. To 2031 there will be no capacity issue for recycling and non-hazardous waste, but general waste capacity is nearing its limit.

HEADLINES

- Page 76
- 450KG of waste generation in Kent per person per year
 - 229 waste treatment sites across Kent (Council & Commercial) (excluding waste water treatment sites).
 - 18 household waste facilities operated by Kent County Council and 3 operated by Medway Council
 - 6 waste transfer stations operated by Kent County Council
 - Allington EfW facility is a large scale Energy from Waste Plant
 - 540,900 tonnes of waste collected by Kent District Councils in 2014/15
 - 172,000 tonnes of waste collected by Kent Household Waste Recycling Centres in 2014/15
 - 40.7% of Kent County municipal waste was converted to energy in 2014/15
 - 48.4% of Kent County municipal waste was recycled and composted in 2014/15. 70.5% of waste is recycled and composted at household waste recycling centres.

Figure 4.16 Kent County

Waste Capacity against Housing Growth



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Table 4.15 Kent & Medway

Existing KCC & Medway Waste Sites

	HOUSEHOLD WASTE RECYCLING CENTRE	WASTE TRANSFER STATIONS
Ashford	1	1
Canterbury	2	
Dartford	2	1
Dover	3	1
Gravesham		
Maidstone	1	
Sevenoaks	2	1
Shepway	2	
Swale	3	1
Thanet	1	
Tonbridge & Malling		
Tonbridge Wells	1	1
KENT	18	6
Medway	3	
KENT & MEDWAY	21	7

Waste facilities are well distributed across the County including areas forecast for major growth, with a significant concentration of waste-to-energy facilities in Maidstone and Swale.

KEY CAPACITY POINTS:

- Kent achieves Net Self Sufficiency in Waste Management
- Allington EfW facility and the Sittingbourne recycling facility have spare capacity which is used by waste imported to Kent
- Construction waste comes into the county from London for disposal in inert landfill sites.
- Waste Capacity across KCC is at its limits currently
- Dartford, Gravesham and Ashford currently experiencing greatest pressure on HWRC capacity

- Medway is shortly to undertake a review of its Municipal Waste Strategy and it is anticipated that this will flag up a number of capacity/provision issues

SHORT /MEDIUM TERM PROPOSALS IN THE MINERALS WASTE LOCAL PLAN:

Strategic Sites for Waste

- Isle of Sheppey - Proposed extension areas for Norwood Quarry and Landfill Site

Household Waste Recycling Centres (HWRC)

KCC is currently reviewing its portfolio of HWRCs with a view to consolidate and potentially provide fewer, better sites. No finalised plans are available at this point.

The Local Plan Policy CSW 7 (Minerals and Waste Local Plan 2013-20) presents the following analysis of potential sites for waste.

Replacement of HWRCs at:

- Folkestone - Shornecliff HWRC
- Dartford - Dartford Heath HWRC
- Swale (Sittingbourne) - Church Marshes HWRC and waste transfer station
- Sevenoaks - Dunbrik HWRC and waste transfer station

New Facilities at:

- Tonbridge and Malling – Site not defined as yet.
- Maidstone – Additional Site required – Site not defined as yet.

FUTURE REQUIREMENTS IN CAPACITY

Local Plan Policy CSW 8 (Minerals and Waste Local Plan 2013-20) presents the identified need for additional Waste management Capacity as follows:

- New Facilities for Recovery: **3 to 4 additional Energy from Waste facilities** by 2031 (Up to 140,000 tonnes per annum recovery capacity for each facility) (Designed and constructed to operate as recovery processes producing or capable of producing both heat and power).
- New Facilities for Composting: **3 additional composting facilities** by 2031 (Approximately 20,000 tonnes per annum treatment capacity for each facility, Green and Kitchen Waste)

Based upon the facilities set out as required within the Kent Minerals and Waste Local Plan, AECOM have provided cost estimates for facilities of the capacity required above. These result in the the following cost and funding estimates:

Cost = £333,110,000
Secured Funding = £10,000
Expected Funding = £249,430,000
Funding Gap = £80,670,000

4.7 FLOOD PROTECTION

FLOOD DEFENCES



Kent & Medway

46,000

Homes at risk from tidal/fluvial flooding

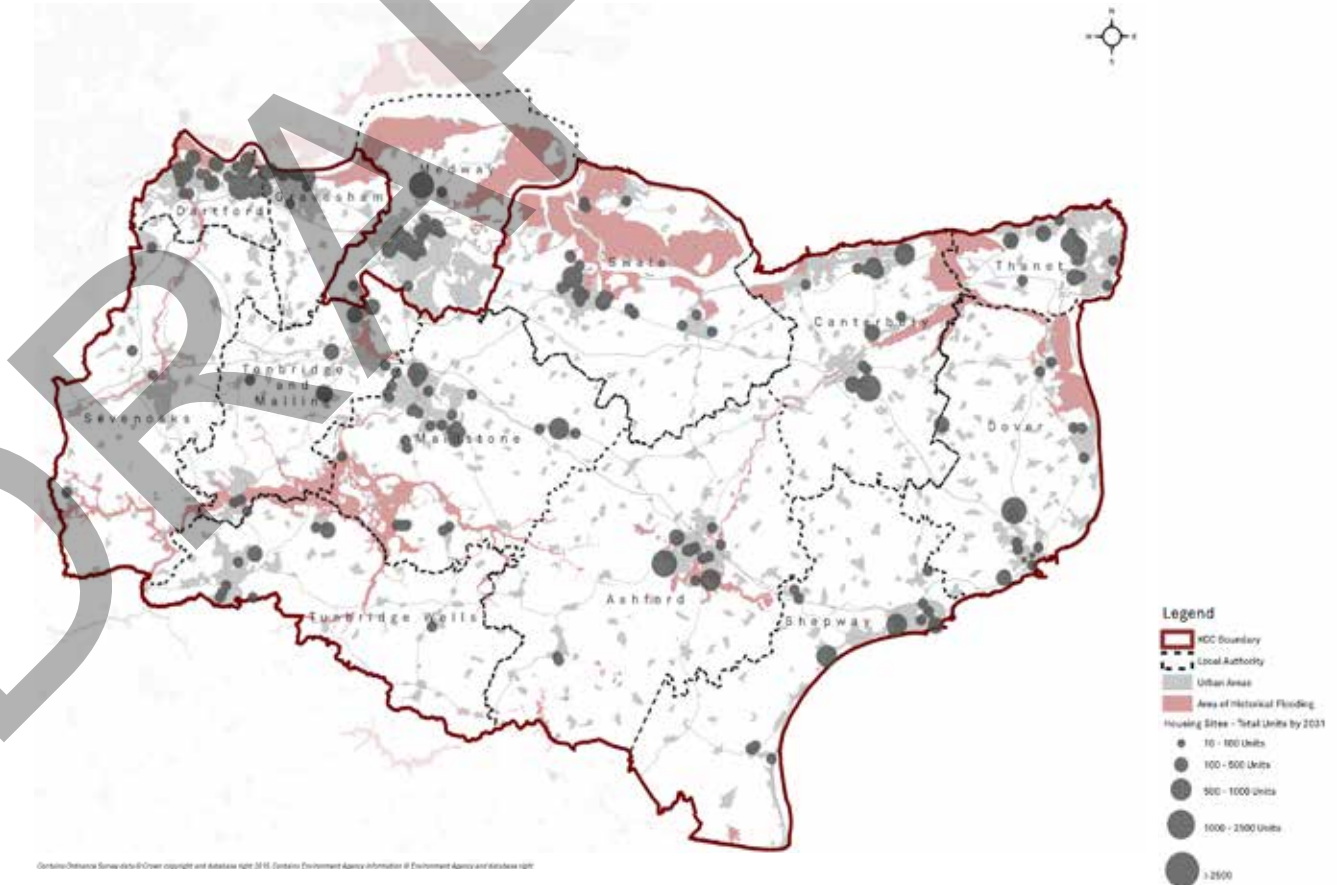
Kent & Medway

60,000

Homes at risk from 1 in 200 years surface water flooding

Figure 4.17 Kent & Medway

Historical flooding and proposed housing sites



CURRENT SITUATION

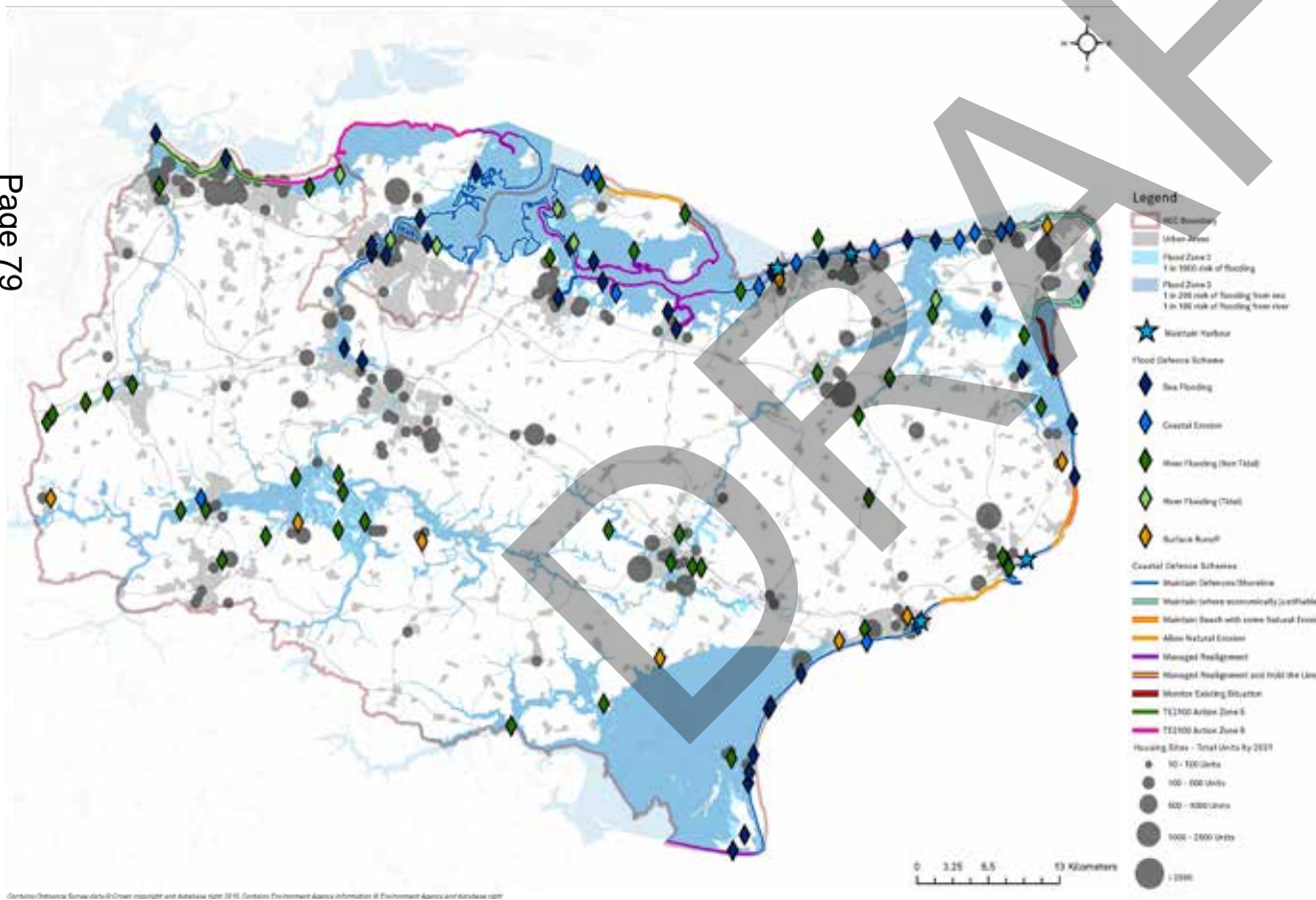
Page 78
 Flooding across Kent is a well-recognised problem with large parts of the County at risk of flood as illustrated in Figures 4.17 and 4.18. Fluvial and tidal sources are behind the majority of flooding incidents and there have been 2,500 historical flood events in Kent since 1986. There are three types of flood risk:

- Groundwater flooding - Risk in some areas due to major aquifers in Kent, the chalk of the North Downs and the sandstone of the High Weald
- Fluvial and tidal Flooding- 46,000 homes (108,000 people) at risk of flooding
- Surface Water Flooding - 60,000 homes (140,000 people) at risk to a depth of 0.3m in a 1 in 200 year event

Kent has the 'highest surface water flood risk of any Lead Local Flood Authority (LLFA) in England'. The highest risk of surface water flooding is in Maidstone with 11,700 people estimated to be at risk. Limited capacity within existing drainage infrastructure (be it surface water or combined systems) enhances this risk with notable drainage constraints in Margate/Broadstairs, Ramsgate, Deal, Folkestone, Marden, Staplehurst, Headcorn and Paddock Wood.

Figure 4.18 Kent & Medway

Proposed Flood Defence Projects



HOUSING SITE ANALYSIS

Our analysis of potential risk from flooding to existing and proposed development sites in Kent highlights that:

- 140,000 additional homes proposed with 15% in Flood Zones 2 and 3.
- Notably high level of proposed sites within Flood Zone 3 in Dover, Sevenoaks, Swale, Tonbridge & Malling.

SHORELINE MANAGEMENT PLANS

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

- South Foreland to Beachy Head SMP
- Medway Estuary and Swale SMP
- Isle of Grain to South Foreland SMP

FUTURE REQUIREMENTS TO MEET GROWTH

- 121 flood defence projects currently in the pipeline.

One of the most important strategic projects affecting growth in Kent is the Thames Estuary 2100 (TE 2100). This is being led by the EA, looks to address the wider implications of climate change which is deemed to present a significant challenge not just to the proposed development in North Kent but to the fabric of the economic and societal base for Kent Thameside and beyond.

Kent's Severe Weather Impact Monitoring System is also analysing the likely impact and consequential costs associated with future weather events on Kent's infrastructure.

COSTS AND FUNDING

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

Cost = £406,590,000

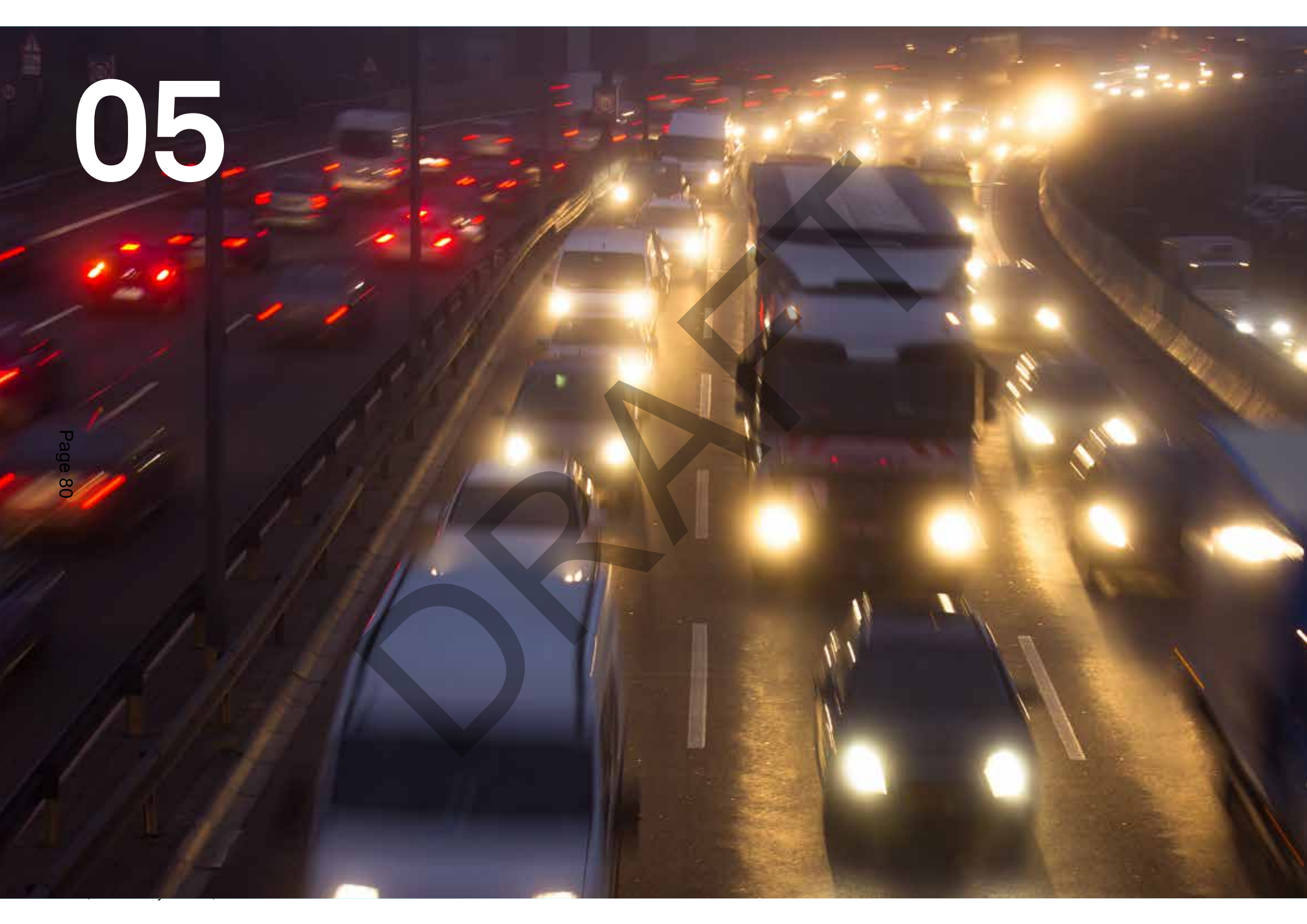
Secured Funding = £217,450,000

Expected Funding = £0

Funding Gap = £189,140,000

05

Page 80





DEVELOPMENT SUITABILITY ANALYSIS

Each Local Authority within Kent County and the Medway Authority have been analysed in detail to generate the summary pages which proceed this section. 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

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

In addition strategic projects, that have cross boundary implications are considered at the end of this chapter.

Universal Legend

Flood Defence Schemes	Surplus Primary Places
Housing Sites - Total Units by 2031	-99 - -50
10 - 100 Units	-49 - 0
100 - 500 Units	1 - 50
500 - 100 Units	51 - 100
1000 - 2500 Units	101 - 200
> 2500	201 - 420
Employment Sites - Floor Area (square meters)	Surplus Secondary Places
5,000 - 10,000	-450
10,000 - 20,000	-449 - -300
20,000 - 50,000	-299 - -150
50,000 - 100,000	-149 - 0
100,000 - 200,000	1 - 150
200,000 - 500,000	151 - 300
> 500,000	301 - 450
Public Transport Schemes	451 - 650
BRT	GP Capacity to Patient List
Bus Corridor Improvements	-50
Bus Interchange	-4
Bus Service Improvement	-3
Park and Ride	-2
Rail	-1
Type	0
Junction Improvement	+ 1
Link Improvements	+ 2
New Link Road	+ 3
Type	+ 4
BRT	
Bus Corridor Improvements	
Rail	
Major Highways Projects	
Junction Improvement	
Link Improvements	
New Link Road	
Pedestrian Improvement	
UTMIC	

5.1 ASHFORD

14,000 new homes (+28%)
25,600 new people (+22%)
17,200 new jobs (+32%)

to 2031

EXISTING CAPACITY ISSUES

- Capacity issues with operation of M20 (schemes identified)
- Public transport linkages required between town and growth points
- Existing highway capacity issues at town centre ringroad (schemes identified)
- Current capacity issues in primary schools close to growth areas
- Authority wide surplus capacity in GP provision, although additional provision required to support growth
- Major priorities for Ashford include the J10a, A28 and Ashford International signalling projects

Total Infrastructure Costs: **£532,610,000**

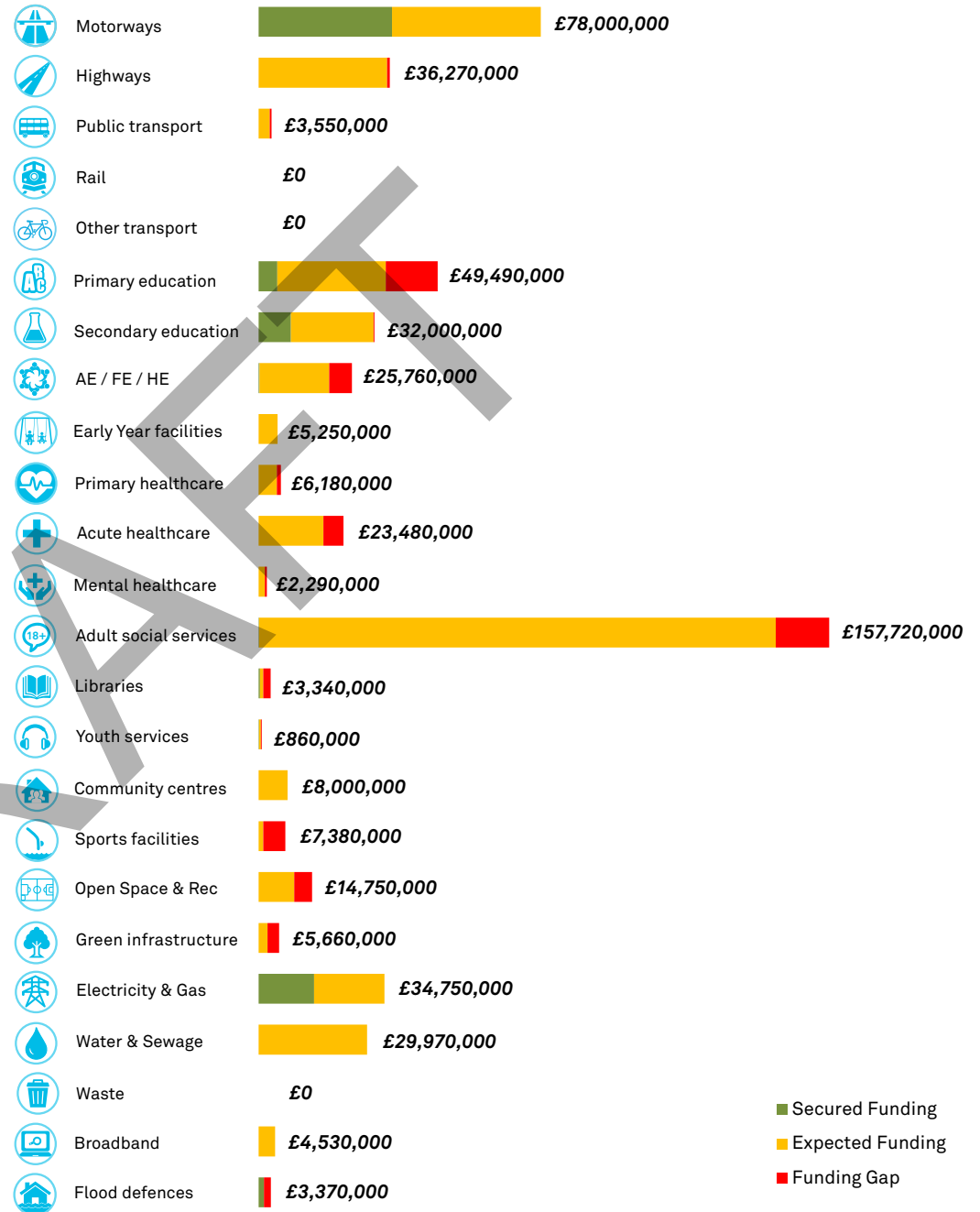
Total Secured Funding: **£68,720,000**

Total Expected Funding: **£401,330,000**

Total Funding Gap: **£62,570,000**

% of Infrastructure Funded: **88%**

- TRANSPORT
- EDUCATION
- HEALTH
- COMMUNITY
- GREEN INFRASTRUCTURE
- UTILITIES
- FLOOD DEFENCES



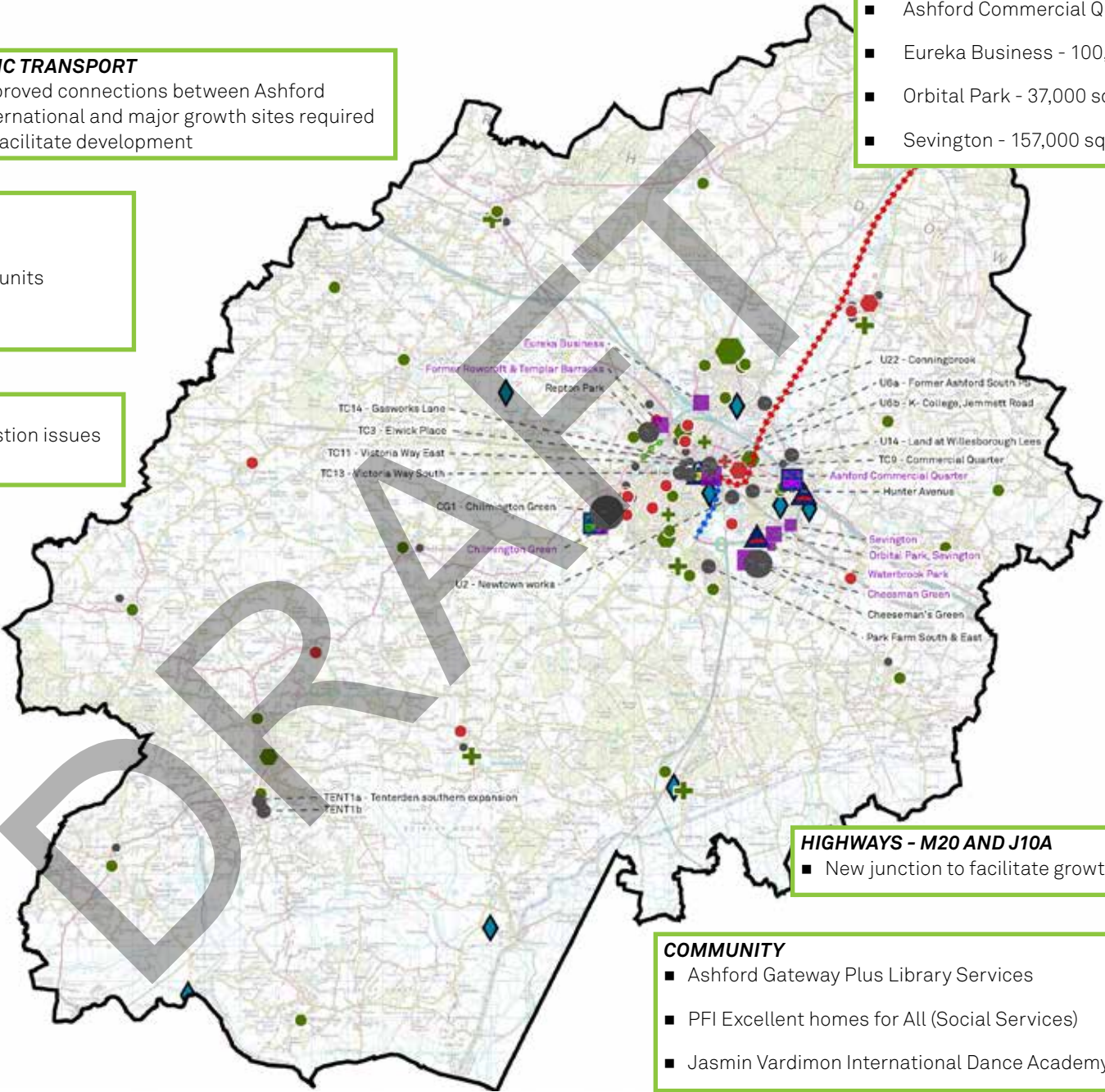
SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

- CAPACITY AT KEY EMPLOYMENT SITES**
- Ashford Commercial Quarter - 55,000 sqm
 - Eureka Business - 100,000 sqm
 - Orbital Park - 37,000 sqm
 - Sevington - 157,000 sqm

- PUBLIC TRANSPORT**
- Improved connections between Ashford International and major growth sites required to facilitate development

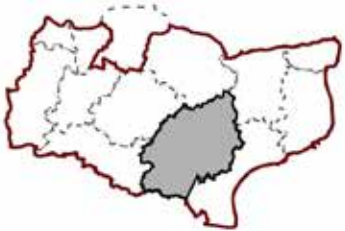
- MAJOR HOUSING DEVELOPMENT**
- Chilmington Green - 5,750 units
 - Cheeseman's Green/Finberry - 1,100 units
 - Repton Park - 905 units

- HIGHWAYS - A28 CHART ROAD**
- Key project to alleviate existing congestion issues and facilitate major growth sites



- HIGHWAYS - M20 AND J10A**
- New junction to facilitate growth to south of Ashford

- COMMUNITY**
- Ashford Gateway Plus Library Services
 - PFI Excellent homes for All (Social Services)
 - Jasmin Vardimon International Dance Academy



- EDUCATION**
- New Primary Schools at Ashford Central, Chessmans Green, Chilmington and Willesbrough
 - New Secondary School at Chilmington Green
 - Hadlow College Campus Project

SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN ASHFORD

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5.2 CANTERBURY

16,200 new homes (+25%)
32,200 new people (+21%)
17,000 new jobs (+25%)

to 2031

EXISTING CAPACITY ISSUES

- Ring Road a key constraint
- A2 Junction has limited movement
- A28 Corridor from Thanet to Ashford a major barrier to east Kent growth
- Comprehensive package of transport schemes identified – no major areas of concern
- Air Quality issues linked to the transport issues in Canterbury City
- Primary school capacity limited in Canterbury (but authority-wide surplus)
- Secondary school capacity limited near major sites (although large authority-wide surplus – i.e Herne Bay)
- Limited net GP capacity across the authority

Total Infrastructure Costs: **£488,950,000**

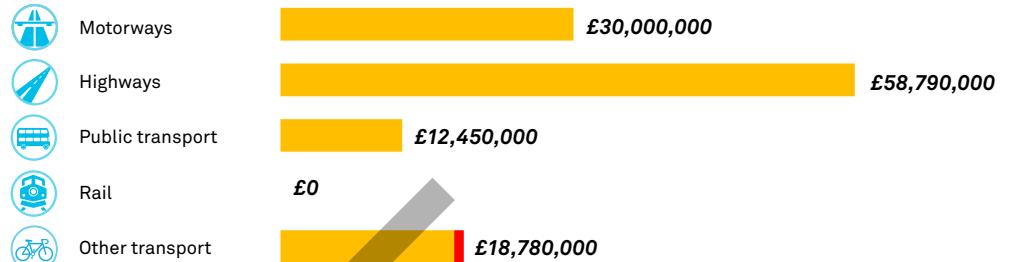
Total Secured Funding: **£73,500,000**

Total Expected Funding: **£332,250,000**

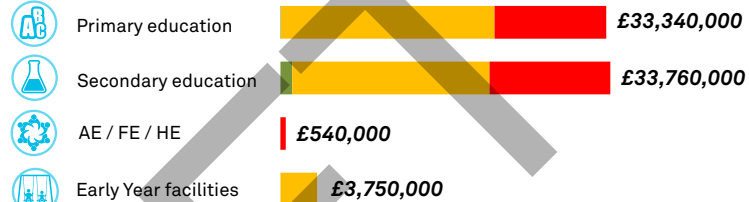
Total Funding Gap: **£83,190,000**

% of Infrastructure Funded: **83%**

TRANSPORT



EDUCATION



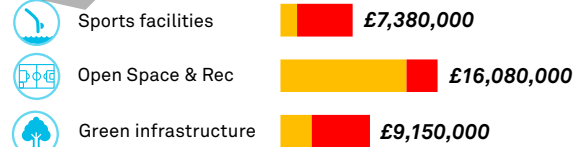
HEALTH



COMMUNITY



GREEN INFRASTRUCTURE



UTILITIES



FLOOD DEFENCES



■ Secured Funding
 ■ Expected Funding
 ■ Funding Gap

SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

FLOOD DEFENCES

- Hampton to Bishopstone Coast Protection Works
- Great Stour Flood Alleviation Schemes
- Herne Bay Sea Defence Works

CAPACITY AT KEY EMPLOYMENT SITES

- Barton Farm - 70,000 sqm
- Altira Business Park - 33,000 sqm
- Eddington Lane - 21,700 sqm
- Strode Farm - 15,000 sqm
- Innovation Centre, University of Kent - 9,000 sqm

TRANSPORT - CANTERBURY

- Key Investment projects at Wincheap (A2 off slip road, relief road and roundabout)
- New A2 Interchange at Bridge

MAJOR HOUSING DEVELOPMENT

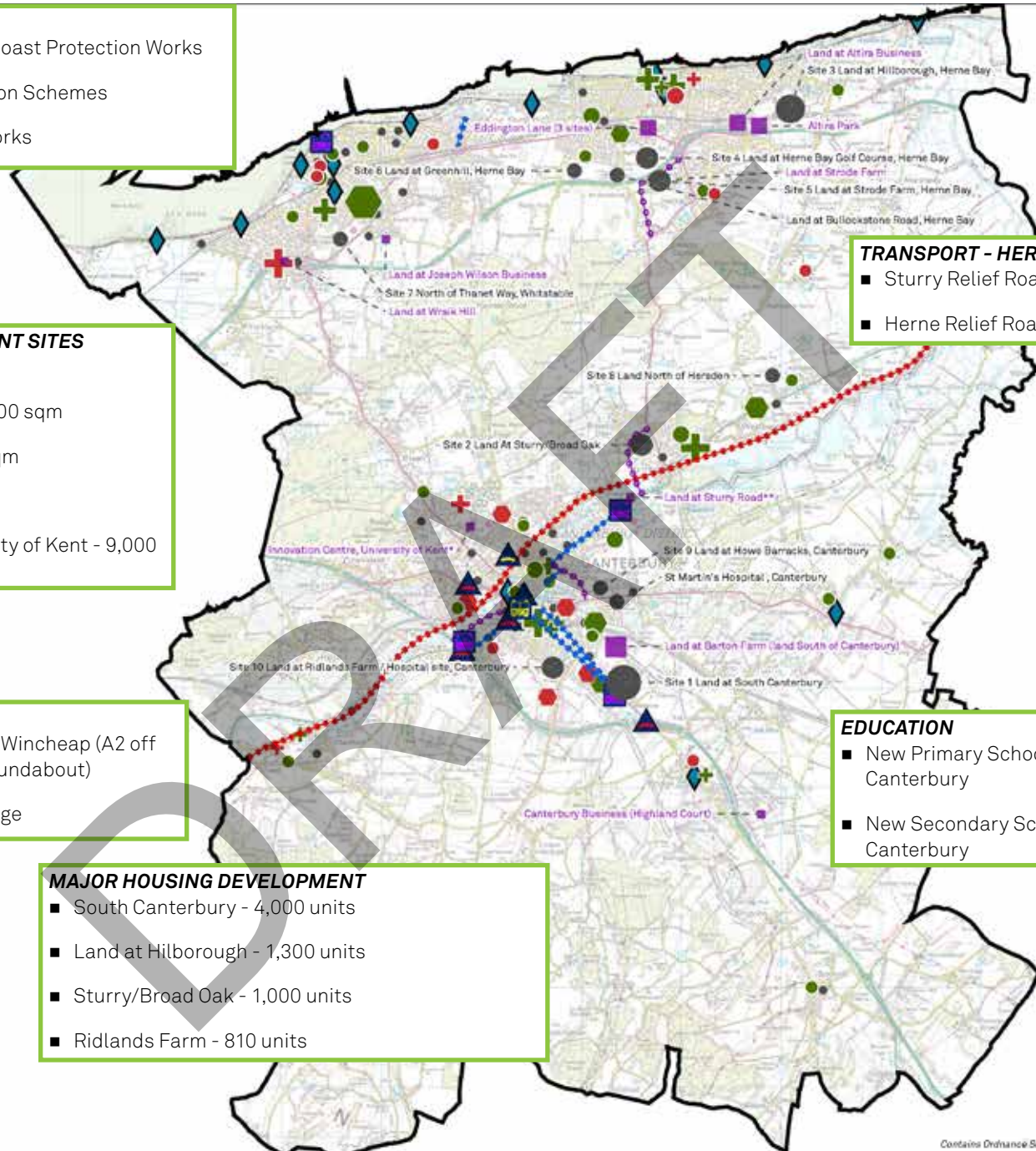
- South Canterbury - 4,000 units
- Land at Hilborough - 1,300 units
- Sturry/Broad Oak - 1,000 units
- Ridlands Farm - 810 units

TRANSPORT - HERNE BAY

- Sturry Relief Road
- Herne Relief Road

EDUCATION

- New Primary Schools at Herne Bay and South Canterbury
- New Secondary School Provision (6FE) in Canterbury



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SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN CANTERBURY

5.3 DARTFORD

18,100 new homes (+44%)
42,300 new people (+43%)
22,100 new jobs (+40%)

to 2031

EXISTING CAPACITY ISSUES

- A2 and M25/A282 congestion constrains performance of local road network
- Connectivity issue between Ebbsfleet International and local public transport corridors
- Notable public transport capacity limitations in Dartford town centre and Stone
- Limitations of North Kent rail capacity (without Crossrail the local rail network is likely to be 25% over capacity in the near future)
- Primary schools overcapacity close to growth areas with secondary schools at limited capacity
- The economic resilience of Dartford town centre is restricted by transport issues (congestion and lack of public transport) which put off Investors
- Land capacity to support growth limited by need for enabling infrastructure and/or remediation.
- Development within Borough reliant on investment in new infrastructure projects specifically linked to major development sites.

Total Infrastructure Costs: **£569,050,000**

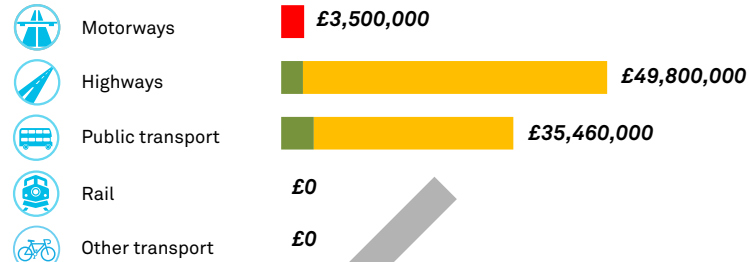
Total Secured Funding: **£126,660,000**

Total Expected Funding: **£379,770,000**

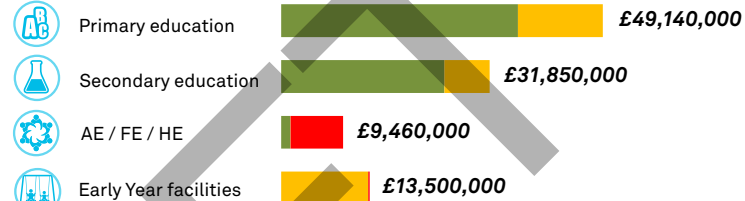
Total Funding Gap: **£62,620,000**

% of Infrastructure Funded: **89%**

TRANSPORT



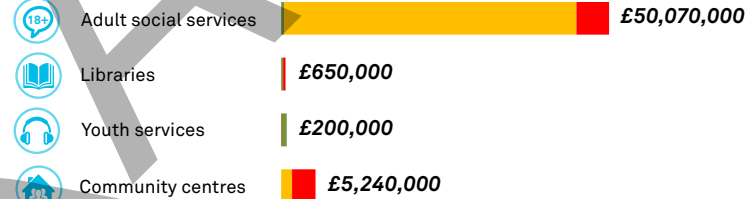
EDUCATION



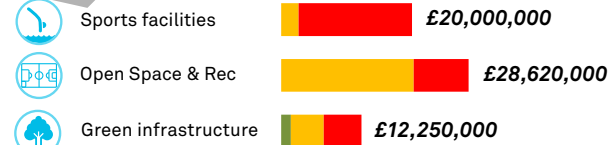
HEALTH



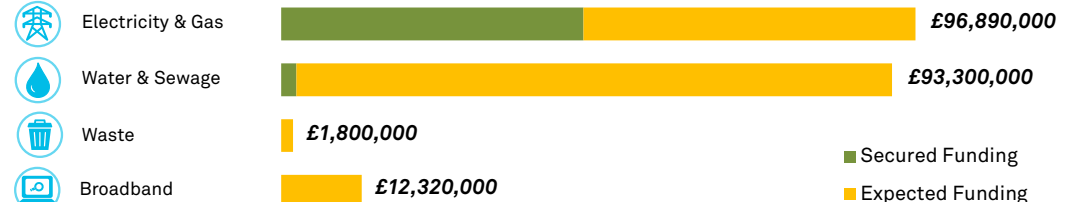
COMMUNITY



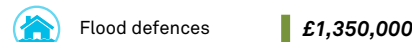
GREEN INFRASTRUCTURE



UTILITIES



FLOOD DEFENCES



■ Secured Funding
 ■ Expected Funding
 ■ Funding Gap

SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

MAJOR HOUSING DEVELOPMENT

- “Ebbsfleet Garden City” - Eastern Quarry - 6,250 units; Ebbsfleet - 2,320 units; Ebbsfleet Green (Formerly Northfleet West Sub Station) - 950 units
- Northern Gateway East and Millpond - 2,450 units
- Thames Europort - 850 units
- The Bridge - 830 units

FLOOD DEFENCES

- Thames Estuary Phase 1 Programme
- Dartford Flood Alleviation Scheme

EBBSFLEET GARDEN CITY

- Ebbsfleet Development Corporation now in place to assist in delivery of Garden City including significant infrastructure requirement in Dartford and Gravesham boroughs
- Includes Eastern Quarry, Ebbsfleet Green, Ebbsfleet Valley
- Emerging proposals for London Paramount theme park set to have further implications for

TRANSPORT

- Lower Thames Crossing (location not confirmed) to alleviate Dartford crossing in order to facilitate growth
- Expansion of Fastrack Bus Network to support growth in Dartford and at Ebbsfleet and a requirement to achieve modal shift to alleviate highway impacts
- London Paramount proposals will require significant infrastructure
- A2 Green Strategic junction improvements including new bridge
- Strategic Junction improvements at Ebbsfleet / A2 interchange

HEALTH

- Notable Primary Care and other healthcare capacity Issues close to major development sites will require improvements

COMMUNITY

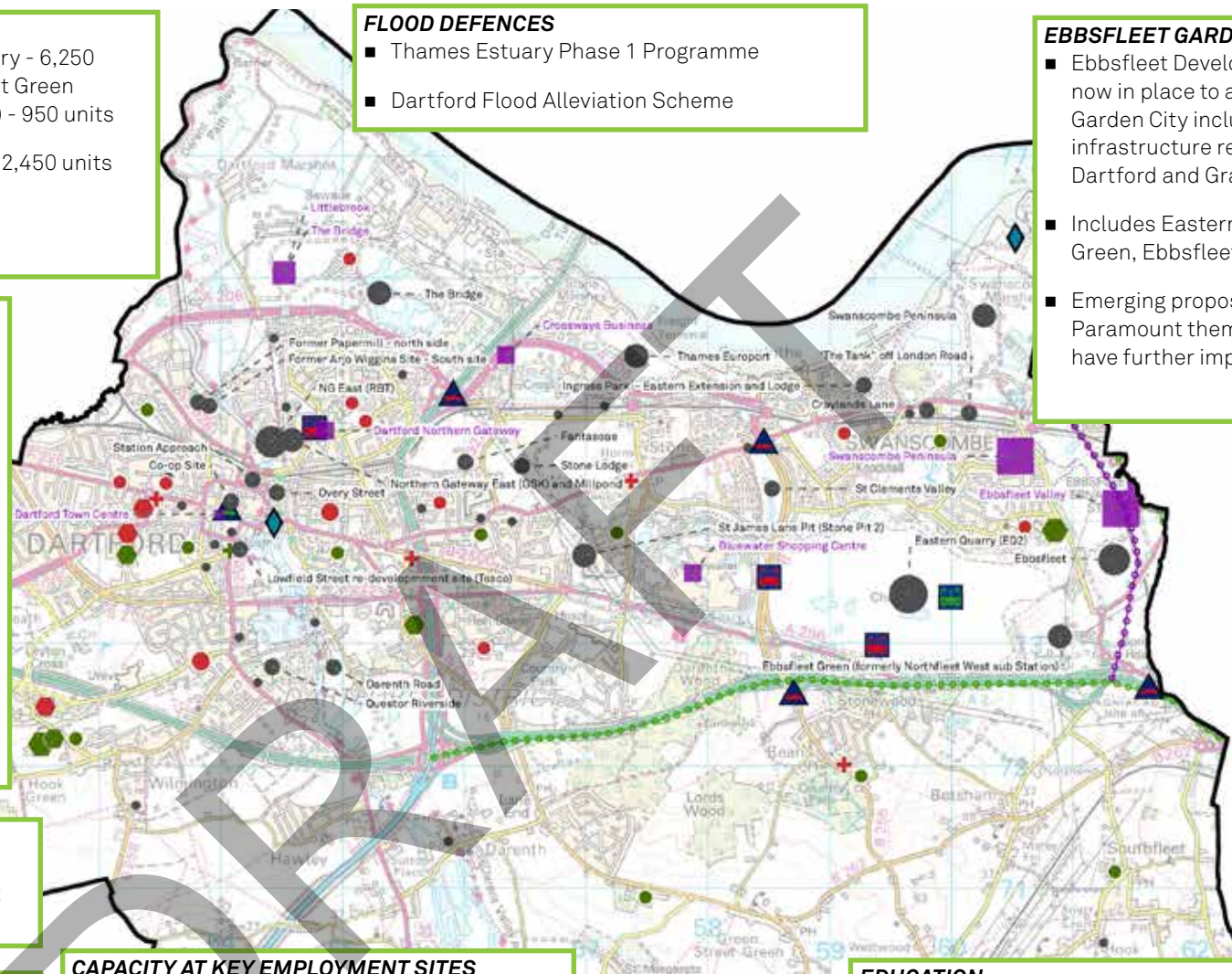
- PFI Excellent homes for All (Dartford)

CAPACITY AT KEY EMPLOYMENT SITES

- Swanscombe Peninsula - 747,000 sqm
- Ebbsfleet Valley - 657,000 sqm
- The Bridge - 74,000 sqm
- Crossways Business - 42,000 sqm
- Dartford Northern Gateway - 41,000 sqm
- Bluewater Shopping Centre - 31,000 sqm

EDUCATION

- New Primary School Provision at Northern Gateway, Eastern Quarry, Ebbsfleet, St James Lane Pit, Northfleet West Sub Station
- New 8FE Secondary at Eastern Quarry
- Potential for additional primary and secondary provision to support growing demand
- Life Long Learning Centre at Eastern Quarry



SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN DARTFORD

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5.4 DOVER

10,000
new homes
(+19%)

18,900
new people
(+17%)

400
new jobs
(+1%)

to 2031

EXISTING CAPACITY ISSUES

- Port activity causes congestion on A20 and A2 corridors
- Development in the north of Dover dependent upon delivery of public transport connectivity
- Significant capacity issues at primary schools around Dover and Deal (although authority-wide surplus)
- Secondary school capacity limited near sites in Dover (although small authority-wide surplus)
- GP capacity surplus across authority
- Authority wide dental capacity low
- developments identified within Flood Zone 3

Total Infrastructure Costs: **£369,200,000**

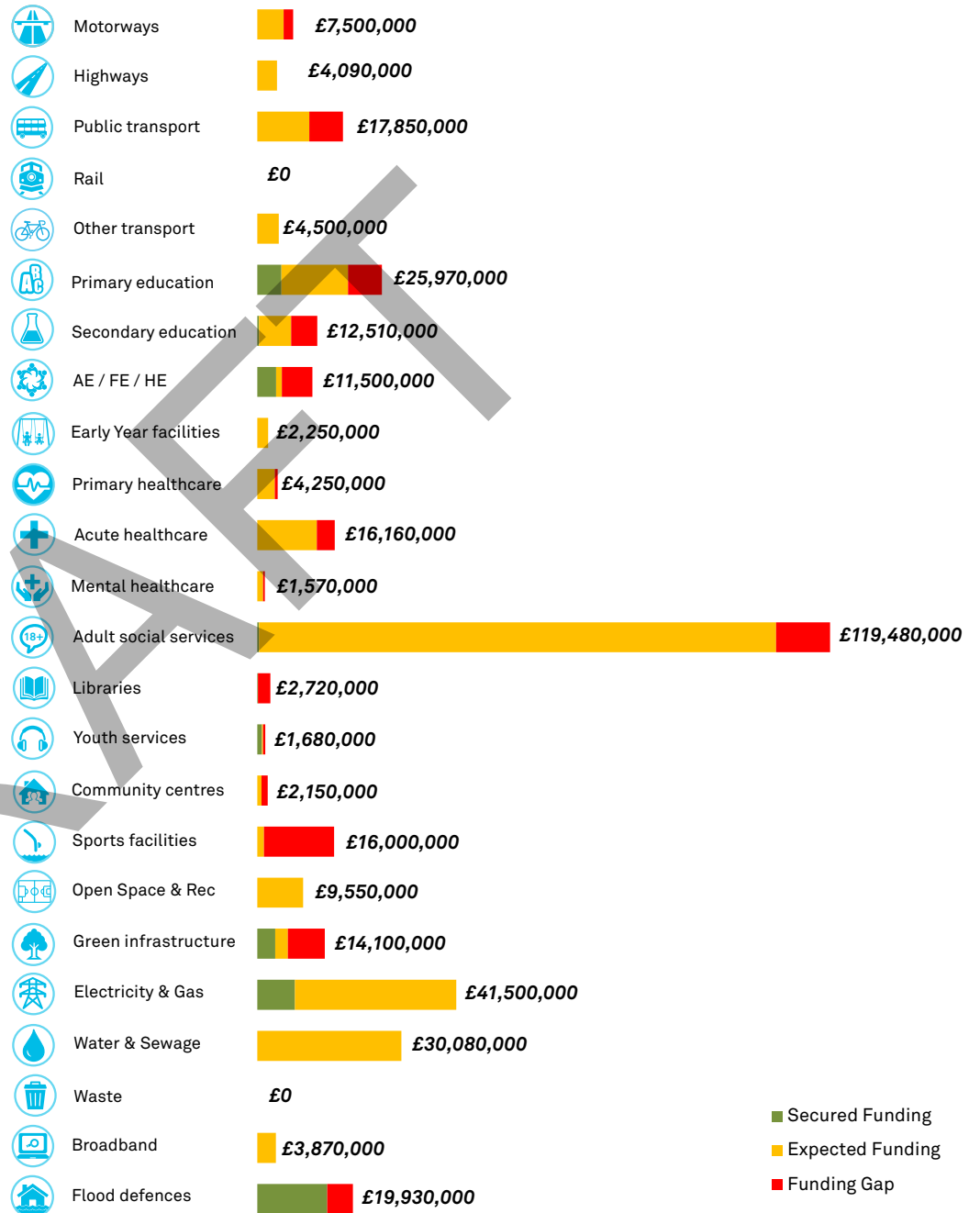
Total Secured Funding: **£37,000,000**

Total Expected Funding: **£256,360,000**

Total Funding Gap: **£75,840,000**

% of Infrastructure Funded: **79%**

TRANSPORT



EDUCATION



HEALTH



COMMUNITY



GREEN INFRASTRUCTURE



UTILITIES



FLOOD DEFENCES



■ Secured Funding
■ Expected Funding
■ Funding Gap

SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

MAJOR HOUSING DEVELOPMENT

- Whitfield - 3,240 units
- Aylesham - 1,000 units
- Farthingloe & Western Heights - 560 units
- Connaught Barracks - 500 units

COMMUNITY

- New Deal youth Centre
- Excellent Homes for All (Dover)

EDUCATION

- New Primary Schools at Whitfield Development
- Expansion of Secondary schools from 2018

FLOOD DEFENCES

- Sandwich Town Tidal Defences
- Sandwich Bay Sea Defence (Deal)
- Dover Flood Alleviation Scheme

TRANSPORT - A20

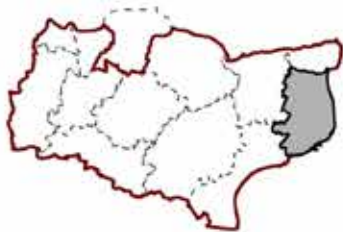
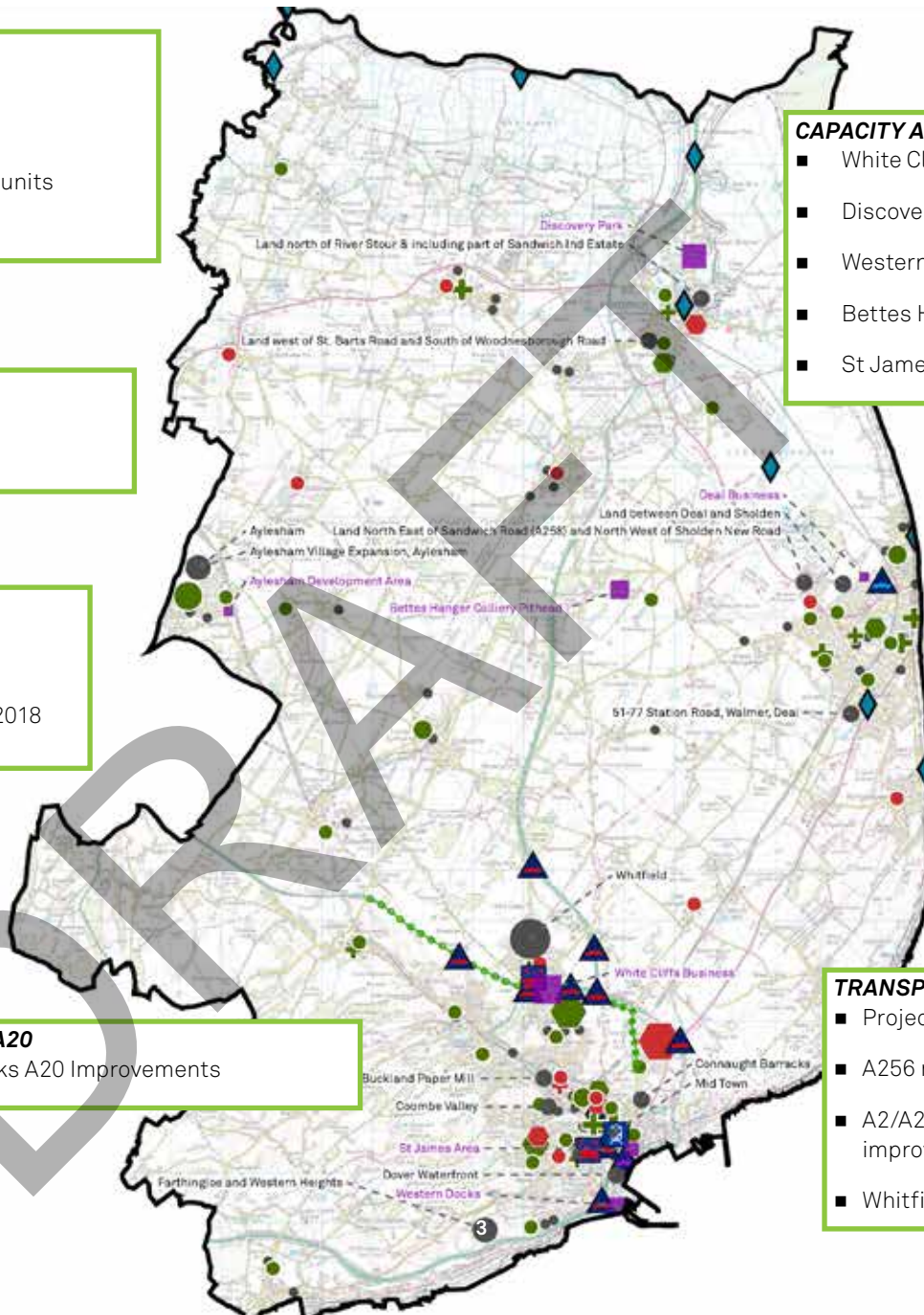
- Western Docks A20 Improvements

CAPACITY AT KEY EMPLOYMENT SITES

- White Cliffs Business Park - 125,000 sqm
- Discovery Park - 100,000 sqm
- Western Docks - 24,000 sqm
- Bettes Hanger Colliery Pithead - 22,000 sqm
- St James Area - 11,000 sqm

TRANSPORT

- Projects to facilitate development at Whitfield
- A256 new Junction
- A2/A258 Duke of York roundabout improvement
- Whitfield BRT - A2 bridge



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SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN DOVER

5.5 GRAVESHAM

7,100
new homes
(+17%)

12,400
new people
(+12%)

7,000
new jobs
(+22%)

to 2031

EXISTING CAPACITY ISSUES

- Congestion on the A2 constrains performance of the local road network
- Further expansion of Fastrack network across Gravesham required to improve public transport access
- Primary schools currently over-subscribed around major sites (and limited authority-wide capacity)
- Urban school capacity is a growing issues – currently primary level but a growing cohort bulge will hit secondary capacity in a few years
- GPs capacity deficit close to major sites and across authority
- The capacity and operations of Darent Valley Hospital are critical to Gravesham (although not located in the borough)

Total Infrastructure Costs: **£172,120,000**

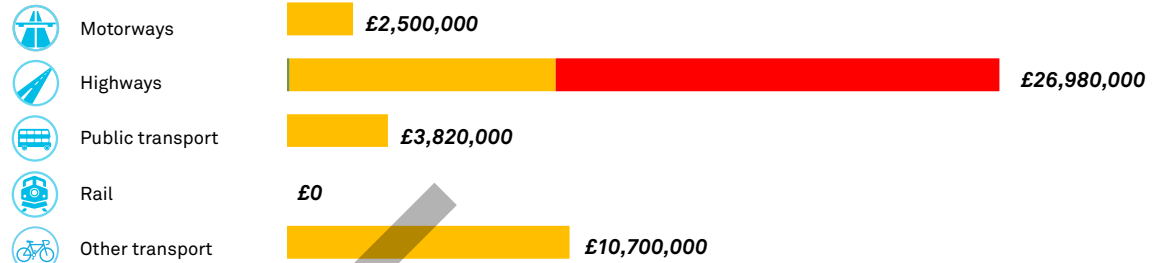
Total Secured Funding: **£12,340,000**

Total Expected Funding: **£121,170,000**

Total Funding Gap: **£38,600,000**

% of Infrastructure Funded: **78%**

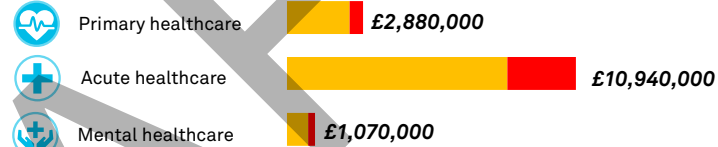
TRANSPORT



EDUCATION



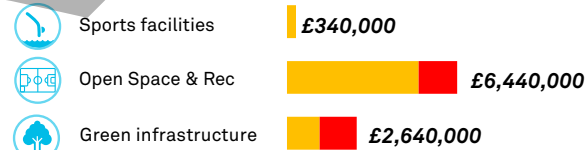
HEALTH



COMMUNITY



GREEN INFRASTRUCTURE



UTILITIES



FLOOD DEFENCES



■ Secured Funding
■ Expected Funding
■ Funding Gap

SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

EBBSFLEET GARDEN CITY

- Ebbsfleet Development Corporation now in place to assist in delivery of Garden City including significant infrastructure requirement in Dartford and Gravesham boroughs
- Includes Springhead Quarter, Northfleet Rise, Northfleet Embankment East and Northfleet Embankment West.

EDUCATION

- New primary school at Gravesend South West and Northfleet
- Expansion of existing schools at Gravesend South West, North and Lawn Primary

HEALTH

- Notable Primary Care capacity Issues Close to major development sites will require capacity improvements

FLOOD DEFENCES / ECOLOGY

- South Thames Estuary and Marshes Water Level Management Plan

TRANSPORT

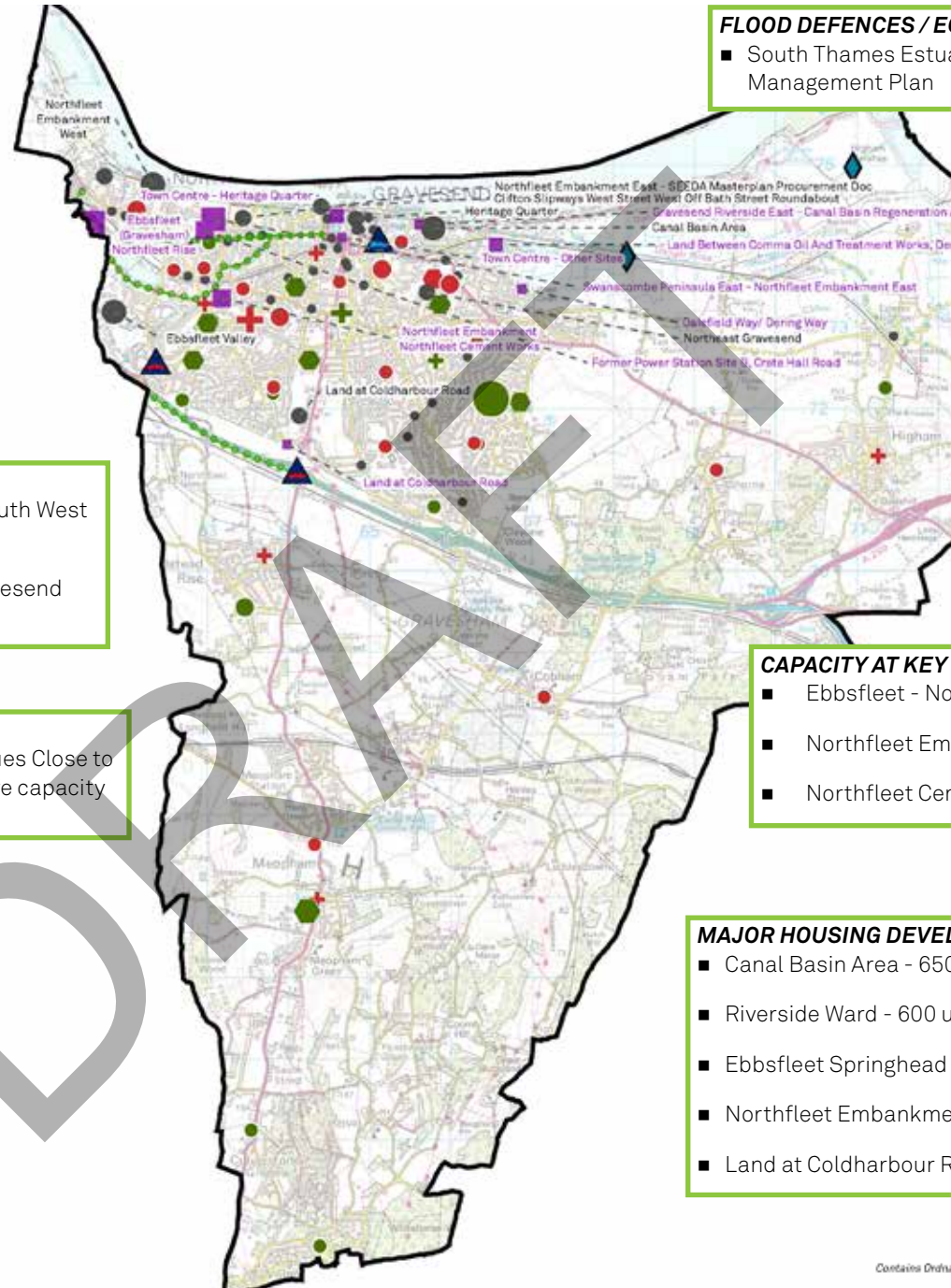
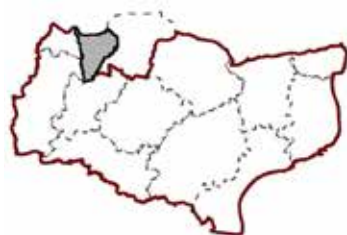
- Lower Thames Crossing (location not confirmed)
- Expansion of Fastrack bus network link between Northfleet and Ebbsfleet stations required to facilitate interchange
- Increasing Capacity at Gravesend to facilitate development at multiple sites - A226 Thames Way duelling, Rathmore Road link, Springhead bridge

CAPACITY AT KEY EMPLOYMENT SITES

- Ebbsfleet - Northfleet Rise - 124,000 sqm
- Northfleet Embankment East - 88,000 sqm
- Northfleet Cement Works - 46,000 sqm

MAJOR HOUSING DEVELOPMENT

- Canal Basin Area - 650 units
- Riverside Ward - 600 units
- Ebbsfleet Springhead Quarter - 589 units
- Northfleet Embankment West - 532 units
- Land at Coldharbour Road - 500 units



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5.6 MAIDSTONE

16,200 new homes (+25%)
30,000 new people (+19%)
12,000 new jobs (+16%)
to 2031

EXISTING CAPACITY ISSUES

- Town centre gyratory congested
- M20 congested during peak periods
- A229 corridor and junctions with M2 and M20 congested
- Poor rail connectivity
- Primary schools overcapacity close to major sites (but authority-wide surplus)
- GP capacity surplus across authority

Total Infrastructure Costs: **£371,540,000**

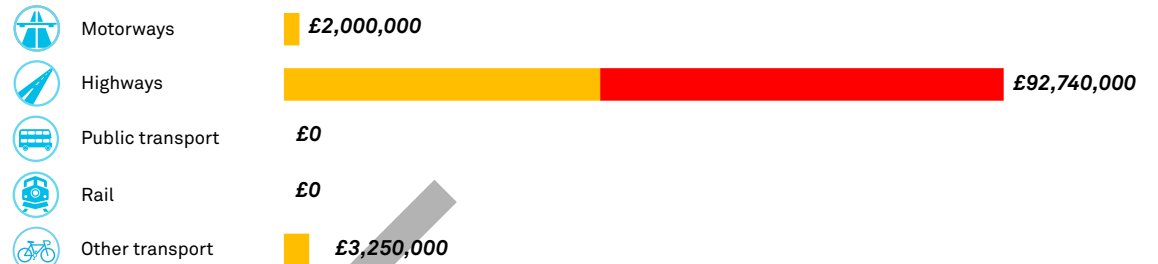
Total Secured Funding: **£20,570,000**

Total Expected Funding: **£226,480,000**

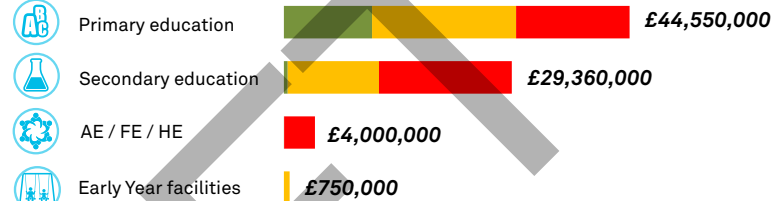
Total Funding Gap: **£124,480,000**

% of Infrastructure Funded: **66%**

TRANSPORT



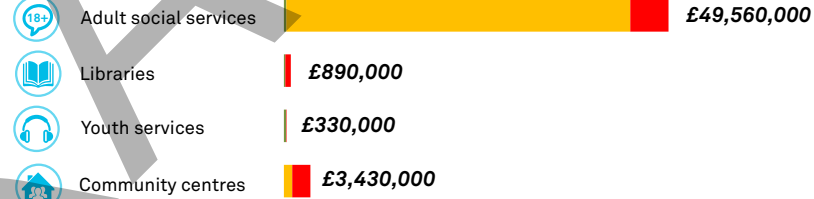
EDUCATION



HEALTH



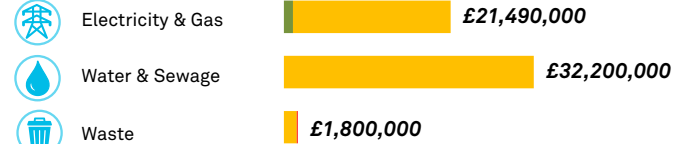
COMMUNITY



GREEN INFRASTRUCTURE



UTILITIES



FLOOD DEFENCES



■ Secured Funding
 ■ Expected Funding
 ■ Funding Gap

SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

TRANSPORT - NORTH WEST

- 'Smart ' Motorway (managed) on M20 Jct 3 -5 to improve capacity

CAPACITY AT KEY EMPLOYMENT SITES

- Newnham Park (inc. Medical Campus) - 115,000 sqm
- West of Wheelbarrow Industrial Estate - 15,000 sqm
- Honeycrest Industrial Park - 11,000 sqm
- Maidstone East and Sorting Office - 10,000 sqm
- Former Syngenta Works - 8,600 sqm

MAJOR HOUSING DEVELOPMENT

- Lenham & Harrietsham - 1,500 units
- Invicta Park Barracks - 1,300 units
- Hermitage Lane - (East & West) - 830 units
- Langley Park - 600 units
- Springfield, Maidstone - 500 units

TRANSPORT - MAIDSTONE

- M20 Junction 7 Improvements
- Maidstone Integrated Transport Package
- Thameslink extension to Maidstone East 2018

TRANSPORT - SOUTHEAST OF MAIDSTONE

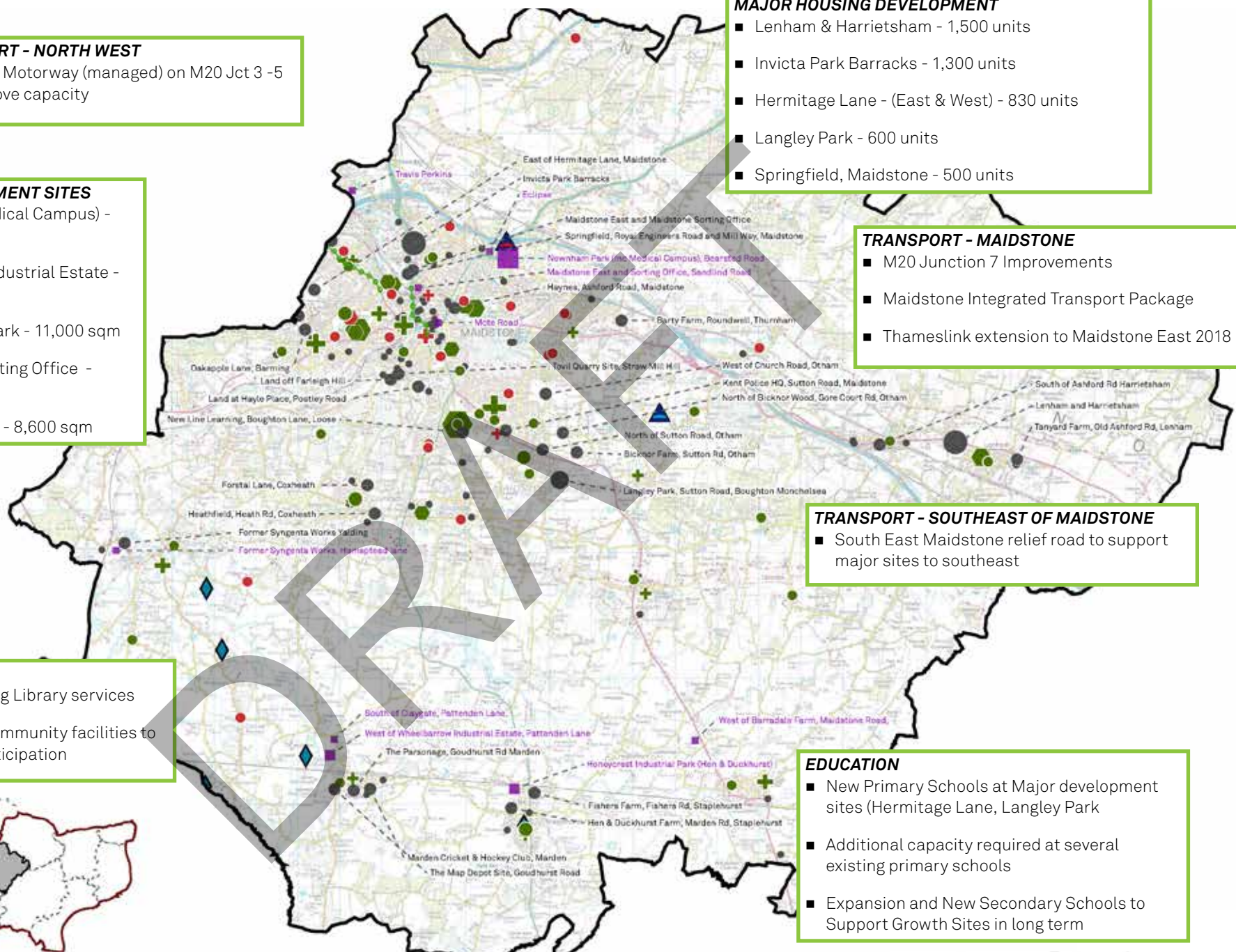
- South East Maidstone relief road to support major sites to southeast

COMMUNITY

- Enhancements to existing Library services
- Adaptation of existing community facilities to support wider client participation

EDUCATION

- New Primary Schools at Major development sites (Hermitage Lane, Langley Park)
- Additional capacity required at several existing primary schools
- Expansion and New Secondary Schools to Support Growth Sites in long term



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SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN MAIDSTONE

5.7 MEDWAY

22,100 new homes (+20%)
42,600 new people (+16%)
20,100 new jobs (+20%)

to 2031

EXISTING CAPACITY ISSUES

- Congestion issues on the A289 and A228
- Congestion issues on the A2 corridor
- Limited existing primary and secondary school capacity in urban areas, although net surplus across the local authority area when rural schools are considered.
- Deficit in number of GPs required to support existing and proposed population across Medway
- Uncertainty over future needs and plans of Medway Maritime Hospital
- Need for strategic ecological mitigation to enable and support housing growth
- Flood risk issues for Medway

Total Infrastructure Costs: **£626,750,000**

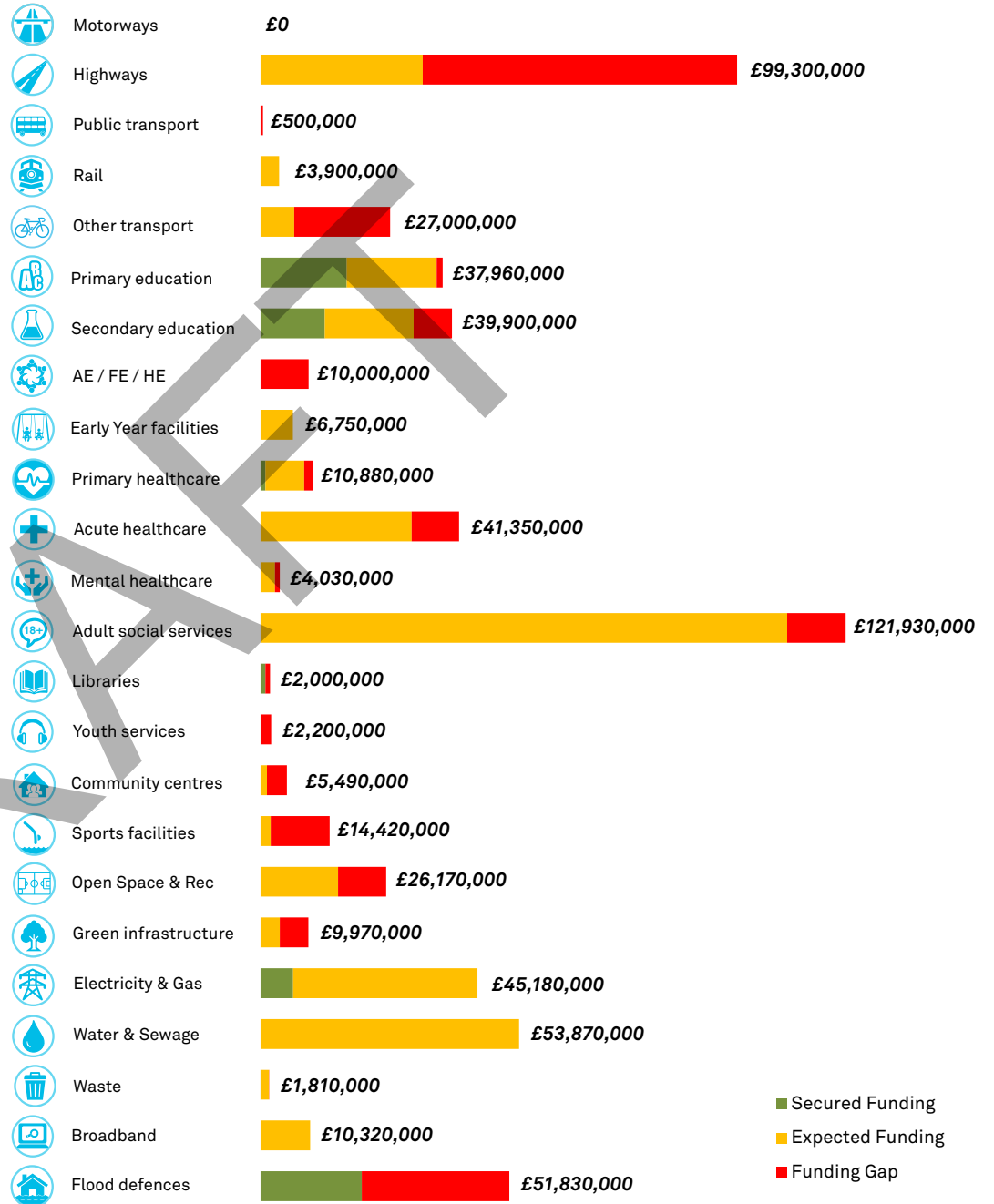
Total Secured Funding: **£61,510,000**

Total Expected Funding: **£368,930,000**

Total Funding Gap: **£196,320,000**

% of Infrastructure Funded: **69%**

TRANSPORT



SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

TRANSPORT

- A289 Four Elms to Medway Tunnel improvements
- A228 Grain Crossing Removal to improve access to London Thamesport
- Improvements to the A229 corridor between Maidstone and Medway Towns
- Strood and Chatham Town Centre Improvements
- Public Transport Improvements through the Medway Towns Integrated Transport Project
- Rail improvements at Strood and Chatham Stations.

FLOOD DEFENCES

- Middle Medway Strategy Stand Alone Defences providing strategic flood mitigation
- Flood defence schemes required for key urban regeneration sites

CAPACITY AT KEY EMPLOYMENT SITES

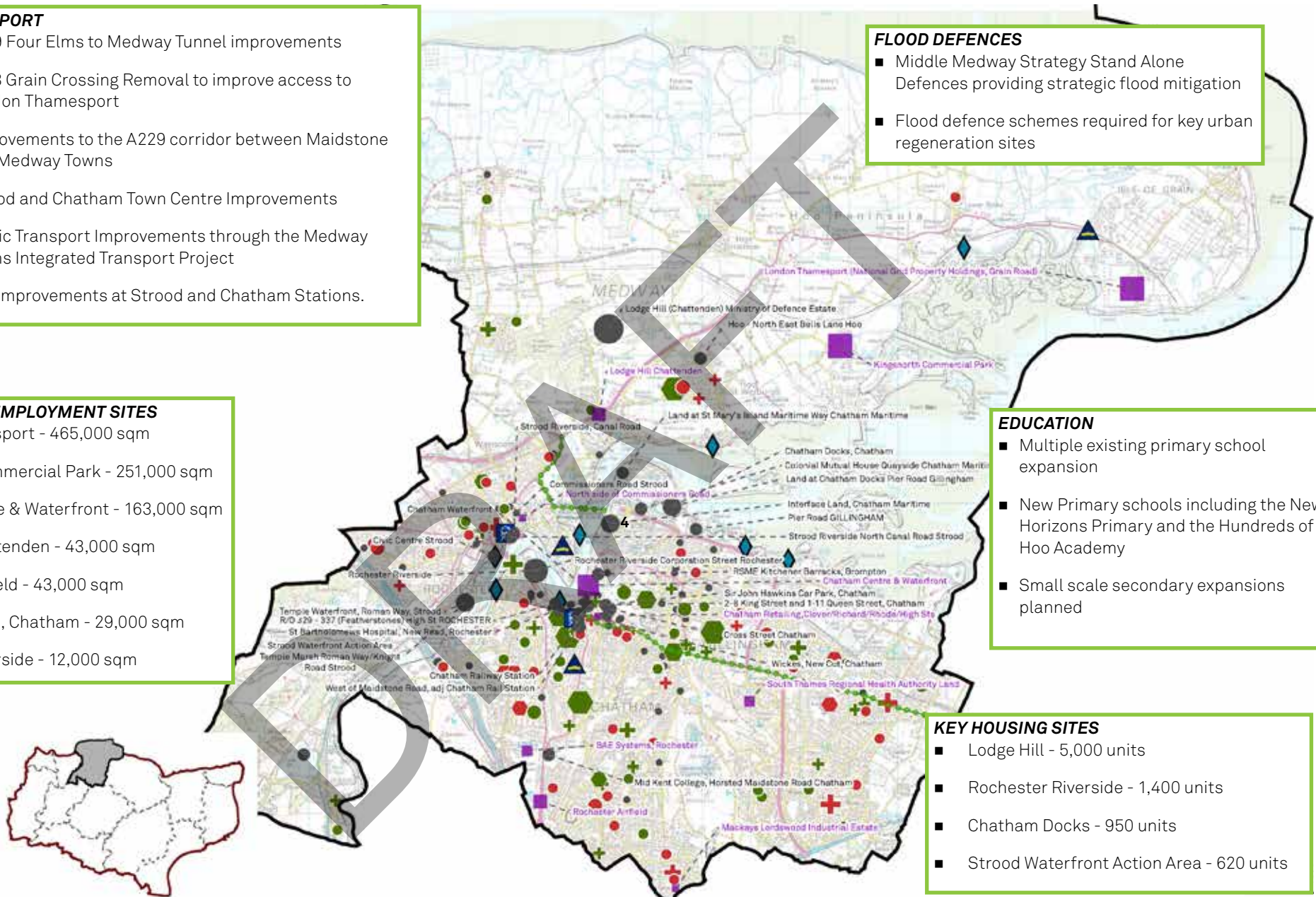
- London Thamesport - 465,000 sqm
- Kingsnorth Commercial Park - 251,000 sqm
- Chatham Centre & Waterfront - 163,000 sqm
- Lodge Hill Chattenden - 43,000 sqm
- Rochester Airfield - 43,000 sqm
- Chatham Docks, Chatham - 29,000 sqm
- Rochester Riverside - 12,000 sqm

EDUCATION

- Multiple existing primary school expansion
- New Primary schools including the New Horizons Primary and the Hundreds of Hoo Academy
- Small scale secondary expansions planned

KEY HOUSING SITES

- Lodge Hill - 5,000 units
- Rochester Riverside - 1,400 units
- Chatham Docks - 950 units
- Strood Waterfront Action Area - 620 units



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SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN MEDWAY

5.8 SEVENOAKS

3,600
new homes
(+7%)

1,600
new people
(+1%)

7,000
new jobs
(+15%)

to 2031

EXISTING CAPACITY ISSUES

- M25/M26 junction has restricted movements resulting in appropriate use of local roads
- M26 congested but no scheme currently verified
- Congestion in Sevenoaks town with a need for Urban Traffic management Control (UTMC)
- Primary schools overcapacity around major sites (although authority-wide surplus)
- Water supply capacity linked to pressures on Thames Water supply from London growth

Page 96

Total Infrastructure Costs: **£190,610,000**

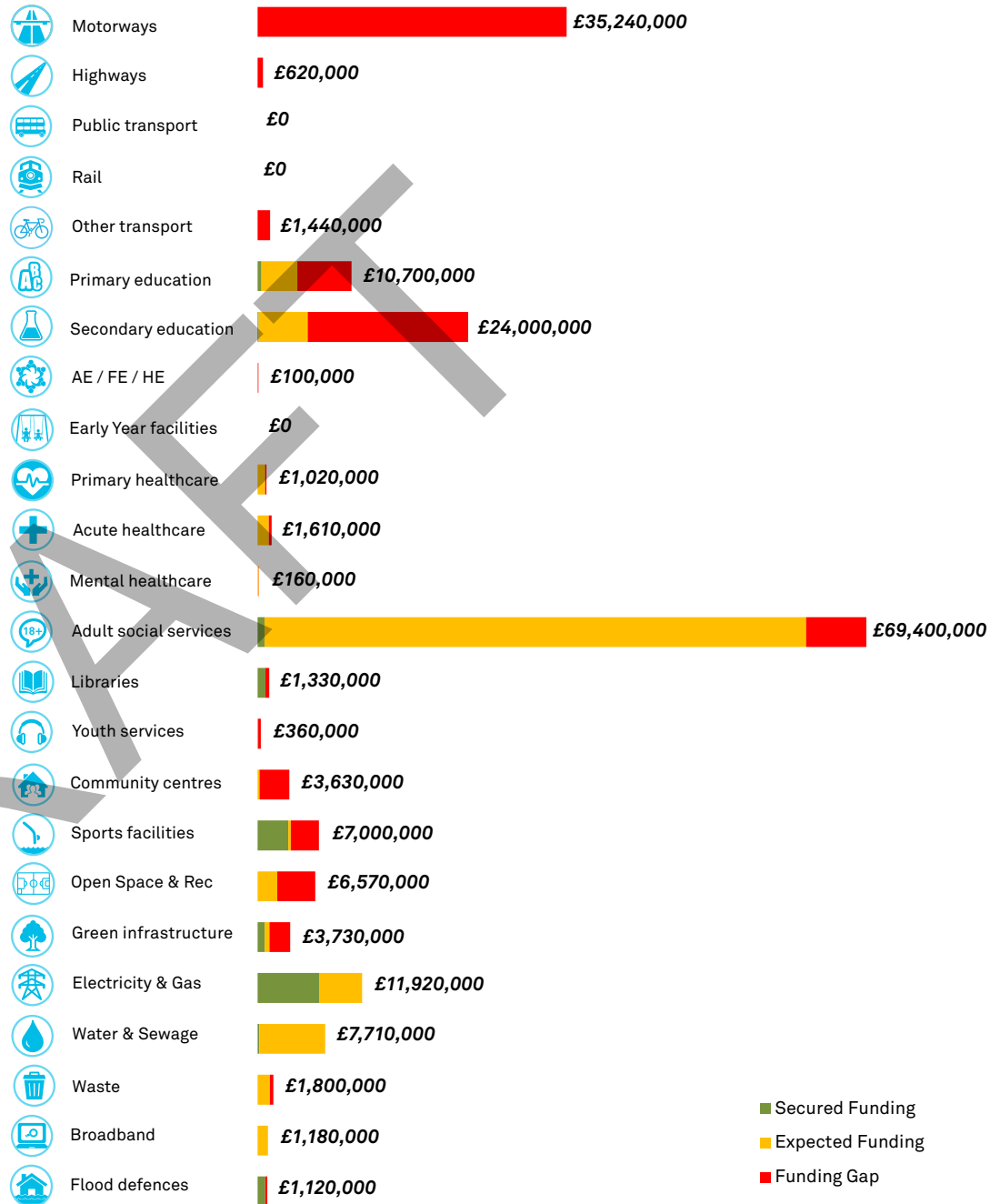
Total Secured Funding: **£14,730,000**

Total Expected Funding: **£91,990,000**

Total Funding Gap: **£83,890,000**

% of Infrastructure Funded: **56%**

TRANSPORT



EDUCATION



HEALTH



COMMUNITY



GREEN INFRASTRUCTURE



UTILITIES



FLOOD DEFENCES



■ Secured Funding
■ Expected Funding
■ Funding Gap

SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

COMMUNITY

- Redevelopment of Sevenoaks Community Centre
- Swanley Gateway Development

CAPACITY AT KEY EMPLOYMENT SITES

- Fort Halsted - 24,000 sqm
- Broom Hill, Swanley - 12,000 sqm
- Swanley Centre, Nightingale Way - 10,500 sqm

MAJOR HOUSING DEVELOPMENT

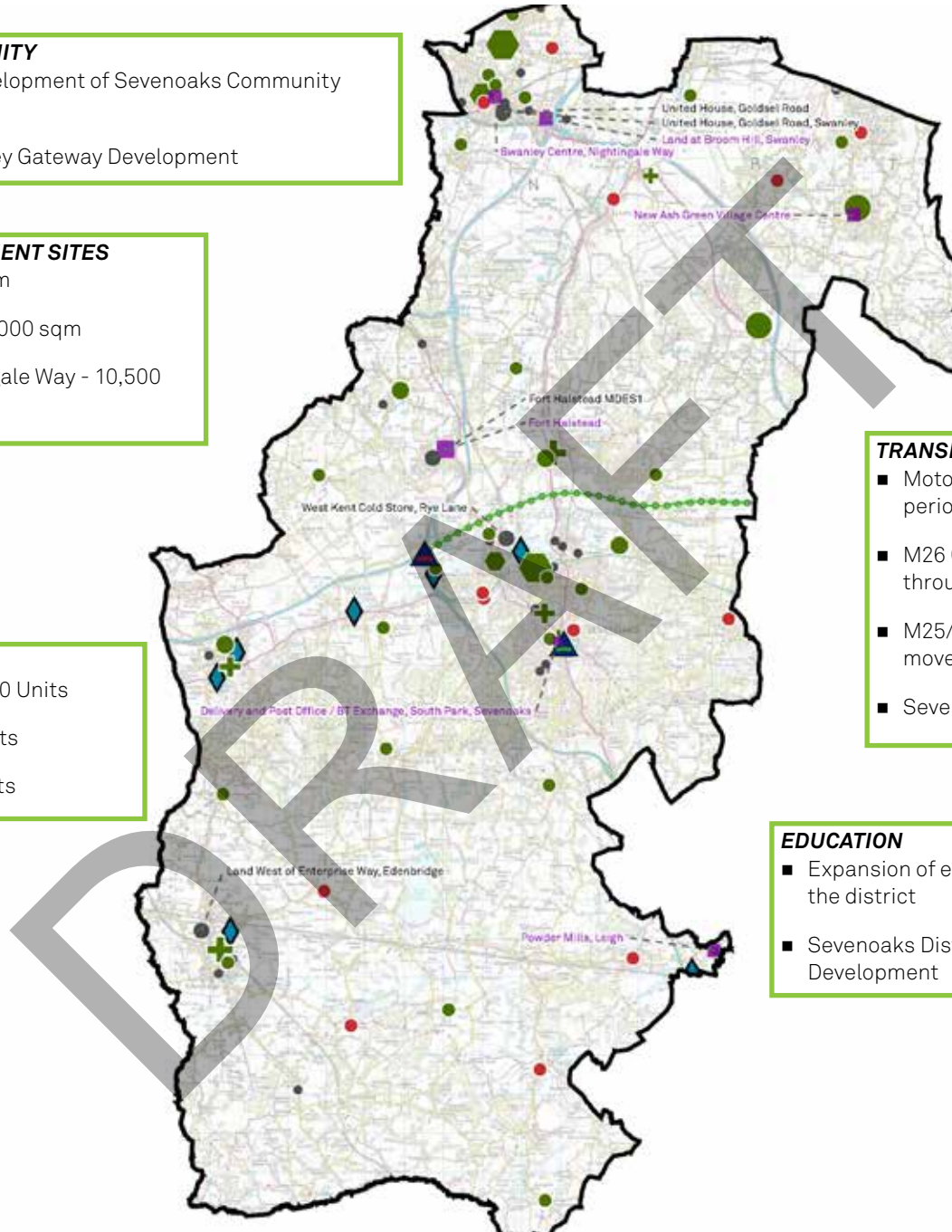
- West Kent Cold Store, Rye Lane - 500 Units
- Fort Halstead, Edenbridge - 450 Units
- Enterprise Way, Edenhead - 276 Units

TRANSPORT

- Motorway congestion on M25 and M26 at peak periods
- M26 Capacity Improvements required such as through use of 'Smart Motorway' system.
- M25/M26 East Facing slip roads to alleviate movement restrictions
- Sevenoaks UTMC & HGV monitoring

EDUCATION

- Expansion of existing primary schools across the district
- Sevenoaks District Secondary School Development



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SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN SEVENOAKS

5.9 SHEPWAY

8,600
new homes
(+17%)

12,400
new people
(+11%)

500
new jobs
(+1%)

to 2031

EXISTING CAPACITY ISSUES

- **A20 Congestion issues due to Port Activity**
- **Congestion within Folkestone (a number of schemes already identified)**
- **Primary schools overcapacity around Folkestone (although authority-wide surplus)**
- **No notable Secondary school capacity issues (with Folkestone and authority-wide surplus)**
- **Notable GP capacity surplus across authority**
- **Authority wide dental capacity high**
- **Flood risk a significant issue for existing and proposed development, with ongoing investment requirements.**

Total Infrastructure Costs: **£352,190,000**

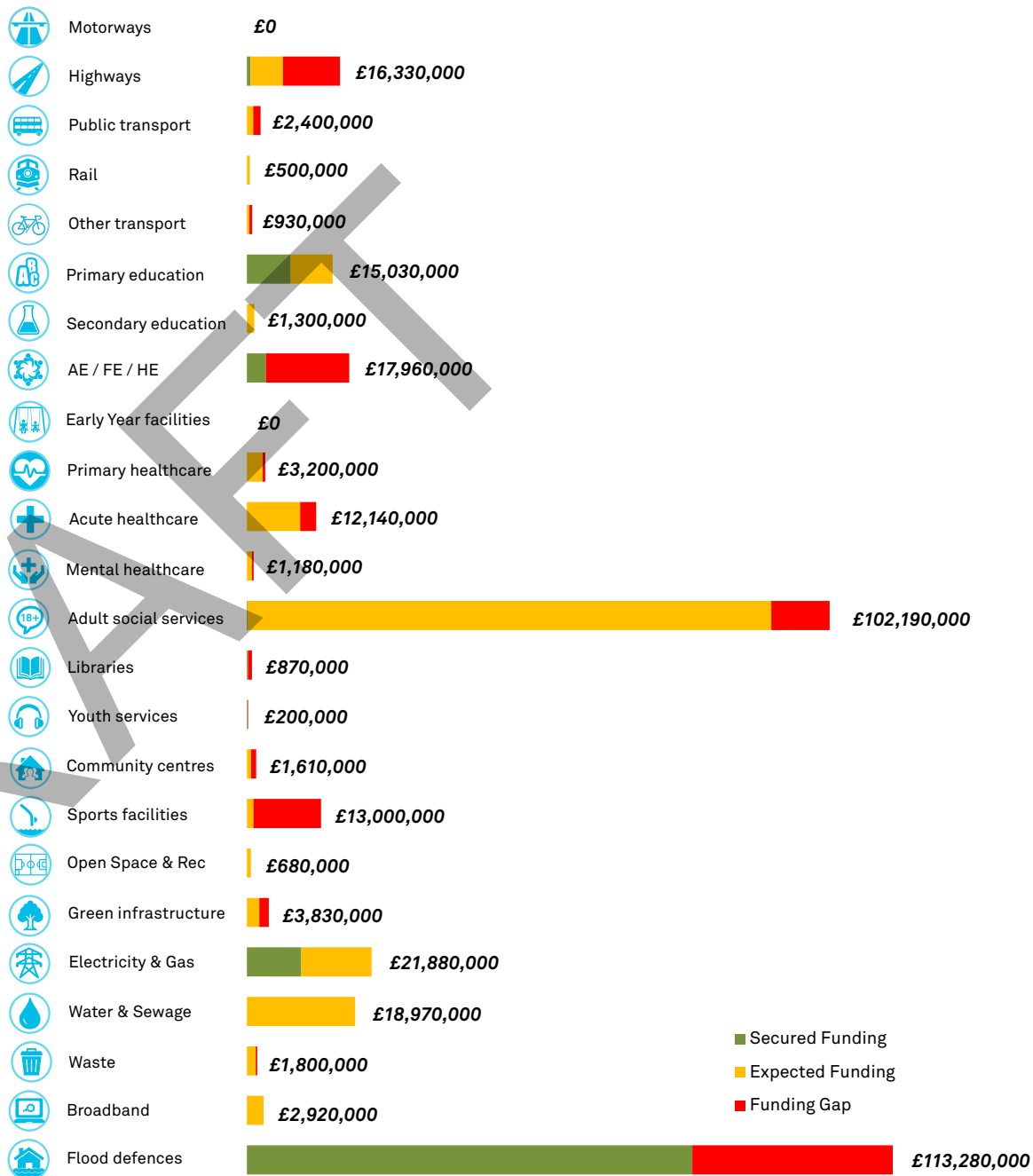
Total Secured Funding: **£99,770,000**

Total Expected Funding: **£161,750,000**

Total Funding Gap: **£90,680,000**

% of Infrastructure Funded: **74%**

TRANSPORT



SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

CAPACITY AT KEY EMPLOYMENT SITES

- Link Enterprise Park - 72,000 sqm
- Hawkinge West - 30,000 sqm
- Nickolls Quarry - 21,000 sqm
- Cheriton Parc - 15,000 sqm

EDUCATION

- New Primary schools at Folkestone Major Development Sites
- No Secondary School Issues

COMMUNITY

- Replacement of Hythe Swimming Pool

MAJOR HOUSING DEVELOPMENT

- Nickolls Quarry - 1,050 units
- Folkestone Seafront - 1000 units
- Burgoyne and Somerset Barracks (Shorncliffe Garrison) - 635 units
- Risborough and Napier Barracks (Shorncliffe Garrison) - 560 units

TRANSPORT

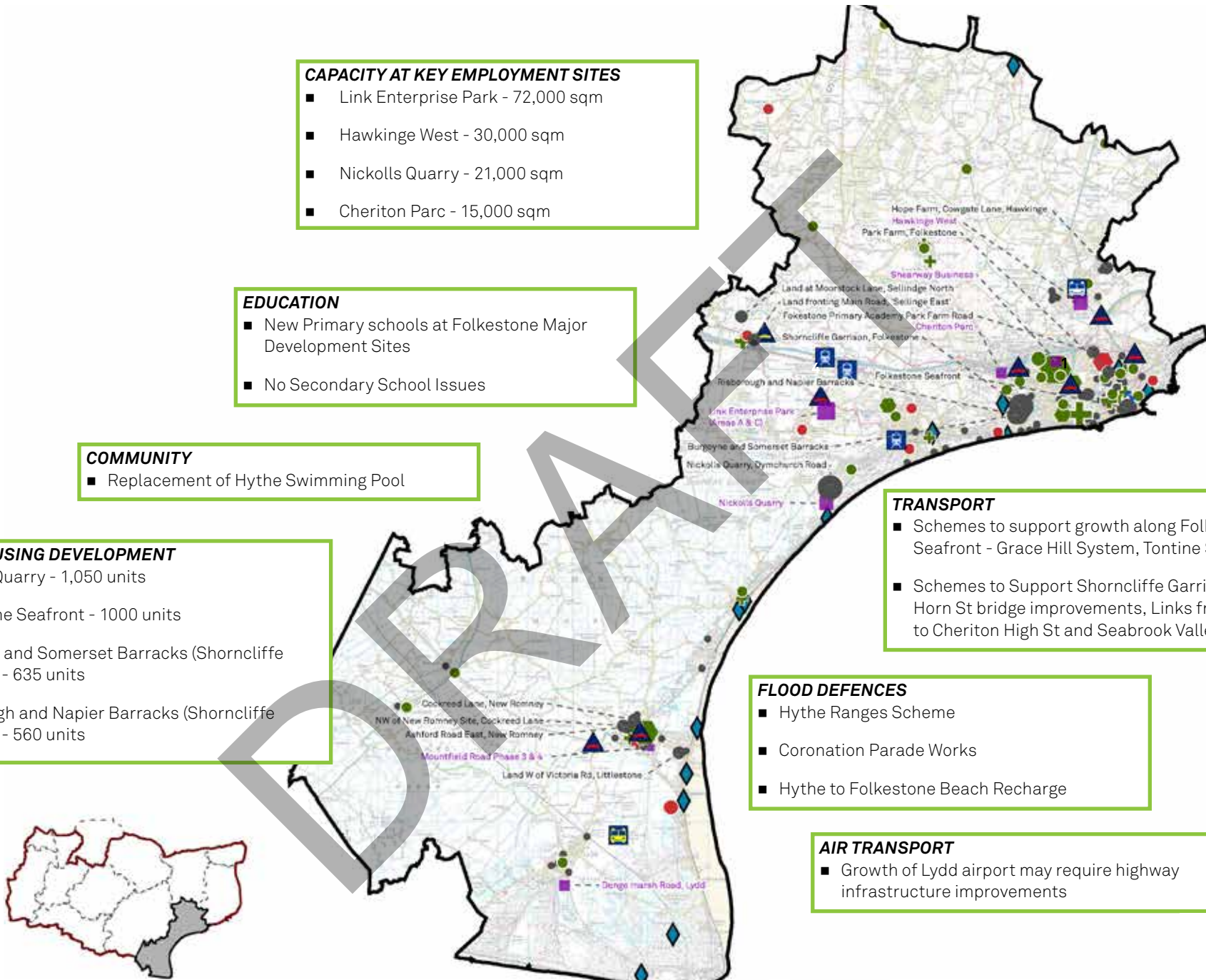
- Schemes to support growth along Folkestone Seafront - Grace Hill System, Tontine St Jcts.
- Schemes to Support Shorncliffe Garrison - Horn St bridge improvements, Links from Site to Cheriton High St and Seabrook Valley

FLOOD DEFENCES

- Hythe Ranges Scheme
- Coronation Parade Works
- Hythe to Folkestone Beach Recharge

AIR TRANSPORT

- Growth of Lydd airport may require highway infrastructure improvements



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SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN SHEPWAY

5.10 SWALE

11,300
new homes
(+19%)

18,100
new people
(+13%)

9,900
new jobs
(+19%)

to 2031

EXISTING CAPACITY ISSUES

- M2 Junction 5 an existing congestion bottleneck
- Improvements at the Grovehurst Junction (A249) needed to release largest strategic allocation and support growth at key employment sites
- Key street junction (A249/A2) limits the capacity for growth in Sittingbourne
- Access to Kent Science Park constraining growth
- Congestion in central Sittingbourne potentially relieved via extension to Sittingbourne Northern Relief Road to the A2, linking with a Southern Relief Road to relieve pressure on the A2
- Limited public transport connection between Sittingbourne and Isle of Sheppey
- Primary schools oversubscribed close to Sheerness and Sittingbourne sites (and authority-wide deficits)
- Secondary school oversubscribed in Sittingbourne (but Sheerness and authority-wide surplus)
- Limited GP capacity across authority

Total Infrastructure Costs: **£495,640,000**

Total Secured Funding: **£35,650,000**

Total Expected Funding: **£309,560,000**

Total Funding Gap: **£150,430,000**

% of Infrastructure Funded: **70%**

TRANSPORT



TRANSPORT



HEALTH



COMMUNITY



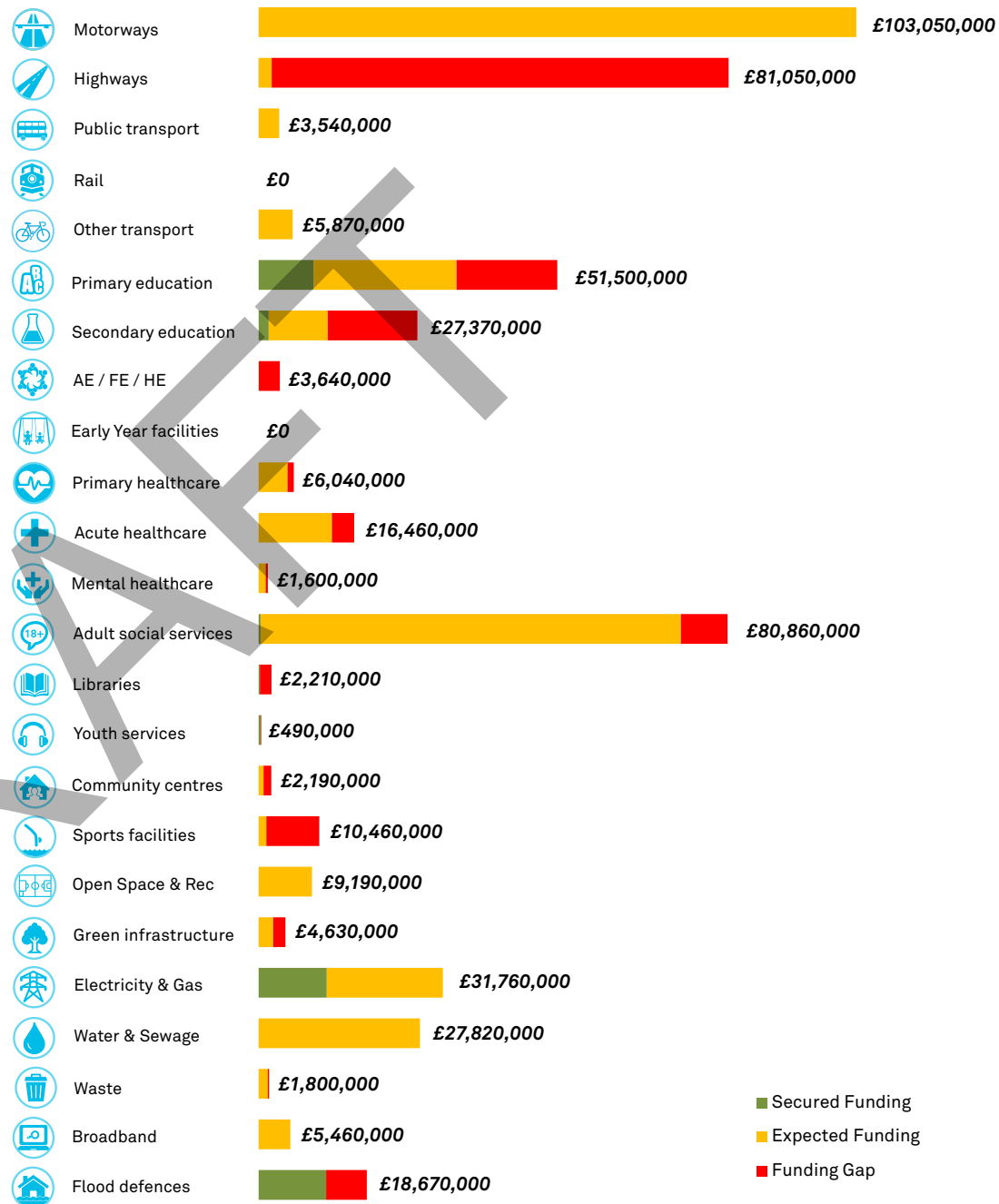
GREEN INFRASTRUCTURE



UTILITIES



FLOOD DEFENCES



SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

MAJOR HOUSING DEVELOPMENT

- North East Sittingbourne - 1,160 units
- Stones Farm, Canterbury Road - 550 units
- Queenborough and Rushenden - 1,100 units

FLOOD DEFENCES

- Outfall Replacement
- Iwade Flood Alleviation Scheme

TRANSPORT

- Critical scheme at M2 Junction 5 to support Swale towns, development sites and the County
- Need for improved public transport connections between Sheerness and Sittingbourne
- A249/Grovehurst Road junction key to developing North East Sittingbourne
- Potential to extend Northern relief road to A2 and longer term the M2 to relieve traffic in Sittingbourne and on the A2

HEALTH

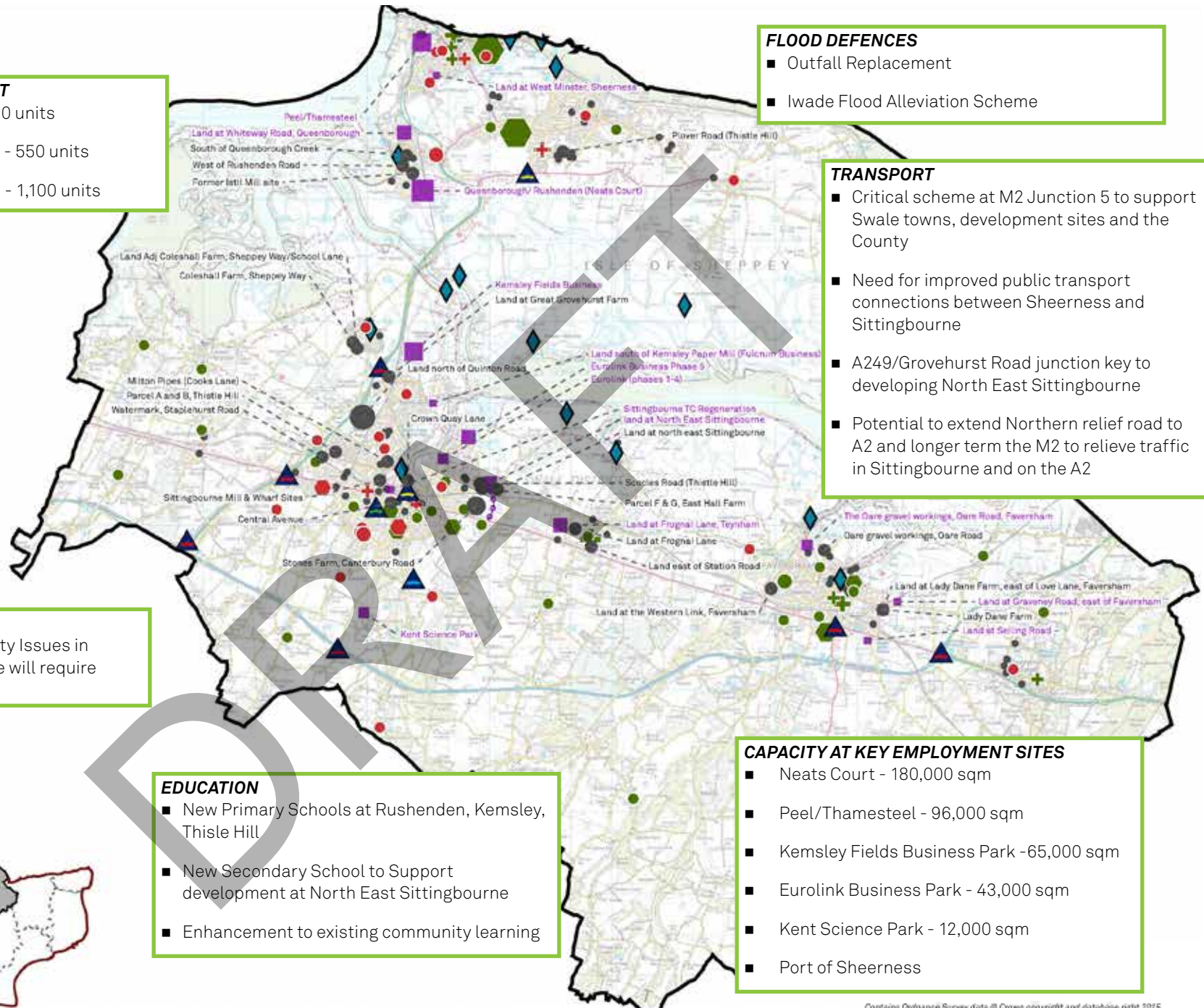
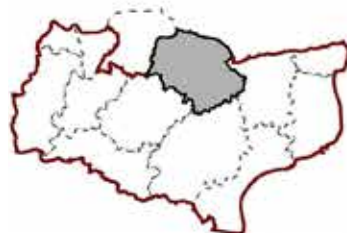
- Notable Primary Care capacity Issues in Sheerness and Sittingbourne will require capacity improvements

EDUCATION

- New Primary Schools at Rushenden, Kemsley, Thistle Hill
- New Secondary School to Support development at North East Sittingbourne
- Enhancement to existing community learning

CAPACITY AT KEY EMPLOYMENT SITES

- Neats Court - 180,000 sqm
- Peel/Thamesteel - 96,000 sqm
- Kemsley Fields Business Park - 65,000 sqm
- Eurolink Business Park - 43,000 sqm
- Kent Science Park - 12,000 sqm
- Port of Sheerness



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SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN SWALE

5.11 THANET

12,000
new homes
(+18%)

23,500
new people
(+17%)

5,000
new jobs
(+11%)

to 2031

EXISTING CAPACITY ISSUES

- Transport improvements to allow for evolution of Westwood Cross
- Improved accessibility to London and rest of Kent through reduced rail times and new parkway station
- Regeneration of coastal towns to stimulate wider investment and meet demands from new development
- Investment in Inner Traffic Circuit to address bottlenecks and unlock development
- Need for new secondary school capacity to respond to growth
- Need to recognise variable land values within the district and address their impact on viability

Total Infrastructure Costs: **£388,170,000**

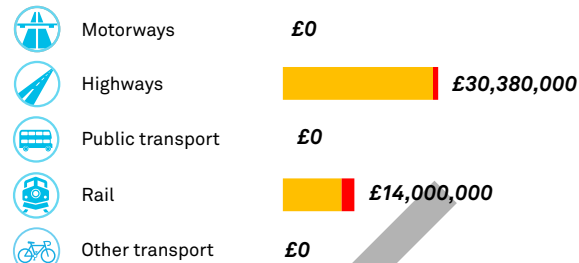
Total Secured Funding: **£39,170,000**

Total Expected Funding: **£283,960,000**

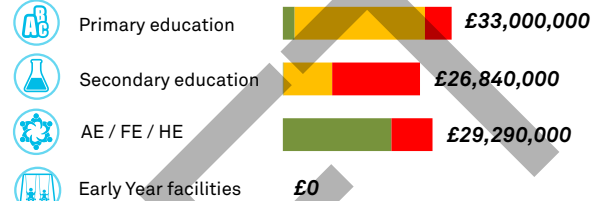
Total Funding Gap: **£65,040,000**

% of Infrastructure Funded: **83%**

TRANSPORT



EDUCATION



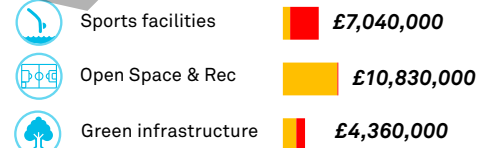
HEALTH



COMMUNITY



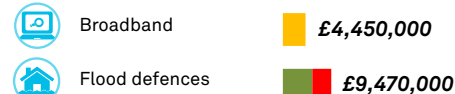
GREEN INFRASTRUCTURE



UTILITIES



FLOOD DEFENCES



■ Secured Funding
■ Expected Funding
■ Funding Gap

SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

HEALTH

- Limited Primary Care capacity across Thanet requiring capacity improvements to support growth

TRANSPORT

- Margate junction improvements unlocking major sites
- Westwood Town Centre Strategy Link Road
- Thanet loop road improvements

CAPACITY AT KEY EMPLOYMENT SITES

- Manston Business Park - 207,000 sqm
- Eurokent Business Park - 106,000 sqm
- Westwood Cross - 36,000 sqm
- Manston Airport - 14,000 sqm
- Thanet Reach Business Park - 11,000 sqm

FLOOD DEFENCES

- Margate Flood Alleviation Scheme

EDUCATION

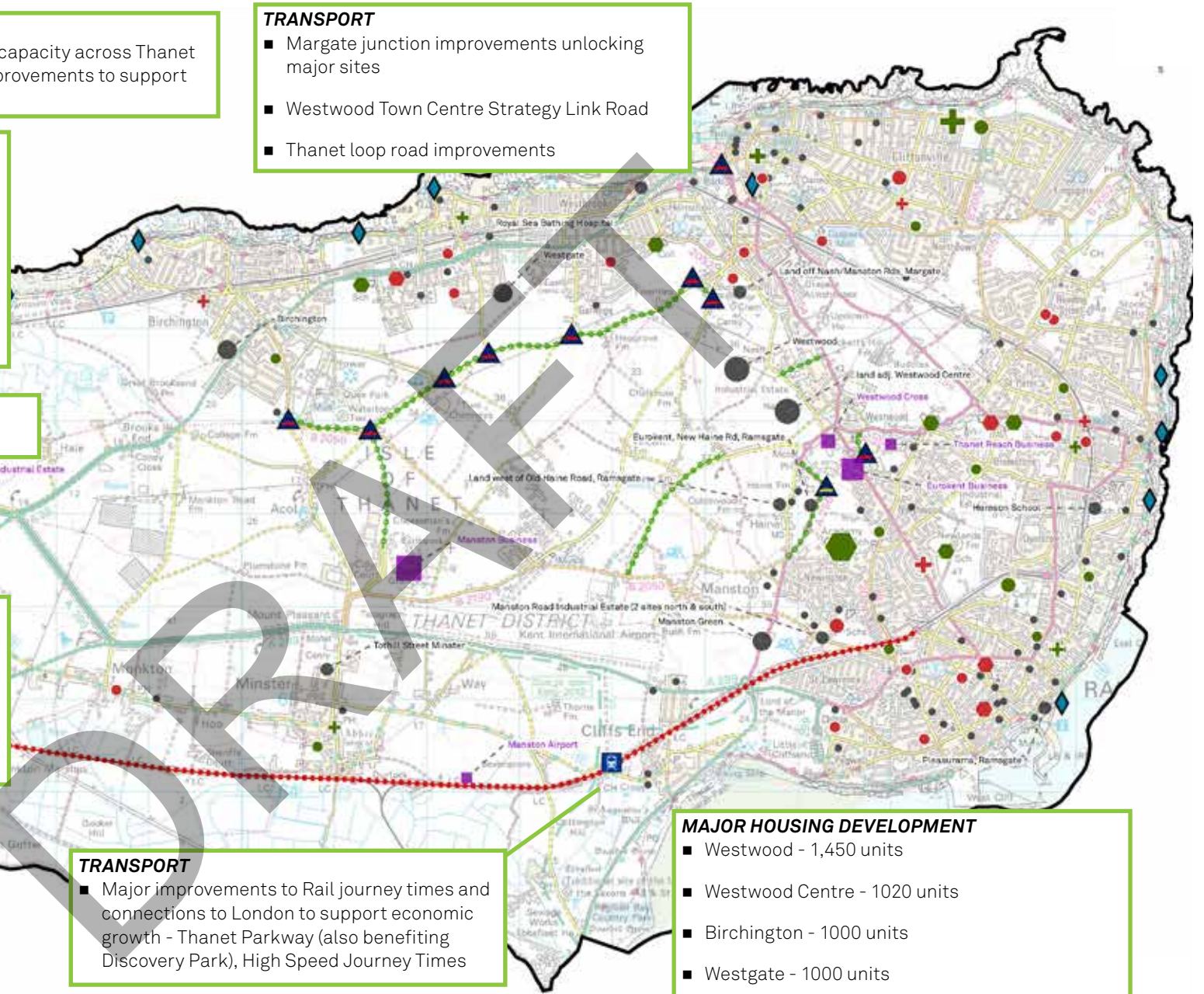
- Capacity issues in primary schools close to major sites
- New Primary schools at Cliftonville, Ramsgate, Westwood, Birchington & Garlinge
- Current capacity in secondary schools

TRANSPORT

- Major improvements to Rail journey times and connections to London to support economic growth - Thanet Parkway (also benefiting Discovery Park), High Speed Journey Times

MAJOR HOUSING DEVELOPMENT

- Westwood - 1,450 units
- Westwood Centre - 1020 units
- Birchington - 1000 units
- Westgate - 1000 units
- Manston Green - 700 units



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SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN THANET

5.12 TONBRIDGE & MALLING

13,300 new homes (+27%)
28,200 new people (+23%)
7,700 new jobs (+13%)

to 2031

EXISTING CAPACITY ISSUES

- Capacity issues in north closely linked to Maidstone issues
- M20, A228 corridor, A20 corridor and A26 (Wateringbury) congestion
- Congestion within Tonbridge town centre
- Rail congestion through commuters outside Tonbridge and Malling accessing rail services at Tonbridge, and connecting to London Cannon St - resulting in overcrowding at Tonbridge
- GP capacity issues within Tonbridge urban area
- 11% of developments have been identified as potentially unsuitable within Flood Zone 3 (highest of Kent authorities)

Total Infrastructure Costs: **£226,280,000**

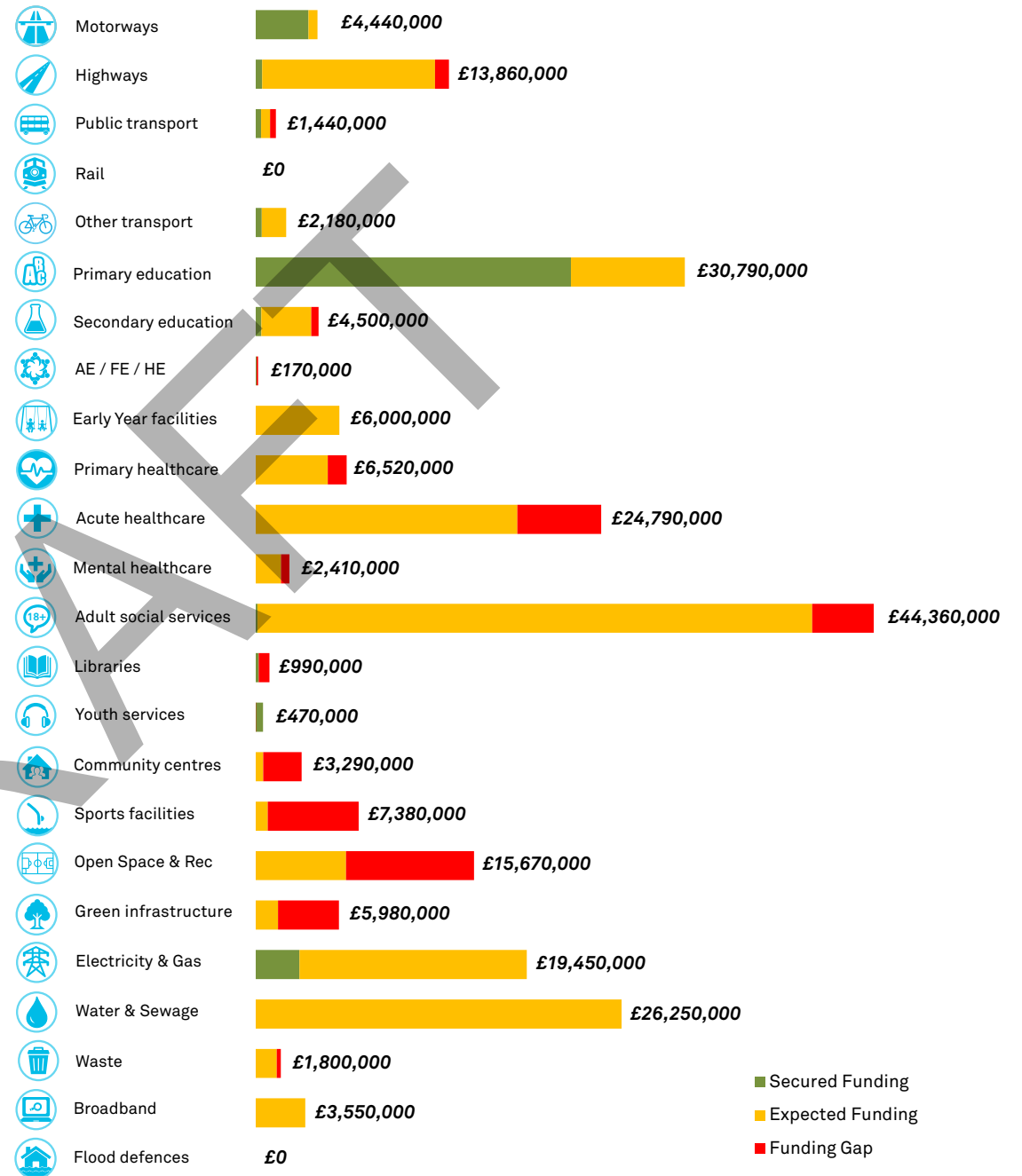
Total Secured Funding: **£32,150,000**

Total Expected Funding: **£155,860,000**

Total Funding Gap: **£38,270,000**

% of Infrastructure Funded: **83%**

- TRANSPORT
- EDUCATION
- HEALTH
- COMMUNITY
- GREEN INFRASTRUCTURE
- UTILITIES
- FLOOD DEFENCES



SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)

TRANSPORT

- New road crossing to deliver Peter's Pit site - A228 to Peter's Pit Bridge
- M20 Junction 4 widening of Eastern Bridge to improve capacity and facilitate major development sites.
- M20 Junction 3 to 5 merged motorway
- A20 Bus corridor improvements between major development sites

CAPACITY AT KEY EMPLOYMENT SITES

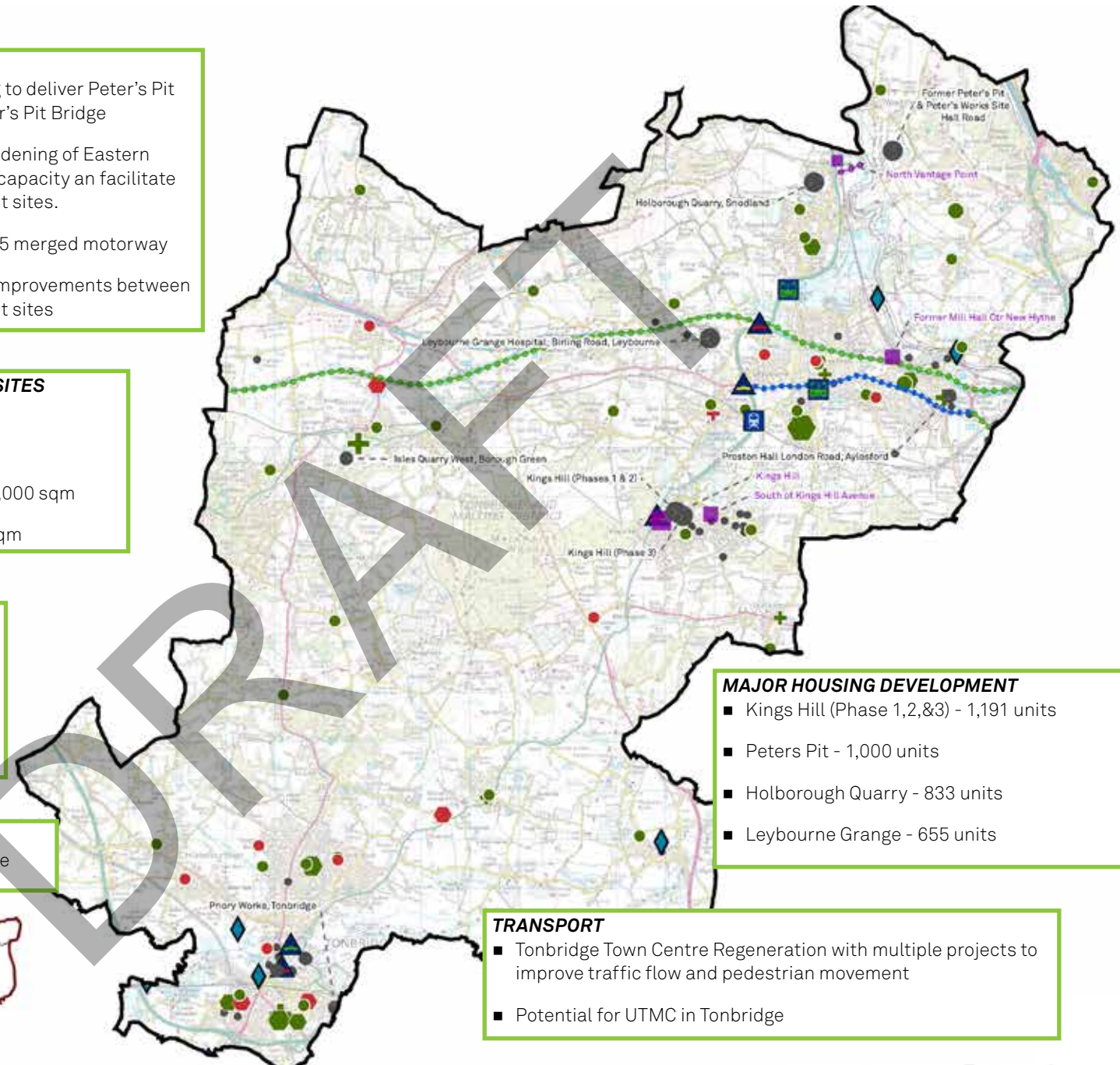
- Kings Hill - 55,000 sqm
- Former Mill Hall - 22,000 sqm
- South of Kings Hill Avenue - 20,000 sqm
- North Vantage Point - 17,000 sqm

EDUCATION

- New Primary Schools at major sites - Kings Hill, Leybourne Grange, Peters Pit, Holborough Quarry.
- Need for additional primary provision in Tonbridge South

FLOOD DEFENCES

- Leigh and Lower Beult Flood Alleviation Scheme



MAJOR HOUSING DEVELOPMENT

- Kings Hill (Phase 1,2,&3) - 1,191 units
- Peters Pit - 1,000 units
- Holborough Quarry - 833 units
- Leybourne Grange - 655 units

TRANSPORT

- Tonbridge Town Centre Regeneration with multiple projects to improve traffic flow and pedestrian movement
- Potential for UTMC in Tonbridge

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SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN TONBRIDGE & MALLING

5.13 TUNBRIDGE WELLS

5,900
new homes
(+12%)

5,600
new people
(+5%)

9,900
new jobs
(+18%)

to 2031

EXISTING CAPACITY ISSUES

- Congestion on A26 and A264 approaches into Royal Tunbridge Wells
- Restricted road access to North Farm Estate Key Employment Area
- Congestion on A228 at Colts Hill
- Localised capacity issues in primary schools, with future deficit in secondary schools expected from 2018/19
- Net GP and dentist capacity surplus across authority
- No major flood risk for identified developments

Total Infrastructure Costs: **£284,470,000**

Total Secured Funding: **£16,750,000**

Total Expected Funding: **£120,580,000**

Total Funding Gap: **£147,140,000**

% of Infrastructure Funded: **48%**

TRANSPORT



Motorways

£5,400,000



Highways

£102,190,000



Public transport

£12,000,000



Rail

£0



Other transport

£1,000,000

EDUCATION



Primary education

£21,030,000



Secondary education

£22,790,000



AE / FE / HE

£1,200,000



Early Year facilities

£0

HEALTH



Primary healthcare

£1,740,000



Acute healthcare

£6,620,000



Mental healthcare

£650,000

COMMUNITY



Adult social services

£54,270,000



Libraries

£15,650,000



Youth services

£1,540,000



Community centres

£880,000

GREEN INFRASTRUCTURE



Sports facilities

£0



Open Space & Rec

£2,820,000



Green infrastructure

£1,600,000

UTILITIES



Electricity & Gas

£13,440,000



Water & Sewage

£13,170,000



Waste

£0

FLOOD DEFENCES



Broadband

£1,970,000



Flood defences

£4,510,000

■ Secured Funding
■ Expected Funding
■ Funding Gap

SUMMARY OF INFRASTRUCTURE PROJECT COSTS AND FUNDING GAPS (2014-2031)



FLOOD DEFENCES

- River Teise Sluices Refurbishment
- Five Oak Green Flood Alleviation Scheme
- Paddock Wood Flood Alleviation Scheme

CAPACITY AT KEY EMPLOYMENT AREAS

- High Brooms Industrial Park - 48,000 sqm
- Tunbridge Wells Town Centre - 45,000 sqm
- Eldon Way and West of Maidstone Road - 27,000 sqm
- Transfesa Road East and West - 24,000 sqm
- North Farm Industrial Area (including Kent Neuroscience)

MAJOR HOUSING DEVELOPMENT

- Land at Church Farm and Mascalls Court - 650 units
- Knights Wood - 550 units
- Mascalls Farm - 300 units

TRANSPORT

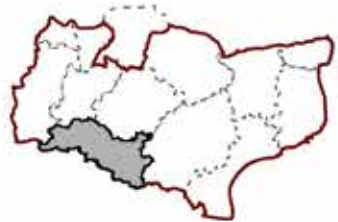
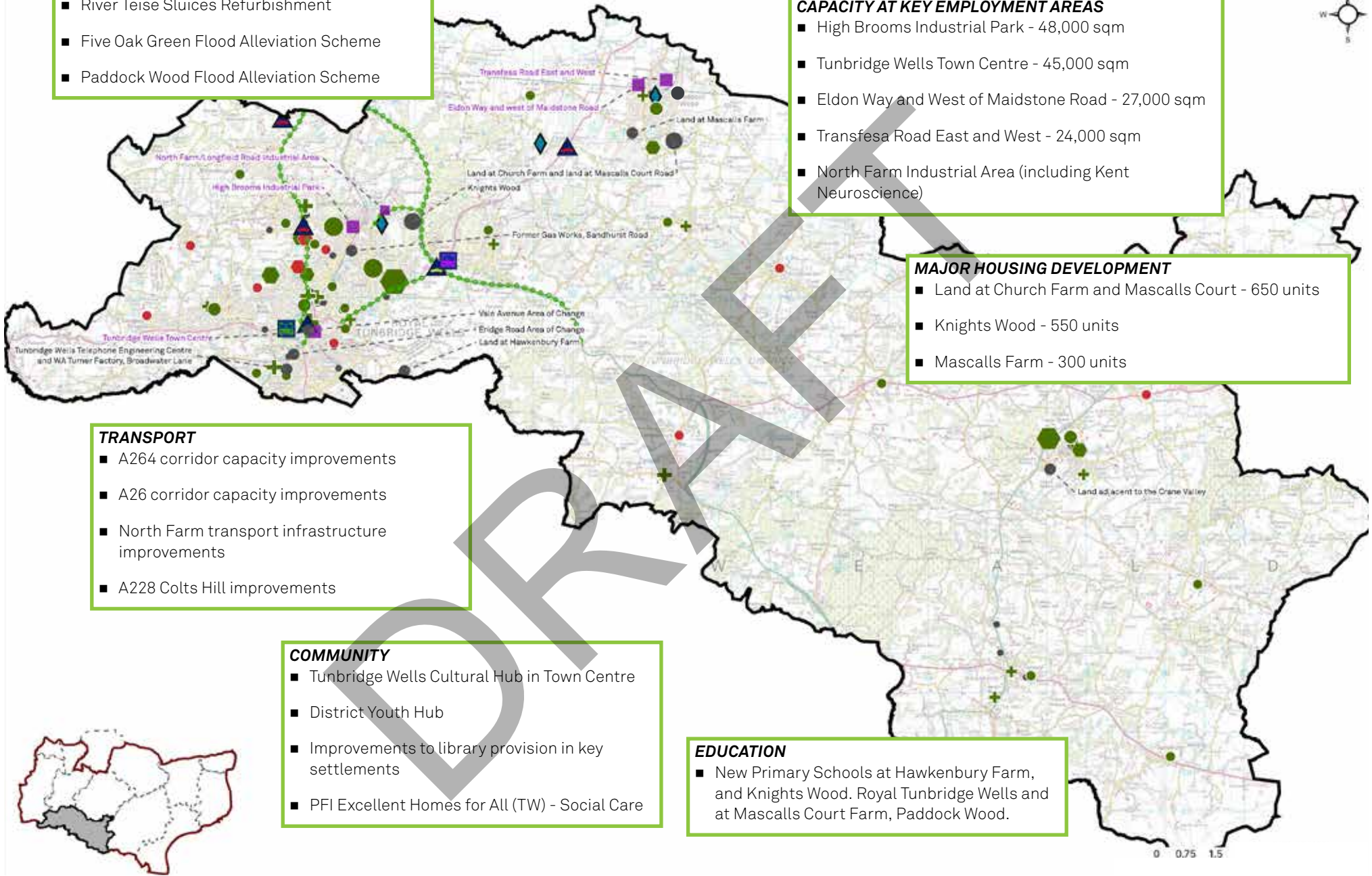
- A264 corridor capacity improvements
- A26 corridor capacity improvements
- North Farm transport infrastructure improvements
- A228 Colts Hill improvements

COMMUNITY

- Tunbridge Wells Cultural Hub in Town Centre
- District Youth Hub
- Improvements to library provision in key settlements
- PFI Excellent Homes for All (TW) - Social Care

EDUCATION

- New Primary Schools at Hawkenbury Farm, and Knights Wood. Royal Tunbridge Wells and at Mascalls Court Farm, Paddock Wood.



SUMMARY OF GROWTH + INFRASTRUCTURE ISSUES IN TUNBRIDGE WELLS

5.14 COUNTY CROSS DISTRICT PROJECTS

CROSS DISTRICT PROJECTS

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

It should also be noted that the Growth and Infrastructure Framework 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.

The costs associated with the Lower Thames Crossing and associated highways improvements to the A229 corridor (up to £5 billion) have been excluded from the framework cost and funding summaries. This is due to the fact that the project is not associated wholly with Kent and Medway.

Total Infrastructure Costs: £1,654,810,000

Total Secured Funding: £59,880,000

Total Expected Funding: £573,430,000

Total Funding Gap: £1,021,500,000

% of Infrastructure Funded: 38%

Table 5.1 Kent & Medway

Cross District Infrastructure Projects

Project Type	Project Details	Total Cost	Secured Funding	Expected Funding	Funding Gap
Highways	Lower Thames Crossing - Improvements to the A229 corridor	excluded	excluded	excluded	excluded
	Dover Western Docks Revival Project	£200,000,000	£0	£200,000,000	£0
Motorways	A21 Tonbridge to Pembury Dualling Improvement	69,700,000	£0	69,700,000	£0
	Lower Thames Crossing	excluded	excluded	excluded	excluded
	M2 J7 Brenley Corner	£50,000,000	£0	£0	£50,000,000
	Operation Stack	£50,000,000	£0	£0	£50,000,000
	Strategic junction improvements at Ebbsfleet and A2 interchange	£30,000,000	£0	£30,000,000	£0
	A2 Bean, Strategic junction improvements including new bridge	£50,000,000	£0	£50,000,000	£0
	A2 Lydden to Dover dualling	£24,770,000	£0	£0	£24,770,000
	Improvements to the M20 (managed Motorway Junctions 3 to 5)	£34,800,000	£0	£34,800,000	£0
	A2 Demand Management Measures	£30,700,000	£0	£30,700,000	£0
	Other	Admin costs of STIPS	£1,440,000	£0	£710,000
Ashford Spurs Signalling		£4,520,000	£0	£4,520,000	£0
Rail	Crossrail extension to Dartford, Ebbsfleet and Gravesham	£420,000,000	£0	£0	£420,000,000
	Journey Time Improvements - Ramsgate to Ashford International	£11,800,000	£0	£11,800,000	£0
	Thameslink extension to Maidstone East	£130,000,000	£0	£130,000,000	£0
Broadband	Broadband Delivery UK (BDUK) Phase 1 programme	£40,000,000	£40,000,000	£0	£0
	Broadband Delivery UK (BDUK) Phase 2 programme	£11,200,000	£0	£11,200,000	£0
	KCC / BDUK - Broadband for remaining 5% of properties	£100,000,000	£0	£0	£100,000,000
Waste	Strategic Waste Projects - 4 Energy From Waste Facilities	£280,000,000	£0	£0	£280,000,000
	Strategic Waste Projects - 3 Composting Facilities	£37,500,000	£0	£0	£37,500,000
Flood Defence	Thames Estuary Phase 1 Programme (Kent Area works costs)	£78,380,000	£19,880,000	£0	£58,500,000
Total Kent and Medway		£1,654,810,000	£59,880,000	£573,430,000	£1,021,500,000

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DELIVERY AND FUNDING

FUNDING PRESENTS THE PRIMARY RISK TO DELIVERING THE INFRASTRUCTURE REQUIRED TO SUPPORT GROWTH ACROSS KENT AND MEDWAY. AS THIS GROWTH AND INFRASTRUCTURE FRAMEWORK HIGHLIGHTS, THERE ARE PRESENTLY SIGNIFICANT GAPS IN FUNDING OF ALL TYPES OF INFRASTRUCTURE ACROSS KENT AND MEDWAY. WITH THE SHAPE AND LEVEL OF PUBLIC SECTOR FUNDING VERY DIFFICULT TO PREDICT, KCC AND MEDWAY COUNCIL, AND INFRASTRUCTURE DELIVERY PARTNERS FACE SIGNIFICANT FUNDING CHALLENGES IF ASPIRATIONS OF GROWTH ARE TO BE ACHIEVED.

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In light of this funding challenge, it is imperative that delivery partners explore every potential avenue of funding as part of the project delivery process. This chapter sets out:

- Organisations within Kent and Medway 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 that vary significantly across Kent and Medway
- 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 GIF time period (to 2031) 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. KCC can obviously 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 GIF period.

6.1 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 KENT AND MEDWAY. THIS SECTION PRESENTS AN OVERVIEW OF THESE ORGANISATIONS AND THEIR SOURCES OF FUNDING.

KENT COUNTY COUNCIL

As set out in previous sections KCC is responsible for providing many key local services and oversees a expenditure of over £2 billion. KCC 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. KCC is the transport authority responsible for delivering the majority of the transport-related infrastructure to support development proposals in each district and borough within Kent.

KCC publishes annual strategic priority statements providing business plans for its four service directorates. These set out priorities for service delivery and transformation and provide information on financial and staff resources of each directorate including service income, expenditure and any grant funding. These identify the following expenditure during 2014/15 across County Services

- Growth, Environment and Transport directorate
- Education and Young People Services Directorate
- Social care, health and well-being directorate
- Strategic Corporate Services Directorate

Kent County Council's income to support infrastructure delivery comes from a variety of sources including income from its services, developer contributions (collected by districts and boroughs) and central government grants such as the Regional Growth Fund and specific funding for education and transport.

During the period of the GIF County Council will face unprecedented financial challenges as the Government's continued austerity programme, coupled with significant

growth, affect both demand for services and the level of resources the Council has available to fund their provision. The Council has already overseen significant cost and efficiency savings.

KCC can undertake prudential borrowing, up to 15% of its total budget under its constitution. This has equated to the following levels in recent years:

- 2014/15 - £10,175,200
- 2013/14 - £29,515,400
- 2012/13 - £22,269,300
- 2011/12 - £30,919,700

The majority of spending from prudential borrowing has been on schools (including early years), waste, energy, sea defences, community improvements, street lighting, Margate regeneration and roads.

Transport funding

Infrastructure projects in Kent are typically funded through a blend of funding sources. By way of example Table 6.1 shows funding sources for major transport schemes over the period 2003/04 to 2014/15. This demonstrates that of the total cost of £198,000,000 spent during the period, some 86% of funding has been through Department for Transport grants, 4% through other departments, 7% from developer contributions and 3% from other sources within KCC.

Figure 6.1 shows total funding made available to KCC to support transport including monies for maintenance and Integrated Transport Block funding (IT Block). This shows total annual funding typically between £30 and £35 million. As shown in Table 6.2 this level of funding is set to continue to 2020/21 with additional funds from the Local Growth Fund and Local Transport Board funding.

	SCHEME	TOTAL COST*	DFT*	OTHER GOVT DEPT* - ODPM**	PRIVATE I.E. S106*	KCC*
2012	East Kent Access Phase 2	87	81.3			5.3
2011	Sittingbourne Northern Relief Road	31	19	8	4	
2006	A228 Leybourne & West Malling Bypass	28	20		8	
2006	Fastrack	15	14.5			0.5
2006	East Kent Access Phase 1	19	17.5		1.5	
2003	South Thameside Development Route Stage 4	18	18			
	TOTAL	198	170.3	8	13.5	6.3

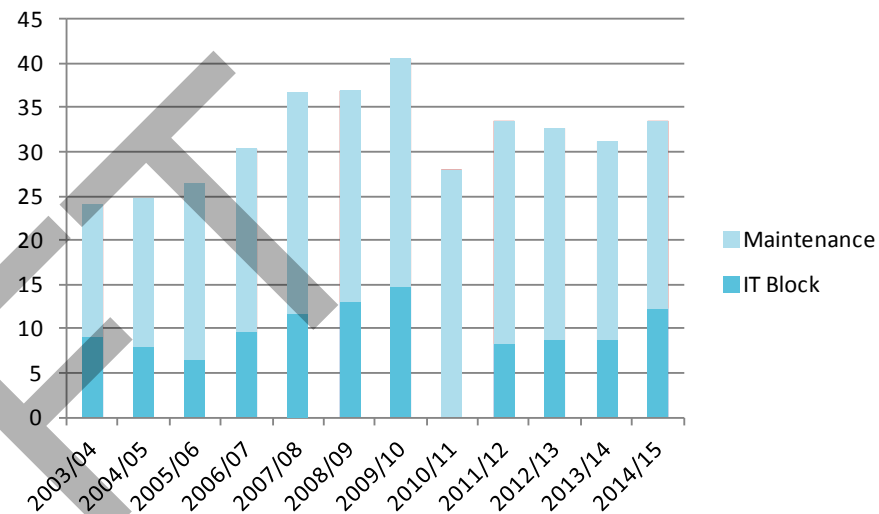


TABLE 6.1 - MAJOR SCHEMES FUNDING DELIVERED BY KCC 2003/04 TO 2014/15 (£MILLIONS)

* Estimated £million; ** ODPM= Office of the Deputy Prime Minister

FIGURE 6.1 - ANNUAL FUNDING RECEIVED BY KCC FOR TRANSPORT (£MILLIONS)

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KENT CC	HISTORIC ALLOCATION (£MILLION)				FUTURE ALLOCATION (£MILLION)			FUTURE POTENTIAL (£MILLION)		
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
IT BLOCK	8.2	8.7	8.7	12.3	6.9	6.9	6.9	6.9	6.9	6.9
MAINTENANCE	25.3	24	22.5	21	27.3	25	24.2	21.9	21.9	21.9
LGF1&2 & LTB	-	-	-	-	14.3	25.4	21.4	35.5	10.5	2.4
TOTAL	33.5	32.7	31.2	33.6	48.5	57.3	52.5	64.3	39.3	31.2

TABLE 6.2- HISTORIC AND PROJECTED TRANSPORT FUNDING ALLOCATION TO 2020/21

Education Funding

Central government grant funding for education currently comprises two grants:

- Basic Need Allocation - provided by the Department for Education (DfE) to Local Education Authorities (LEAs) to support the capital requirement for providing new pupil places both in new or expanded maintained schools, and in Free Schools or expanded Academies.
- Targeted Basic Need Fund – provided by the DfE to offer additional support to those local authorities experiencing the greatest pressure on places and will help them to prepare for further rises in pupil numbers

Education funding received since 2011/12 to present, and projected to 2017/18 is illustrated in Table 6.3. This shows significant variations between years depending upon grant allocation. During 2015/16 KCC were set to receive nearly £30 million of funding. In later years the allocation rises substantially to nearly £50 million reflecting current the current “baby-boom” of past years making its way through KCC’s education system.

KENT CC	HISTORIC ALLOCATION (£MILLION)				FUTURE ALLOCATION (£MILLION)		
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
BASIC NEED	23.7	19.6	19.3	19.3	29.6	47.7	40.9
TARGETED BASIC NEED	-	-	9.6	23.8	-	-	-
TOTAL	23.7	19.6	28.9	43.1	29.6	47.7	40.9

TABLE 6.3- EXISTING AND PROJECTED ALLOCATION FOR EDUCATION FUNDING 2011/12 TO 2017/18

MEDWAY UNITARY AUTHORITY

Medway Council is a unitary authority so provides all the services provided by county and district authorities. During 2013/14 Medway had a total expenditure of over £600,000,000.

DISTRICT AND BOROUGH COUNCILS

The main services provided by the District and Borough Council's include:

- Environmental health
- Housing
- Leisure and recreation

Planning applications

District and Borough income includes receipts from Council Tax receipts distributed by Central Government, developer contributions for specific local level infrastructure and service income. The following additional funding sources are also now available to Local Authorities to support 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) became 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 GIF 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
- making sure traffic can flow easily on major roads and motorways

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.

THE SOUTH EAST LOCAL ENTERPRISE PARTNERSHIP (LEP)

The South East Local Enterprise Partnership (LEP) is the business-led, public/private body established to drive economic growth across East Sussex, Essex, Kent, Medway, Southend and Thurrock. 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. LEPs are also now responsible for overseeing the creation of a European Funding Strategy for 2014-2020 for their individual areas. With regards to funding, the LEP's role is to:

- Explore new ways of funding infrastructure and enterprise investment
- Identify the finance gap for innovative SMEs looking to expand
- Help develop a 2014-2020 European Funding Programme that meets the need of the area
- Design innovative financial models to make best possible use of Enterprise Zone Business Rates income and Growing Places Fund recycled funds
- Provide clear guidance on where help, support and finance is available for enterprises

Growth Deal

The SE LEP Growth Deal with Government brings almost £500m of investment to East Sussex, Essex, Kent, Medway, Southend and Thurrock. Over the lifetime of the Deal (2015-2021), the LEP aims to create up to 45,000 new jobs and see 23,000 new homes built. The LEP identifies that the deal has the potential to generate £700m of public and private investment and brings new responsibilities and flexibilities.

Projects funded by the Growth Deal include:

- Improved highway connections to permit expansion of cargo-handling facility and regeneration of waterfront at Dover, leading to 100 new homes and the creation of 500 jobs
- Investment in signalling at Ashford International railway station to help secure international rail services at Ashford and up to 2000 jobs
- New lorry parking capacity in the M20 corridor, alleviating congestion, tackling Operation Stack, and facilitating new housing and up to 300 jobs;
- Growth in the advanced manufacturing sector through the provision of new employment (up to 1,000 jobs) and innovation space at Rochester Airport;
- Mixed-use redevelopment of Folkstone seafront to provide up to 500 jobs, 300 homes, improved leisure facilities and public realm;

An expansion of £46.1 million of Government funding was announced on 29 January 2015, on top of £442.2 million when the Growth Deal was originally announced in July.

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.

The key utility companies relevant to Kent and Medway are as follows:

Scotia Gas Network (SGN)

SGN owns and operates the gas transmission network in Kent (from terminals to distributors), known as the National Transmission System(NTS), and four distribution networks (from national network to customers).

The funding programme for SGN investment is included within the 2013-2021 RII0-GD1 (Revenue = Incentives + Innovation + Outputs) document (as required by OFGEM to set out proposed pricing based on an evidenced business plan).

UK Power Networks (UKPN)

UK Power Networks is a distribution network operator for electricity covering South East England, the East of England and London. It manages 3 licensed distribution networks (Eastern Power Networks PLC, South Eastern Power Networks PLC and London Power Networks PLC).

The funding programme for UKPN investment is included within the 2015-2023 RIIO-T1 (Revenue = Incentives + Innovation + Outputs) business plan (as required by OFGEM to set out proposed pricing based on an evidenced business plan).

Water Suppliers

Affinity Water, Southern Water, South East Water, Thames Water and Sutton and East Surrey Water are the water suppliers operating across Kent.

The funding programme for AWS investment is included within their 2015-2020 Asset Management Plan (AMP)

Of Critical importance, and only possible through continual joined up dialogue, is to ensure that the latest KCC housing and employment site trajectories and specifically the key strategic sites are acknowledged by these utility companies in their planning documents and therefore covered by their respective investment programmes. It is understood that the 5 year AMPs are not open to be revised once published whereas the energy company RIIO documents will be updated annually which gives more room for accommodating new information.

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. Within Kent there are some 314 Town and Parish Councils.

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 District/Borough Council, 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, typically 15-25%. 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. In Sevenoaks, one of two areas where the CIL has been adopted, all Parish Council's will receive 40% of the total collected (each at the top rate of the levy).

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 KENT.

SECTION 106

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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; 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 CIL 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.

Following the recent recession a number of major schemes have had to reconsider the amount of infrastructure and affordable housing. A recent example is the Springhead Quarter at Ebbsfleet which has recently renegotiated its Section 106 agreement to remove the provision of a connecting bridge.

Residential Land Values across Kent

Figure 6.2 illustrates average land values across district and boroughs in Kent, and Medway Unitary authority. This is based upon Valuation Office Agency (VOA) data an average price per hectare for land with planning permission for residential uses.

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

Across Kent the average price ranges from £5,453,000 per hectare in Sevenoaks to £1,084,000 in Thanet. In general terms values in West Kent (Bordering London) are considerably higher than East Kent.

The VOA estimated values for 326 local authorities in England. Not surprisingly the City of London had the highest land values and along with the 32 London Boroughs were ranked the highest 33 local authorities in England.

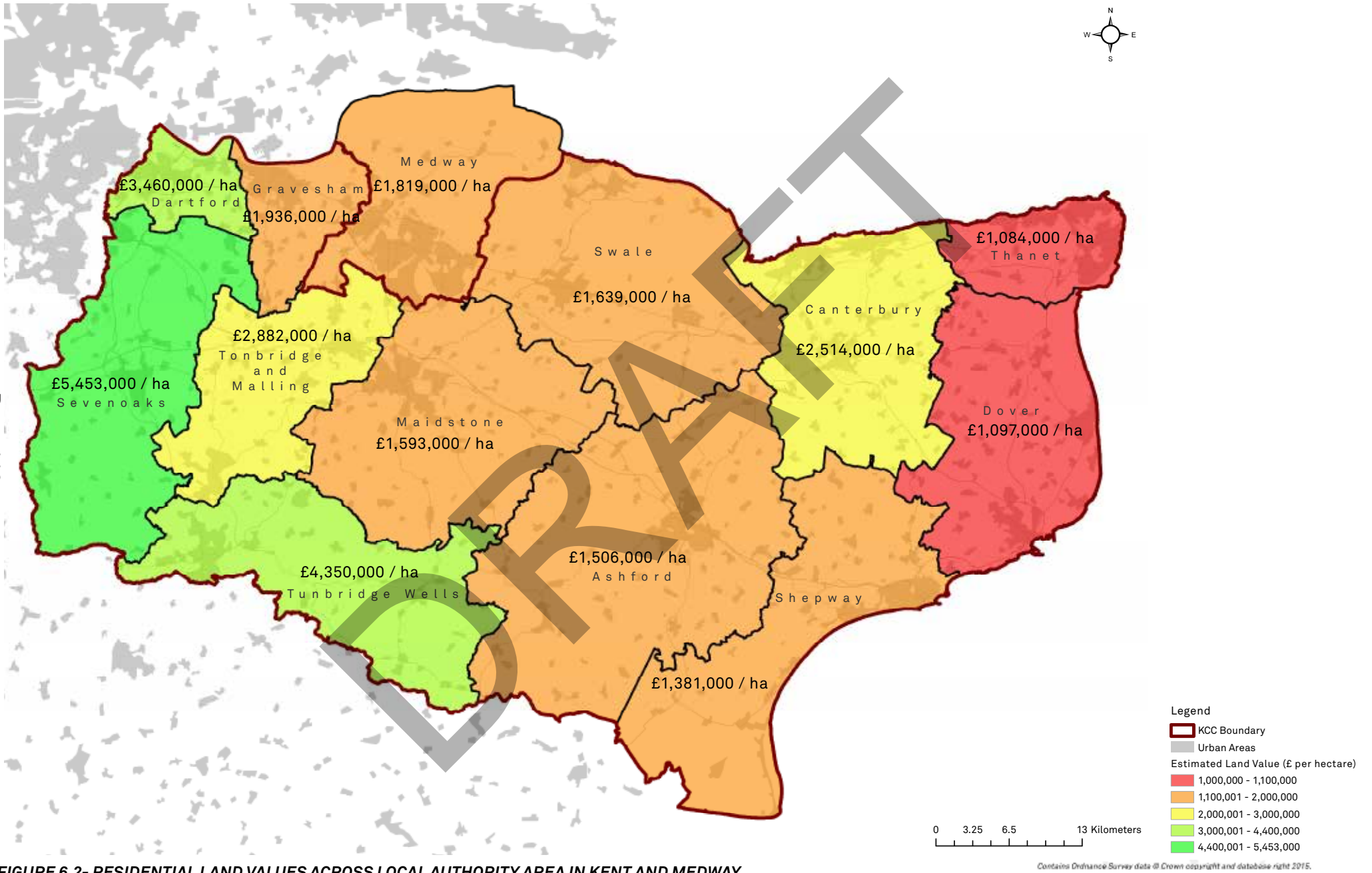


FIGURE 6.2- RESIDENTIAL LAND VALUES ACROSS LOCAL AUTHORITY AREA IN KENT AND MEDWAY

In Kent Sevenoaks was ranked 41, with other West Kent local authorities Tunbridge Wells (54) and Dartford (74) also high on the list. In East Kent, Thanet was ranked at 262.

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 Kent and Medway. However, they do not necessarily represent true land values, and are not able to demonstrate variations between sites or conurbations within each district or borough.

Figure 6.3 illustrates average house prices across Kent in the fourth quarter of 2014. This provides a similar picture, with Sevenoaks Tonbridge and Malling and Tunbridge Wells above the South East regional average of £309,284, and Thanet, Swale and Medway considerably lower at under half the price of Sevenoaks (£445,732).

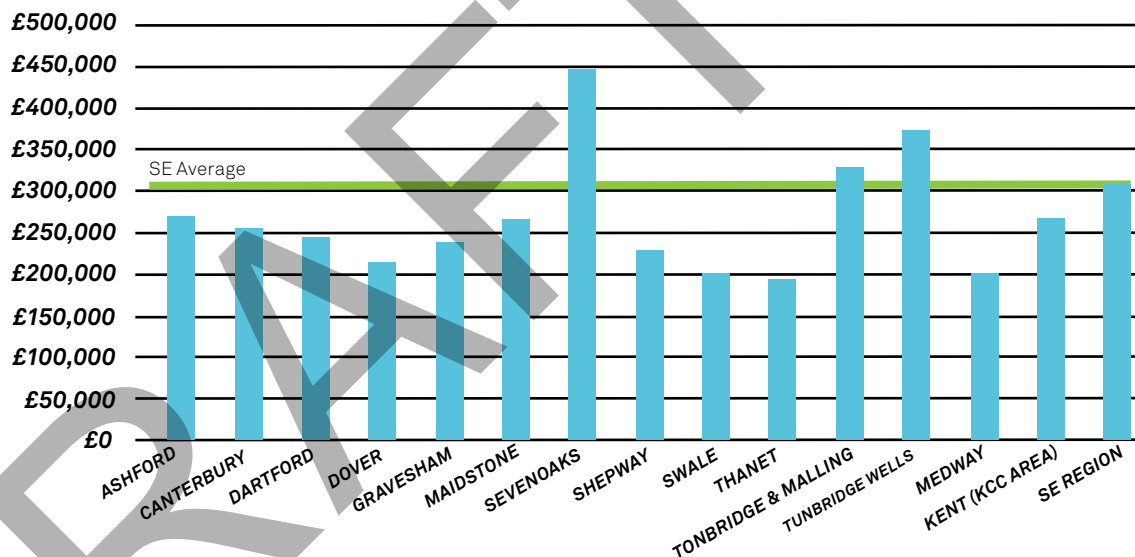


FIGURE 6.3 - AVERAGE HOUSE PRICES IN KENT AND MEDWAY, Q4 2014

	5 YEAR AVERAGE ANNUAL COMPLETIONS TO 2015	HOUSING SITES CAPACITY 2011- 2031	PROP OF TOTAL CAPACITY
Ashford	422	13,333	3%
Canterbury	458	15,606	3%
Dartford	372	18,048	2%
Dover	229	10,048	2%
Gravesham	217	7,257	3%
Maidstone	631	15,374	4%
Medway	734	21,851	3%
Sevenoaks	207	3,585	6%
Shepway	178	8,411	2%
Swale	451	11,084	4%
Thanet	447	11,680	4%
Tonbridge & Malling	433	12,852	3%
Tunbridge Wells	122	5,675	2%
Kent and Medway	4,900	154,804	3%

TABLE 6.4 -HOUSING COMPLETIONS AND LPA DEVELOPMENT CAPACITY

HISTORIC COMPLETION RATES IN KENT

Table 6.4 shows average housing completions in Kent in the period to 2015. Also compared is the proportion of homes delivered against total housing sites within each district. As a rule of thumb 5% delivery could be considered to be a yearly delivery target for sites to 2031 This demonstrates relatively constrained growth across the County in comparison to the total amount of land available for development, reflecting depressed market conditions for the period.

The chart shows highest proportional rates of development in the western authorities, in particular and Sevenoaks. Ashford, Gravesham and Dover had proportionately lower rates despite having significant potential for housing perhaps reflecting their more marginal location and lower land values.

ANALYSIS OF SECTION 106 AGREEMENTS IN KENT

Kent County Council receives Section 106 monies for a range of infrastructure. This includes contributions for primary and secondary education, adult social care, libraries, adult education, youth and community facilities. In addition the County receives S106 and S278 monies to fund transport infrastructure projects.

In order to understand a “rule of thumb” in understanding Section 106 contributions across the County, an average contribution per dwelling has been calculated. This is summarised in Table 6.4.

This is based upon information provided by KCC setting out contributions by type of infrastructure for each district and borough as set out in Table 6.5 which illustrates the total amount of S106 funding received by Kent County Council between 2006/07 and 2014/15 for County services (excluding transport). This shows that total receipts of £152,575,611.

There is limited data available on transport collections against specific units. However, taking a sample of available historic KCC data an average of £2,241 has been calculated. Analysis of historic Section 106 receipts indicates that for education and community facilities the average contribution per unit varies considerably across the County, from around £900 in Canterbury and Gravesham, to over £4,500 in Dartford. It should be noted that this does not reflect where direct provision or joint use of facilities has been made. In addition a number of school sites have been secured at no cost to KCC including some 15 primary schools, one secondary school, the Community Campus at The Bridge and the Life Long Learning Centre at Eastern Quarry, both in Dartford.

Contributions may vary depending on the type of mitigation and financial contribution required. For example there may be existing service capacity in an area meaning that no requirement is needed. In addition different contribution rates apply for education new build and expansion projects, and different rates apply to houses and flats where the KCC Development Contribution Guide has been applied.

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 6.4 and Table 6.6 show how CIL has been taken up across Kent. At May 2015 only two authorities have an adopted CIL in place – Dartford and Sevenoaks, with a further five with draft CILs in place. Canterbury, Thanet and Swale have commissioned viability work to underpin a CIL, although are yet to publish a draft CIL. The remaining authorities either do not intend to produce a CIL or are yet to produce a draft charging schedule.

As Figure 6.4 shows, adopted and draft CIL rates vary considerably across the County and Medway, again reflecting the varied pattern of land values and viability. CIL has been set at a lower rate in areas with significant development requirements. For example the south of Dartford Borough has a significantly higher residential CIL rate than the north where the majority of development sites are.

SERVICE	AVERAGE CONTRIBUTION SOUGHT £ PER UNIT	AVERAGE CONTRIBUTION AGREED £ PER UNIT	% AGREED FROM SOUGHT
Primary Education	£1,671	£1,377	82%
Secondary Education	£830	£553	67%
Adult Social Care	£367	£205	56%
Libraries	£127	£107	84%
Adult Education	£55	£41	74%
Youth & Community	£172	£120	70%
Total KCC Services (minus Transport)	£3,223	£2,404	75%

TABLE 6.5 - AVERAGE S106 PAYMENTS TO KENT COUNTY COUNCIL 2006/07 TO 2013/14

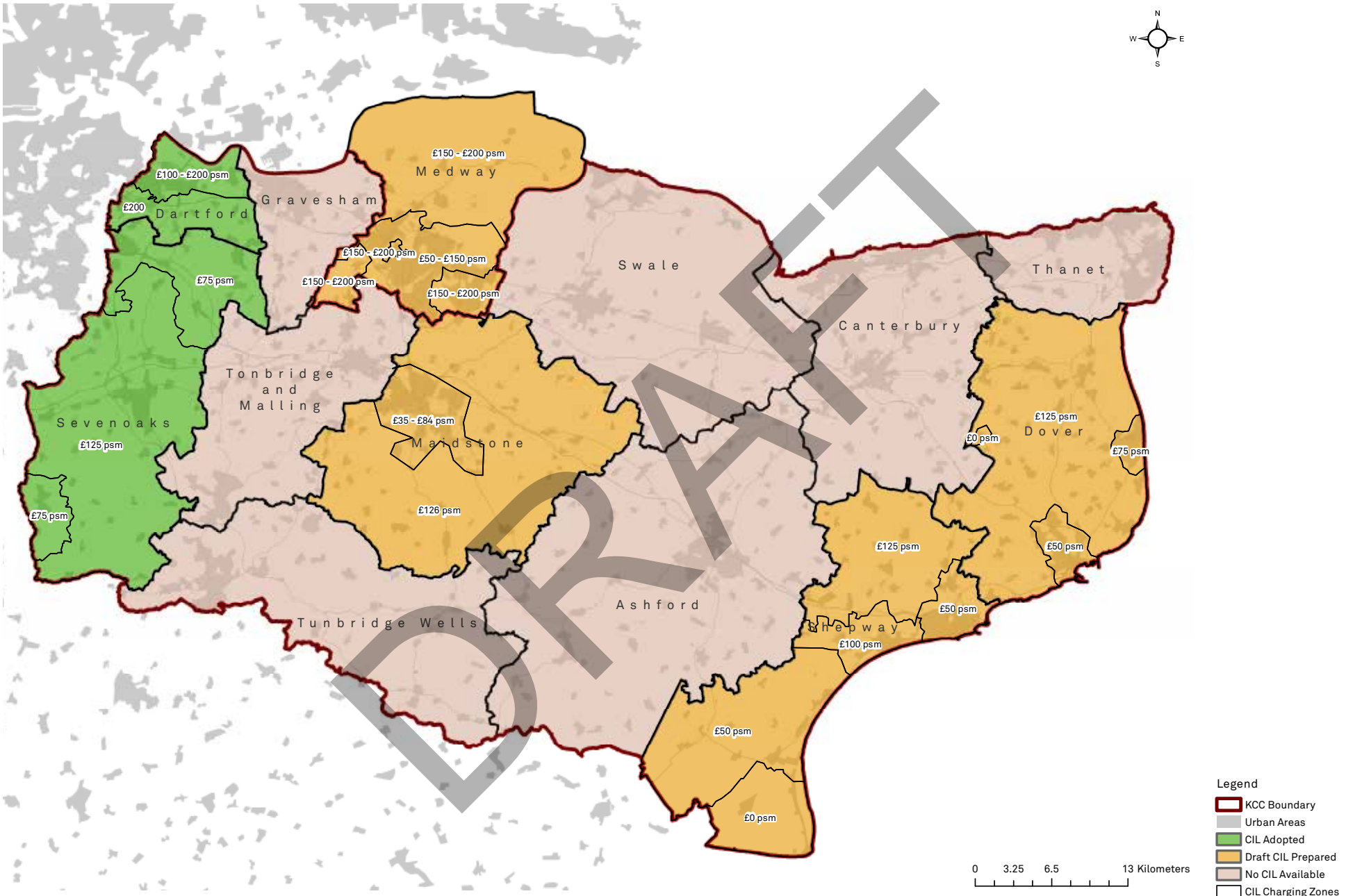


FIGURE 6.4- ADOPTED AND DRAFT RESIDENTIAL CIL RATES ACROSS KENT AND MEDWAY

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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.

INDICATIVE ANALYSIS OF RESIDENTIAL CIL RECEIPTS TO 2031

Table 6.5 presents an indicative analysis of likely cost per residential unit as a result of CIL in those authorities with an adopted or draft charging schedule. It should be noted that this has been estimated based upon a limited sample of housing sites across districts and boroughs with information published on draft or adopted CIL schedules. It provides an indication of potential prices to 2031.

This has been calculated as follows:

- Total amount of projected homes locationally apportioned based upon site distribution within CIL charging zones
- Minus sites with existing planning permission (which will not be liable to CIL) - based upon best understanding from the Council's SPUD database
- Minus completions - based upon understanding of completions between 2011/12 and 2013/14
- Minus affordable housing (depending upon individual authorities targets)
- An assumption that average dwelling floorspace is 90 Sq m

- For those authorities yet to adopt a CIL, it has been assumed that the schedule will be adopted by the end of 2015.

The indicative analysis highlights significant variations across the County in terms of likely total receipts to 2031 (potentially between between £12 million in Sevenoaks and £77 million in Medway) and per unit average costs of between £5,000 and £13,000. These are total receipts excluding allocations to parishes and for the administration of CIL. Although these figures present caveated estimates they do demonstrate the limited total receipts likely to be generated by CIL, particularly in more marginal areas of Kent. This is supported by calculations undertaken by Shepway that only £9.2 million of CIL would be collected within eligible sites, equating to £7.5 million once commitments have been excluded. This compares to total infrastructure costs in Shepway of over £350 million to 2031.

THE AVERAGE COST PER UNIT ACROSS THE FIVE KENT DISTRICTS IS £7,432.

THE AVERAGE COST PER UNIT FOR THE FIVE KENT DISTRICTS AND MEDWAY IS £8,499.

As set out in the previous chapter, these figures will go some way to funding infrastructure to support growth, but there will continue to be a requirement for substantial infrastructure funding from other sources including Section 106 and other sources of funding such as grants.

It is recommended that further indepth analysis of CIL receipts is conducted across the County.

KEY FINDINGS

- Development values vary widely across Kent in terms of residential land values and average house prices.

- The analysis supports assumptions that demand (and therefore prices) are higher in the west of the County, despite the majority of development capacity being to the north and east around existing towns, in particular Ashford, Dartford and Medway.
- This in turn has implications on the ability for developers to make contributions to support development and infrastructure across the County, without negatively impacting upon scheme viability.
- Section 106 contributions across the County over recent years have varied between districts and boroughs, and between schemes. It is recommended that further analysis of historic receipts is further interrogated by KCC and long term monitoring of S106 receipts be undertaken to ensure that KCC and the local authorities are receiving sufficient funds from development to support growth.
- Take up of the Community Infrastructure Levy across the County has been slow, with only Sevenoaks and Dartford collecting CIL receipts at June 2015. The pattern of take up, charge rates and likely receipts varies across the geography of the County with CIL becoming more viable in western local authorities. A high level analysis undertaken as part of the GIF has suggested that only limited receipts will be collected from CIL to support strategic infrastructure, and with changes to S106 pooling under the CIL regulations it is likely that overall infrastructure funding gaps will be further exacerbated across the County. It is recommended that a more in depth analysis of likely CIL receipts and priorities for infrastructure funding through CIL is undertaken by the County in association with the local planning authorities.
- Although traditional funding regimes are becoming stretched, there may be a variety of additional sources of income to support infrastructure provision. A high level summary is included in this chapter. It is recommended that further analysis of funding gaps and potential sources is undertaken to follow on from the GIF.

LOCAL AUTHORITY	CIL STATUS	£ PER SQ M	ZONE	INDICATIVE COST PER LIABLE UNIT (ESTIMATE)
Ashford	None	N/A		
Canterbury	Viability work undertaken	£40	Recommended for whole district	
Dartford	Adopted	£100	North	£9,058
		£200	South	
Dover	Preliminary draft	£0	Aylesham	£6,970
		£50	Dover	
		£75	Deal	
		£125	Rest of District	
Gravesham	None	N/A		
Maidstone	Preliminary draft	£35	Urban PDL	£5,238
		£84	Urban/periphery greenfield and gardens	
		£126	Residential - Countryside, rural service centre and larger settlements	
Medway	Preliminary draft	£150	Residential Zone A, >15 dwellings	£13,835
		£200	Residential Zone A, <14 dwellings	
		£50	Residential Zone B, >15 dwellings	
		£150	Residential Zone B, <14 dwellings	
Sevenoaks	Adopted	£125	Residential Zone A	£10,369
		£75	Residential Zone B	
Shepway	Draft	£0	A	£5,525
		£50	B	
		£100	C	
		£125	D	
Swale	Viability work undertaken	£35	Sittingbourne	
		£120	Faversham	
		£0	Sheppey	
		£250	Rural	
Thanet	Viability work undertaken	£40	Recommended for whole district	
Tonbridge + Malling	None	N/A		
Tunbridge Wells	None	N/A		

TABLE 6.6 - SUMMARY OF RESIDENTIAL CIL STATUS AND ESTIMATED COST PER RESIDENTIAL UNIT ACROSS KENT AND MEDWAY

6.3 PROJECT LIST FUNDING 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 CONTRIBUTIONS AND GAPS FOR INFRASTRUCTURE PROJECTS TO 2031.

As set out in earlier chapters, the information on projects and costs set out within this Framework has been obtained from a variety of sources, in particular the KCC SPUD and IIFM model, together with inputs from KCC officers, Medway council and other officers from the districts, boroughs, and infrastructure providers.

In many instances information has been provided on likely costs and funding sources. However, there are a number of cases where precise costs or funding is not identified, or information is missing.

In order to provide a “sense check” against total costs across Kent and Medway, 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. 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.

Expected Funding - Developer Contributions

Table 6.8 on the facing page summarises our research into potential developer contributions to theoretically apply to projects with no identified funding.

Kent County Council has historic developer contribution guidelines and data on actual planning application receipts which allow us to ascertain a likely level of developer contribution per dwelling for services delivered by KCC (education, social services, libraries, youth services etc.) Our review of actual receipt data includes a comparison of the level of contribution sought and the level agreed, which averages at 75%.

Kent County Council also collects records of historic developer contributions collected towards transport costs which have been reviewed to ascertain a potential contribution per dwelling for transport projects. This averages at £2,240 per dwelling.

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 has 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. Where County data is not available we have supplemented with Medway Council data (but adjusted to account for the 75% reality of agreed levels over sought levels). This analysis presented in table 6.8 suggests that a total contribution of £7,560 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 £7,560 has been applied to the identified housing sites over 10 dwellings in each district from 2014/15 onwards in the housing data used by this study. This has provided a potential funding source to apply to costs in the project list specific to that infrastructure type.

This working assumption has been further validated by the analysis of potential CIL unit contribution which equates to 7,432 as an average across Kent (see page 120-121).

Expected Funding - Public & Private Sector Assumptions

Section 6.1 presented our understanding of allocated transport and education funding in the short term which has been used to sense check the expected public sector funding available to identified KCC transport and primary and secondary school investments identified in the project database.

A number of the theoretical costings generated through this framework would also be assumed as funded by either public or private sector organisations and have subsequently been allocated a theoretical ‘expected Funding’ amount.

Table 6.7 highlights the % of identified costs expected to be funded after all identified, secured funding and identified or theoretical (as set out in table 6.8) developer contributions have been taken into account.

Utility projects are assumed out to be 100% funded by the private sector after developer contributions have been taken into account. This is in line with the reality that all future development will only be permitted and delivered with the necessary utility infrastructure in place.

INFRASTRUCTURE	FUNDING WORKING ASSUMPTIONS	%
Healthcare	NHS	75
Waste Facilities	KCC / Medway / districts / boroughs	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

TABLE 6.7 - EXPECTED FUNDING (PUBLIC/PRIVATE)

The scope of this framework has not allowed detailed analysis of potential NHS funding. All healthcare infrastructure costs identified are based on theoretical benchmark modelling and the funding assumptions cannot therefore be validated by the NHS at this stage. A working assumption that after developer contributions have been taken into account the outstanding costs to deliver necessary infrastructure will be met by the NHS. However, given the known funding deficit across public sector organisations including the NHS, the % has been reduced down from 100% by a notional amount to 75%.

A working assumption that the private sector will in large fulfil the cost of delivering Early year facilities and Social Care accommodation has been applied. This assumption requires further testing with private sector investment partners.

The expected funding assumptions are indicative and provide an overall rule of thumb in sense checking funding streams required to support infrastructure delivery in Kent and Medway. These should be subject to ongoing review in dialogue with Medway, the district and boroughs, infrastructure providers and the private sector partners.

	MEDWAY	KCC	KCC	KCC	Kent and Medway Growth and Infrastructure Framework	
	Developer Contribution Guidelines (2014)	Developer Contribution Guidelines (2008)	KCC S106 Receipt Data 2003/4 - 2014/15	KCC S106 Receipt Data 2003/4 - 2014/15		
	Amount Sought per dwelling	Amount Sought per dwelling	Amount Sought per dwelling	Amount Agreed per dwelling	Analysis Working Assumption of potential dwelling Contribution towards Service	Explanation of working Assumption
	Not based on receipts	Not based on receipts	Analysis of 38,000 units for KCC Services	Analysis of 38,000 units for KCC Services & 20,000 units for Transport		
Transport	n.a	n.a	n.a	£2,241	£2,240	Based on Actual KCC Receipt average
Primary Education	£2,246	£1,653	£1,671	£1,377	£1,380	Based on Actual KCC Receipt average
Secondary Education	£2,870	£1,652	£830	£553	£550	Based on Actual KCC Receipt average
Community Learning	£200	£180	£55	£41	£40	Based on Actual KCC Receipt average
Early Years	£915	-	-	-	£680	Based on Medway Guideline reduced by 75%
Primary Healthcare	£468	-	-	-	£210	Based on Medway Guideline reduced by 75%
Acute Healthcare	-	-	-	-	£140	Based on Medway Guideline reduced by 75%
Mental Healthcare	-	-	-	-	£0	Based on Medway Guideline reduced by 75%
Adult Social Services	-	£1,201	£367	£205	£200	Based on Actual KCC Receipt average
Libraries	£150	£227	£127	£107	£110	Based on Actual KCC Receipt average
Youth Services	£58	£579	£172	£120	£120	Based on Actual KCC Receipt average
Community Facilities	£137	-	-	-	£100	Based on Medway Guideline reduced by 75%
Sports Facilities	£221	-	-	-	£160	Based on Medway Guideline reduced by 75%
Open Space & Recreation	£1,627	-	-	-	£1,210	Based on Medway Guideline reduced by 75%
Green Infrastructure	£402	-	-	-	£300	Based on Medway Guideline reduced by 75%
Energy (Electricity & Gas)	-	-	-	-	-	Direct Developer Contributions for on site
Water and Sewage	-	-	-	-	-	Direct Developer Contributions for on site
Waste	£155	-	-	-	£120	Based on Medway Guideline reduced by 75%
Broadband	-	-	-	-	-	Direct Developer Contributions for on site
Flood Defences	-	-	-	-	-	Direct Developer Contributions for on site
Total	£9,450	£5,491	£3,223	£4,645	£7,560	

TABLE 6.8 - DEVELOPER CONTRIBUTIONS SOUGHT AND ACTUAL RECEIPTS TO FORM WORKING ANALYSIS ASSUMPTION

07



CONCLUSIONS

As identified at the outset of this document, this draft of the Growth and Infrastructure Framework presents an overarching baseline of growth patterns, infrastructure projects and cost requirements and gaps. It has been produced drawing upon information obtained through Kent County Council officers and following a period of engagement with District, Borough and Medway Council, and other infrastructure providers.

The Growth and Infrastructure Framework provides a “snap-shot” in time, reflecting position during May 2015. It must be remembered that the growth and development context is in a constant state of flux and with all LPAs in Kent and Medway at varying stages in developing and implementing their local plans, and negotiating planning consents, the position will change over time.

The preparation of the Growth and Infrastructure Framework has demonstrated the need for greater close and collaborative working between the County, Districts, Boroughs and Medway. It has shown that a number of shortfalls exist in the planning process and in the collection of data around planning policy, consents, infrastructure requires and the cost of funding, which exacerbates the funding gaps that this Framework has identified.

The Framework 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 Kent in the period to 2031.

It has shown that CIL has not been widely adopted across the County reflecting variations in land value and the amount of money that will be collection.

It also indicates that historic Section 106 collection rates have in some instances not been sufficient to mitigate the infrastructure requirements of development that are required.

The preparation of the Growth and Infrastructure Framework is intended to present a starting point in discussions between local, regional and national stakeholders, as the new Conservative Government takes power with a remit to deliver significant housing growth, yet following a continued pattern of public sector austerity.

In concluding the GIF, we propose the following next steps that KCC and its partners can take in moving forward:

- Use the GIF as a tool for engagement with Central Government in demonstrating the challenges faced in supporting growth within Kent and Medway.
- Continue dialogue commenced with Medway, districts, boroughs and other infrastructure providers to maintain an up-to-date understanding of growth distribution and supporting infrastructure.
- Use the GIF as a basis for identifying where local level shortfalls are to support bids for future funding, including potential means outlined in Section 4.
- Simplify monitoring arrangements in KCC in understanding infrastructure projects, funding and shortfalls.
- Undertake further study around funding sources within KCC (in particular CIL and S106 receipts) and cost assumptions to verify the GIF assumptions to assist in making representations to Central and Local Government on infrastructure and funding issues.

- Consideration of developing a single Infrastructure Delivery Plan for Kent (or sub-areas within Kent) – including greater partnership with the districts, consolidated infrastructure delivery plans in support of emerging local plans and integration with the Kent and Medway Growth Strategy.
- Conduct an in depth review of potential funding mechanisms and their ability to fund infrastructure in Kent.
- Better use of public sector assets linked to KCCs work **on the One Public Estate Programme.**
- Further dialogue with the GLA and CLG on wider growth issues including London overspill,
- 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. In addition considering impacts of major infrastructure proposals such as expansion of Gatwick and the lower Thames Crossing on Kent and surrounding Counties.
- Understanding and dialogue with evolving infrastructure delivery and management regimes, i.e. NHS services, Adult education, Library services etc.
- Consideration as to how the work summarised in this document can be integrated and aligned with the emerging Kent and Medway Growth Strategy.

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:

- Transport Projects (where KCC / Medway / HE / Network Rail and others have not provided cost estimates)
- Healthcare Projects
- Community and Cultural Spaces
- Open Space Provision
- Children's Playgrounds
- Indoor and Outdoor Sports facilities
- Electricity Connections
- Gas Connections
- Potable, Waste and Surface Water Infrastructure
- Communications
- Waste Facilities

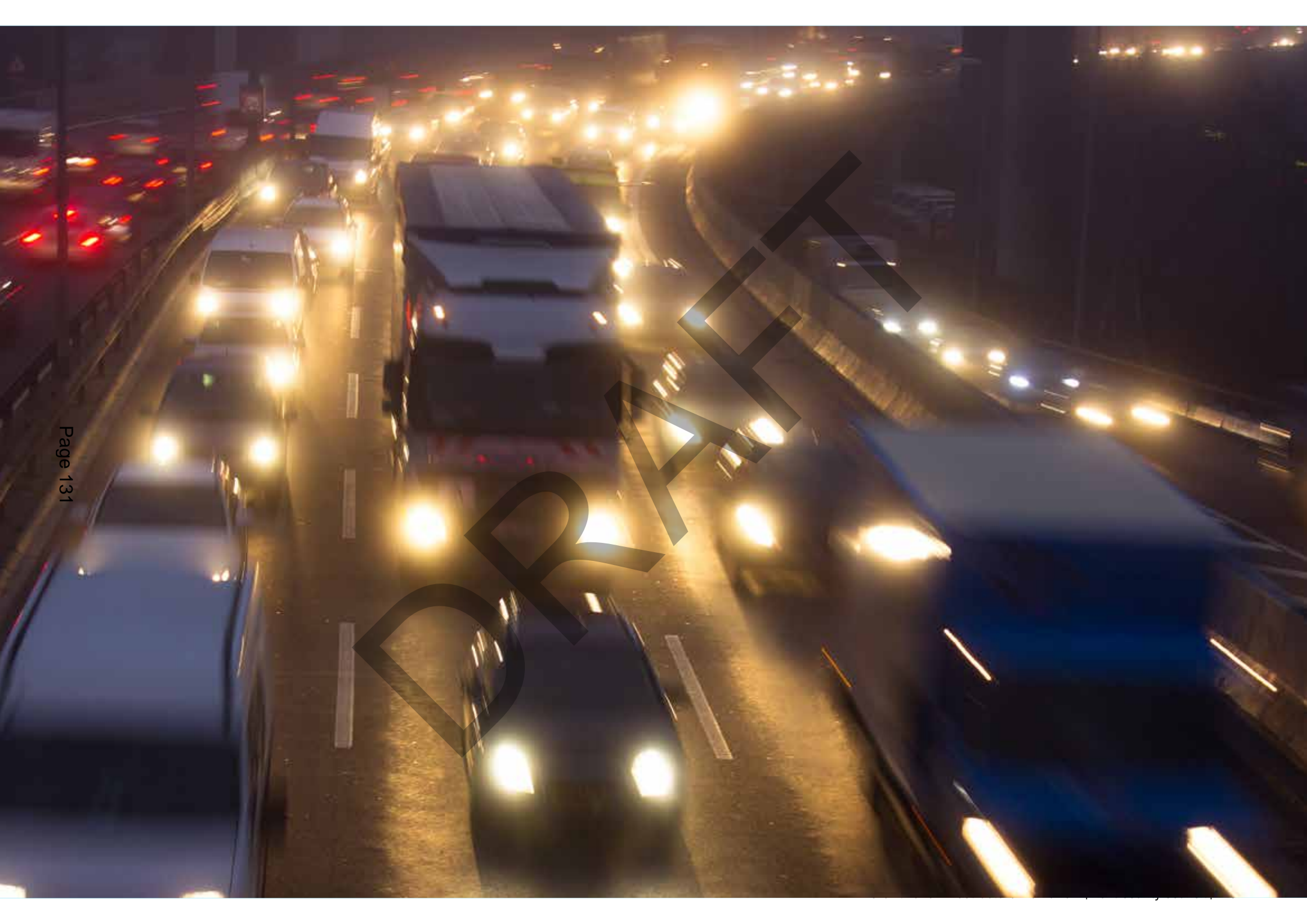
The following caveats apply to all costing provided by AECOM:

- 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 May 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 - KCC / Medway Council
- Motorways - Highways England / KCC
- Rail - Network Rail / KCC
- Public transport and other transport - KCC
- Education - KCC / Medway Council
- Community learning - KCC
- Libraries / Youth Services - KCC / Medway Council
- Adult Social Services - KCC / Medway Council
- BDUK Broadband - KCC
- Electricity - UKPN
- Flood Defences - KCC / Medway Council / Environment Agency



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