Thames Estuary 2050 Growth Commission

Technical Report

June 2018

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Chapter 1: Introduction

1.1 Purpose of this Technical Report

The Thames Estuary, stretching 40 miles (64 km) from East London to Southend-on-Sea in Essex and Thanet in Kent is a long term national priority area for growth. With a population of approximately 3.58 million people, its unique location and existing assets provide an exciting opportunity for incremental yet transformational change.

In 2016, the Thames Estuary 2050 Growth Commission was formed; its principal aim is to help realise the significant potential of the Thames Estuary area. This reflects that over the past few decades the area has consistently been unable to deliver the same levels of economic growth as other parts of the UK. The output of the Commission is its 2050 Vision, which focusses on the diversity of places across the Thames Estuary area recognising that it will be most successful when viewed as a series of functional economic areas, places and communities. However, without concerted and coordinated action there is a risk that the Thames Estuary will fail to fulfil its potential.

The focus of the 2050 Vision is therefore on completing what has already been started through a strong focus on delivery and investment, empowering local communities to achieve more and utilising the distinctive characteristics and assets of the area to drive more sustainable economic growth.

The purpose of this Technical Report is to support the 2050 Vision. It provides the key context for the area, its people and its places. It then sets out the vision to 2050 for the Thames Estuary, as well as its five ‘productive places’:

- City Ribbon including the London Boroughs of Tower Hamlets, Newham, Barking and Dagenham, Havering, Lewisham, Bexley and Greenwich and the London Legacy Development Corporation.
- Inner Estuary including Thurrock, Dartford and Gravesham Councils and the Ebbsfleet Development Corporation.
- South Essex Foreshore including Basildon, Castle Point, Southend-on-Sea and Rochford Councils.
- North Kent Foreshore including Medway, Swale, Canterbury and Thanet Councils.
- The River Thames.

The Technical Report also summarises the Commission’s priorities to achieve its vision alongside the governance and delivery reforms required to realise the 2050 Vision.

1.2 The Thames Estuary

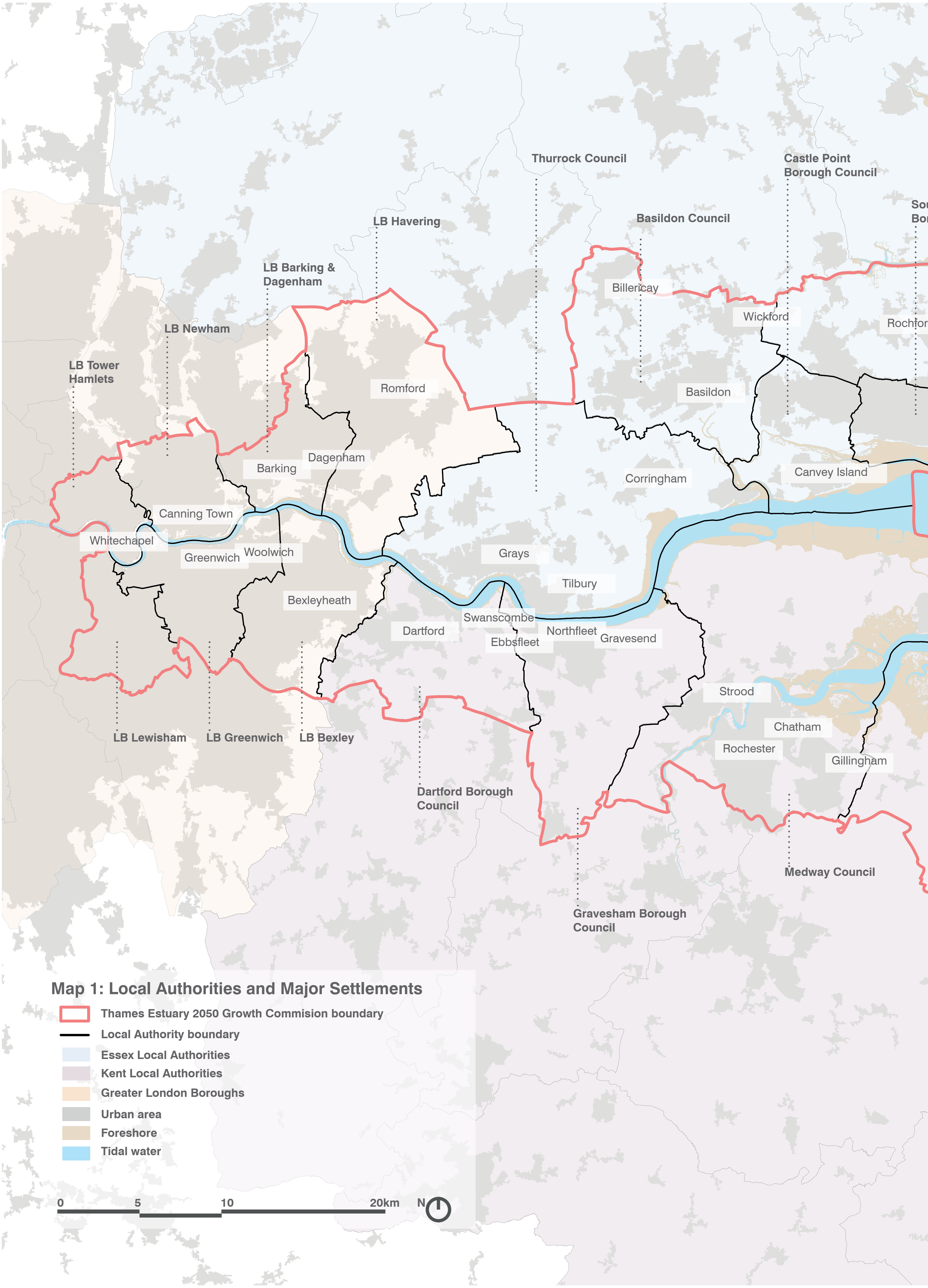
The Thames Estuary comprises 18 local authorities (see Map 1). It includes portions of two counties – Essex and Kent, as well as parts of Greater London. The area is home to two development corporations – London Legacy Development Corporation and Ebbsfleet Development Corporation.

The population of the Thames Estuary area is approximately 3.58 million, spread across a number of key cities and towns, as well as lesser populated suburban and rural areas. The main settlements in the Thames Estuary include: London; Southend-on-Sea; Basildon; Canterbury; the 'Medway Towns' (Strood, Rochester, Chatham, Gillingham and Rainham); Dartford; Gravesend; Grays; Tilbury; Margate; and Sittingbourne.

The area is served by significant transport infrastructure, including three major motorways (M25, M2, and M20), a number of strategic A roads, London Underground and Overground lines. There is also a number of radial rail routes, which connect the wider South East to major London Termini as well as the High Speed 1 rail link and Crossrail 1. There are three river crossings in the Thames Estuary area, including the Blackwall Tunnel and Dartford Crossing, as well as scheduled passenger ferry services. The Thames Estuary is also home to City Airport and London Southend Airport (see Map 2).

The Thames Estuary is an environmentally sensitive area with a number of internationally and nationally designated sites, habitats and species which are of ecological and biodiversity importance. The area also has high vulnerability to flood risk, which is managed through the Environment Agency's flood management system that includes over 330 km of walls and embankments, alongside the Thames Barrier and eight smaller barriers[1].

Taken together, the area has significant potential to deliver further economic and housing growth that will benefit both the 'local' and the UK economy as a whole. The Thames Estuary has long been seen as a place of opportunity where an increase in economic growth could deliver wide ranging and long term benefits for existing and new residents. The case for this investment is explored further in Chapter 2.


Thurrock Council
Castle Point
Borough Council
Basildon Council
LB Havering
LB Barking &
Dagenham
Billericay
Wickford
Rochfor
LB Newham
LB Tower
Hamlets
Romford
Basildon
Dagenham
Barking
Corringham
Canvey Island
Canning Town
Whitechapel
Greenwich
Woolwich
Grays
Tilbury
Bexleyheath
Swanscombe
Dartford
Northfleet
Ebbsfleet
Gravesend
Strood
Chatham
Rochester
Gillingham
LB Lewisham
LB Greenwich
LB Bexley
Dartford Borough
Council
Medway Council
Gravesham Borough
Council
Map 1: Local Authorities and Major Settlements
Thames Estuary 2050 Growth Commision boundary
Local Authority boundary
Essex Local Authorities
Kent Local Authorities
Greater London Boroughs
Urban area
Foreshore
Tidal water
0
5
10
20km
N


uthend-on-Sea
rough Council
Rochford District
Council
d
Southend-on-Sea
Sheerness
Margate
Broadstairs
Ramsgate
Herne Bay
Whitstable
Sittingbourne
Faversham
Canterbury
Thanet District
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Swale Borough
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Council
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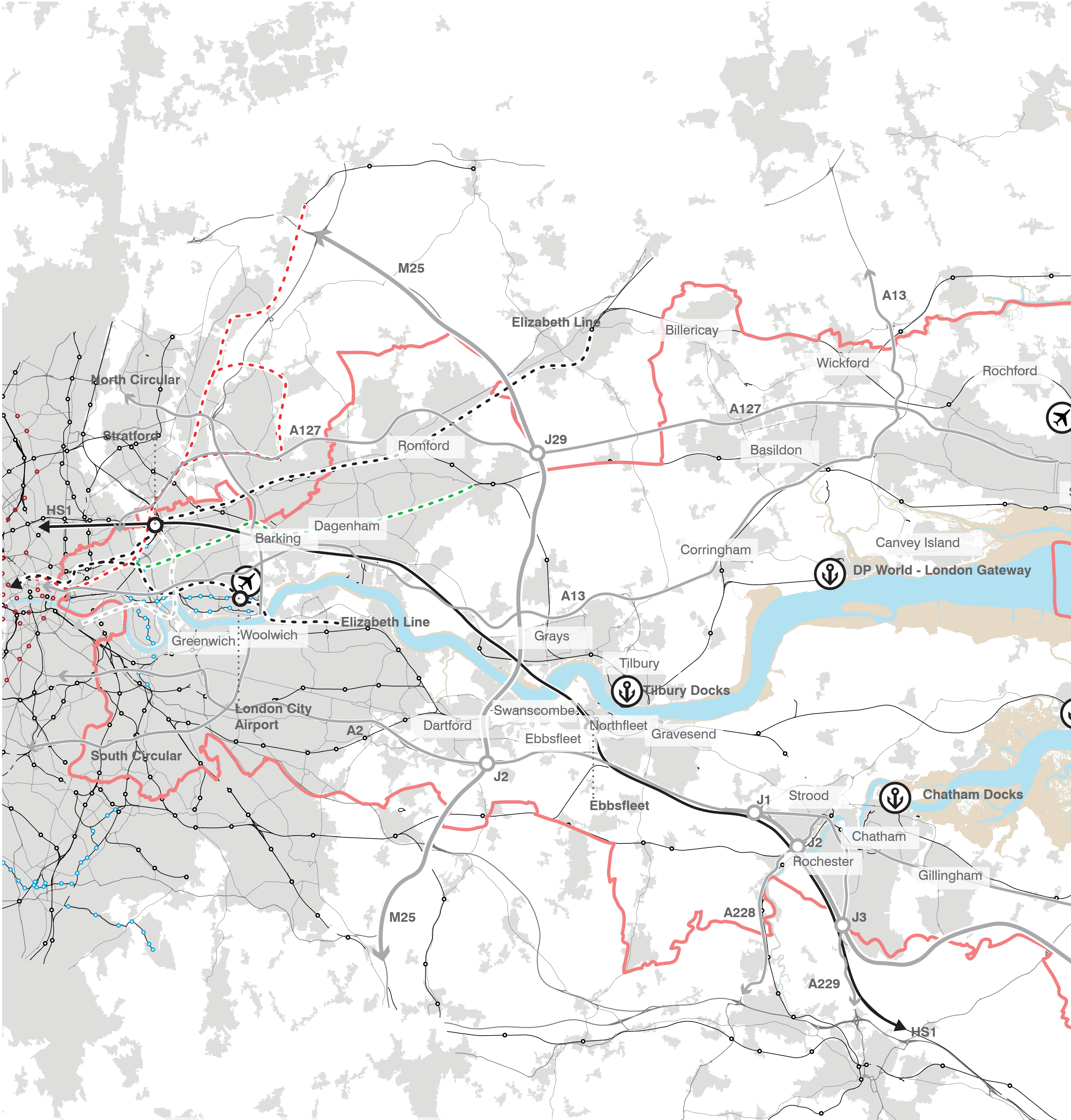

Map 2: Major Transport Infrastructure


London Southend Airport
Southend-on-Sea
Thamesport
Sheerness Docks
Sheerness
Margate
Broadstairs
Herne Bay
Whitstable
A299
Ramsgate
A2
Sittingbourne
A28
Faversham
M2
J7
Canterbury
A2
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Chapter 2: The Case for Investment

As this Technical Report and the 2050 Vision set out, the Thames Estuary is an area with great potential. It has sizeable economic power, a strong feeling of collaboration and a ‘can do attitude’ from London right out to the sea. It has an important brand and status, which makes an important contribution to the UK economy and UK plc.

Over the past few decades, it has consistently been unable to deliver the same levels of economic growth as other parts of the UK[1]. Its recent success stories are at Canary Wharf and the Thames Estuary’s ports (both Tilbury and DP World who are expanding). However, the benefits of these pockets of growth have not necessarily been felt across the area. By way of example, Canary Wharf generates the highest GVA per employee job in London at £106,365[2], well above the national average[3]. This skews the story across the Thames Estuary; when looking to the area which is not in London, GVA per employee job drops dramatically to around £52,000. This has resulted in a large disparity in wealth and opportunity. The Thames Estuary partners want to work together to ensure that this is not an enduring problem across the area.

One of the challenges for the Commission has been to interrogate what has not worked, and why. Moreover, the Commission has wanted to understand how the significant strengths in the area can be capitalised upon to make sure that economic growth is not reserved for some but rather can have a lasting impact for existing and new businesses and residents across the area.

2.1 Strengths and Opportunity

When examining the area, the Thames Estuary has significant strengths: its proximity to London; international trade via its ports; strong universities; further education and research institutions; and availability of land to deliver high-quality homes. Yet, given its underperformance across a range of social and economic measures (summarised below), identifying what is needed to spread opportunity and growth is a complex task.

There are a number of particularly pressing challenges which, if left unmet, will continue to keep the area lagging behind its competitors. There is a significant lack of skills and educational attainment from early years through to NVQ level 4 qualifications. This is also stopping inward investment (employers cite easy access to a highly skilled labour market as one of the top reasons for investing in an area)[4]. Low demand for highly skilled jobs could lead to skills under-utilisation and reduce incentives to upskill. Workers have little motivation to upskill due to the lack of skilled employment, while the lack of skills is likely to further disincentivise businesses from locating in the area[5]. Of the 18 local authorities in the Thames Estuary, eight are below the regional average in both skills demand and supply[6]. On a macro level such areas tend to exhibit low productivity. On an individual level there is likely to be low levels of job security, low incomes and limited career progression opportunities.

Although rich in natural and heritage assets, the coastal and remote river edge communities suffer from an ‘end of the line’ effect. This has limited major investment outside of isolated pockets such as the Kent Science Park. Connectivity into London is relatively reliable but local connectivity between and within places struggles. This can make it difficult to navigate the Thames Estuary, creating a disjointed effect where the area does not feel like it is driving investment in a cohesive way. There is a lot of will and ambition locally to deliver change but the powers (both fiscal and policy) are dispersed across large areas. By way of example, the South East Local Enterprise Partnership (LEP) covers both Kent and Essex (and East Sussex) with one of the largest LEP boards in the country. The large geography covered by the LEP makes prioritising projects spanning three counties and the Thames (which can be both a barrier and opportunity) a challenge.

2.2 Delivery, Investment and Proximity to London

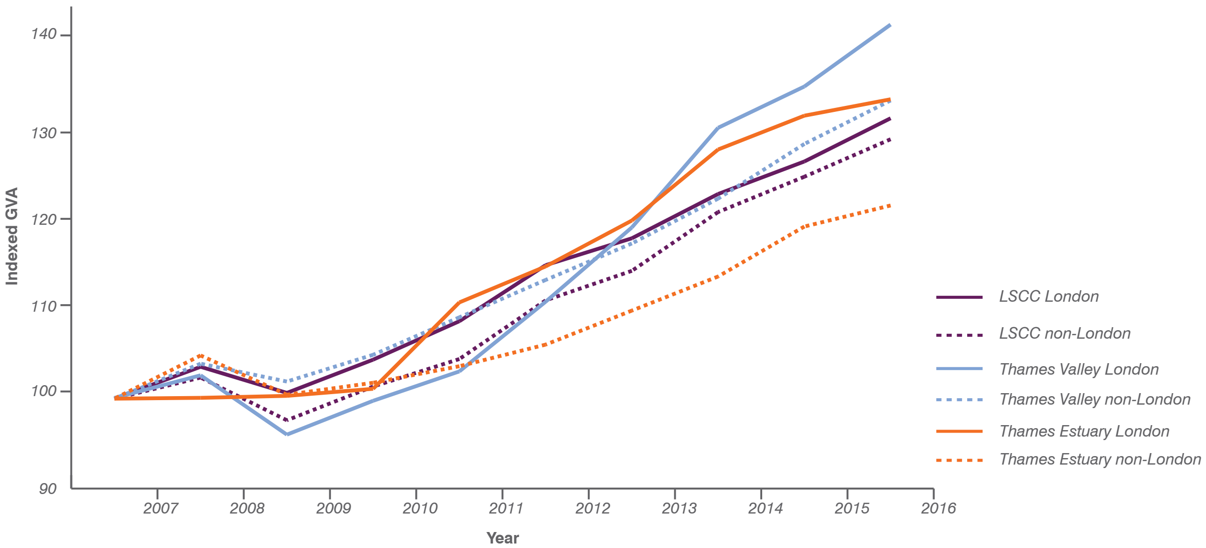
The business as usual approach is not working. Without concerted action, there is a risk that the Thames Estuary will fail to fulfil its potential, at huge opportunity cost to local communities and the national economy. This is why the area was identified as a place that needed interrogation by an independent Commission.

The Commission acknowledges that the area needs strong delivery and investment to ensure that, as other high growth corridors around London expand, the Thames Estuary is not left behind. The Thames Estuary (outside London) grew more slowly than any of the other London corridors since 2008 (see Figure 1). The Thames Estuary has vast potential and could catch up with other corridors that have outpaced UK growth if it is given a clear vision and a focus on delivery.

Given that part of these corridors' success can be attributed to its proximity to London and the access to skills and goods both into and out of the Capital, there is a clear need to make sure that the Thames Estuary utilises its proximity to London and works on its productivity rather than serving as a dormitory.

The Greater London Authority and South East LEP already has a particular emphasis on east of London out to the Estuary as a significant Production Corridor. It wants to focus on its strength in cultural and creative industries to deliver new investment and jobs. Taken alongside other significant sectors in the Thames Estuary, including ports and logistics; construction; and health and medicine, there is real potential to ensure that its ambitions are realised. In doing so, the area would perform like the other productive corridors around the Capital including the Thames Valley, London-Stansted-Cambridge Corridor, the Coast to Capital corridor and the newly emerging Cambridge-Milton Keynes-Oxford corridor.

Figure 1: *GVA Index (2007=100). Source: Analysis undertaken by Ministry of Housing, Communities and Local Government using data from ONS*



2.3 Priorities

The Commission has set out a series of priority projects in the short, medium and long term. These have been identified as delivering against the vision's objectives, with the biggest potential to deliver long lasting benefits including jobs and homes. Some of the priority projects are capital projects, some are revenue funded projects; principally they are expected to spread benefits and act as catalysts for further and longer term investment.

2.4 Governance

The Thames Estuary can draw on its strengths to tackle its weaknesses but in doing so it needs to make sure that it sends a clear message to Government about the need for investment and has an ambassadorial organisation or figurehead to keep the message for investment focused, looking to the Northern Powerhouse and Midlands Engine as exemplars. Part of this will be about a governance structure that allows the area autonomy across planning and revenue-raising powers so that it can realise more than the sum of its parts when delivering housing or employment growth. Through innovative approaches to funding and financing, the area could deliver real gains in terms of infrastructure delivery and a 'can do attitude' appropriate to the public sector and private sector investors.

Key to the focus of the 2050 Vision are the options available for a delivery vehicle that can use powers already handed down to agencies, including Homes England, to drive high levels of growth. Without the ability to choose where, when and how to invest, the Thames Estuary will not be able to deliver the priority projects to unlock most growth.

This Technical Report sets out the trends and drivers in detail, but fundamentally the case for investment in the Thames Estuary is twofold:

1. it is about investing further in the area's strengths, unlocking development and infrastructure through targeted proactive funding and delivery; and
2. investing in the weaknesses to ensure that economic growth is inclusive and tackles long term deprivation. This means turning around skills and employment to make sure that the area is the obvious place for investment by employers and not relegated to being a dormitory for London's extensive growth.

This is a long term vision, which can have lasting long term benefits. However, to realise this vision, it must be tackled now.

Chapter 3: Context

The Thames Estuary Region has a past rich in history and is at the centre of London's growth and global trade routes. Its ability to respond to, and adapt to, trends and opportunities can be charted all the way back through its history. From its formation and the Ice Age through to helping to successfully deliver the London Olympic and Paralympic Games in 2012, the Thames Estuary has a lot to be celebrated. It is through this lens that this section sets out the significant role the region has played in the UK economy over time.

This chapter also shows why the Thames Estuary needs significant investment to allow it to continue to support the UK economy and deliver globally acknowledged trade benefits. As we move towards Brexit, the impact of these trade benefits over the coming decades should be recognised. Ensuring the UK's historic success stories are nurtured will ensure a strong and steady future.

This chapter provides the context for the Thames Estuary 2050 Growth Commission Vision. It is structured as follows:

- The past – an overview of how the Thames Estuary has developed over time and how this has informed some of the challenges the area faces today.
- The present – a series of indicators on the existing conditions of the Thames Estuary area and how these are affecting the current performance of the area.
- The future – the key trends to 2050 and beyond which the vision for the Thames Estuary will need to respond positively to.

This chapter also provides information on the Commission's work undertaken to date, particularly in relation to the 'Call for Ideas' which was held in 2016. It concludes with a series of opportunities and challenges which the vision for the Thames Estuary must address.

Data sources for the information outlined in this section are provided in the Endnotes at the end of the Thames Estuary 2050 Growth Commission Technical Report.

3.1 The Past

3.1.1 Formation and the Ice Age

This section provides an overview of the major events and processes that have defined the Thames Estuary throughout history. Being such a large area, and having such significance in the history of the UK, the history of the Thames Estuary is vast, rich and varied. This section touches on the factors that have had the most profound effect on the Thames, shaping the area in the present day. This section seeks to explain the formation of the environment, the patterns of settlement, the forces through which it was urbanised, and the later administrative changes that continue to shape the Thames Estuary.

The Thames history can be traced back 2 million years to the early Ice Age, when it is believed to have flowed from the Welsh mountains, across southern Britain, further north of its current position. The river Medway merged with the Thames somewhere around modern day Clacton; it then continued across what is now the North Sea before merging with the River Rhine (refer to Figure 2).

As the current alignment of the Thames formed, and the level of the North Sea settled to around its current extent, the pre-glacial route of the Thames became the basis of the Blackwater Estuary. The River Medway was inundated such that it now discharges into the Thames Estuary system, rather than merging with the Thames itself.

The glacial legacy of the Thames Estuary has led to large areas of flat marshy land and coastal inundation which now require careful management in order to mitigate flood risk. The challenge posed by these low lying areas is likely to increase in the future due to the persistent rise in sea levels, which the Environment Agency predicts will reach between 20 and 90cm by 2100[1].

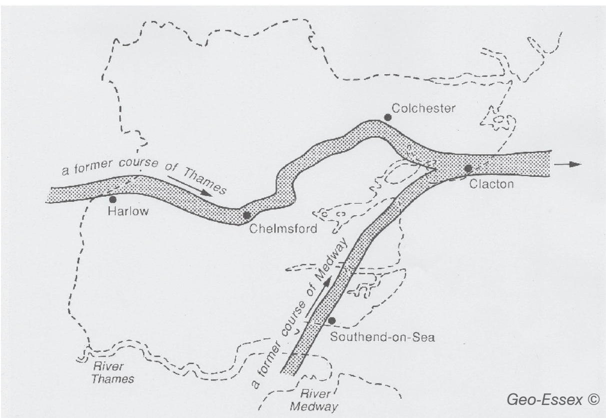


Figure 2: *Approximate original course of the pre-ice age Thames/Medway*

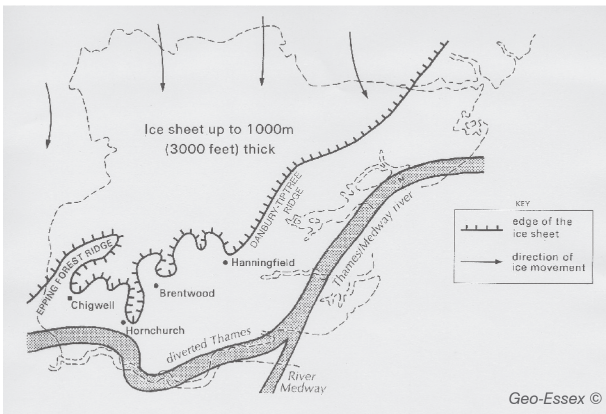


Figure 3: *Approximate extent of the Anglian Ice Sheet*

3.1.2 Settlement and Invasion

The earliest reliable records of permanent human activity on the banks of the Thames Estuary is from the Neolithic times (c. 4,000-2,500 BC), where there is evidence of Neolithic settlements, field systems, salt-making and funeral monuments. This system of small scale settlements meant that the river became an important route for trade; there was trade between ancient Britain and mainland Europe via the River Thames by the time of the Roman invasion and settlement.

For these reasons, the Thames Estuary was favoured by the Romans as an area of settlement, particularly given their knowledge of land reclamation and cultivation. Londinium (the current City of London) was founded as a trading post and garrison, at the first bridgeable point of the river. The main exports were wool, metals and stone from the interior of Britannia, whilst wine, fruit and vegetables were imported.

Rapid sea level rise during the Roman period led to many of the lowland farmsteads being abandoned to the intertidal zone. By the medieval period, a system of isolated nucleated villages and manors had developed on the higher ground, evidenced by the many medieval churches in northern Kent and southern Essex. By the period around 870AD, the strategic features of the estuary attracted Viking raids which swept up the Thames.

Subsequent to the Battle of Hastings, William the Conqueror sought complete domination of the Thames before he went on to stage the invasion of the rest of Britain, building castles at strategic points, including Rochester.

The settlement pattern from this period has largely remained to the present day. For example, the A2 and A12 follow the same routes as the Roman roads from London to Canterbury and Chelmsford. The retention of this road pattern means that there is more limited north-south connectivity, with most road and rail infrastructure leading to London.

Figure 4: *Reculver Tower (c.1100AD) and Roman Fort (c. 300AD) near Herne Bay, Kent*

3.1.3 Militarisation, Trade and Industry

The Estuary's continued strategic importance, as the centre of a burgeoning global trading hub led to its continued fortification. The need for naval protection for England's merchant fleet, and projection of power and influence over far flung trading posts and routes, meant that significant naval dockyards grew up around Deptford, Woolwich, Chatham and Sheerness.

The most significant of these complexes, Chatham dockyard, developed in response to the growing tensions with parts of mainland Europe following the Reformation, and continued its Naval function right through to 1984.

Upgrading and the construction of new fortifications continued throughout the 1700s and 1800s, to stem the threats posed by various Dutch, French and Spanish attacks. This fortification built up significantly during World War II. A large number of land forts were reinforced and a new network of pillboxes constructed. Sea forts were also constructed to defend against air raids, submarines and minelayers and protect the River Thames as a vital supply route for the population and war effort.The significant militarisation of the Thames Estuary has reflected its growing significance for global trade, which has left an indelible mark on the landscape and townscape of the area. Technological advances in merchant shipping throughout the 18th, 19th and 20th centuries saw an increase in the size of ships and volumes of cargo that they held. This increase in size led to the emphasis on docking activity gradually shifting down the river from the original mercantile heart of the City of London. As this shift to East London occurred, the City took on the administrative and headquarter role, as well as retaining the finance and insurance institutions that built up around the merchant activities.

The shift eastwards was facilitated by more and more significant feats of engineering to accommodate the move from jetties and piers to larger docks that could accommodate the modern merchant ships.

In its prime the logistics and heavy industrial base of the area provided a large, secure employment base that required modest skill levels but paid relatively well. As this sector has declined in the 20th and 21st centuries, pockets of entrenched deprivation have emerged, particularly in areas where this sector represented the dominant industry.

Figure 5: *Tilbury Fort, Tilbury, Essex*


English Heritage ©

3.1.4 De-Industrialisation and Administrative Change

The development of docks often led to the co-location of industry seeking locational advantages of proximity to the port. There had been little innovation in bulk transportation of goods and it still required large amounts of labour to load and unload ships. During the 1950s the multi-modal freight container was developed in north America. This apparently modest innovation transformed the industry, leading to the closure of much of the worlds upstream inner city docklands. In 1970 the Port of London Authority introduced a five year plan for the phased closure and rationalisation of berths to Tilbury, which caused the complete obsolescence of upstream docks in London by 1980 (along with many upstream, city centre ports across the world).

In 1973, the Greater London Council along with the Department for the Environment developed five spatial options for the redevelopment of the docklands – the most ambitious of which was the 'City New Town' which envisaged 141,000 new residents and 90,000 new jobs around a new centre at Isle of Dogs and a secondary centre at Surrey Docks. However, a change in government abolished the Greater London Council, and subsequently set up the London Dockland Development Corporation (LDDC), which became the planning authority for the Docklands area. The LDDC pursued a less structured approach than the previous GLC plans, and was accompanied by the establishment of an enterprise zone, which enabled significant tax relief on businesses in the area. The legacy of the LDDC constitutes much of the housing that is still evident today in Wapping, Rotherhithe, Surrey Quays, as well as the development of Canary Wharf.

Further reform to London governance occurred with the incoming Labour administration in 1997. Voted in with a devolution agenda, the government formed the Greater London Authority, which came into effect in 2000. During this period the Thames Gateway Development Corporations were created to expedite the regeneration of large swathes of brownfield land in East London and the Estuary. It also helped secure the High Speed 1 station to stimulate the growth of a new town at Ebbsfleet and begin the transformation of the Lower Lea Valley in East London.

In July 2005, it was announced that London had won the right to host the 2012 Olympic Games; the successful bid was based on the premise of a huge redevelopment of previously marginal land in Stratford and the Lower Lea Valley. This stimulated the creation of a new Development Corporation, and created the Olympic Delivery Authority (subsequently the London Legacy Development Corporation). The Olympics precipitated a massive change in the urban fabric of East London and the redevelopment continues to this day.

Figure 6 provides a timeline which outlines the major changes in governance over time. More information on current governance arrangements are provided on page 97 onwards.

Currently there are 18 local authorities (three of which are unitary authorities) as well as the area falling within Greater London and Kent and Essex County Councils and two development corporations. This administrative complexity, along with other statutory bodies has led to a fragmented approach to governance which can make strategic planning and prioritising interventions more challenging.

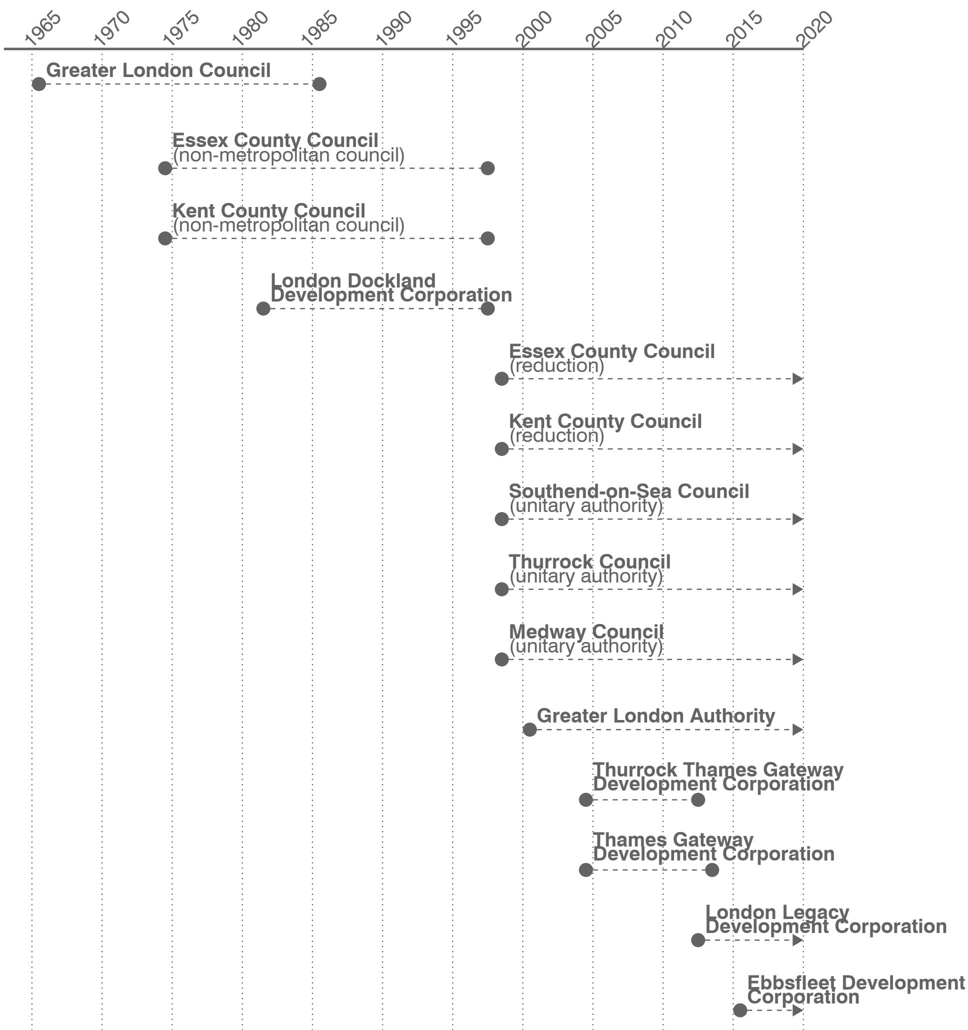


Figure 6: *Administrative fluctuations in the Thames Estuary*

3.2 Present

This section provides an overview of existing conditions within the Thames Estuary. The findings are presented around the themes of people (population, prosperity, crime and anti-social behaviour, employment and skills, and economic activity), place (sectors and industries, employers, higher education, environment, growth locations, commuting patterns, and infrastructure), movement (commuting patterns, congestion and capacity, north-south connectivity, planned improvements, ports and freight and transport mode) and policy direction and governance.

The purpose of interrogating these themes was to enable the Commission to make evidence-based decisions on priorities for the area and present a compelling case to invest in the Thames Estuary, particularly when looking at the untapped potential of the area alongside addressing the challenges it faces. By addressing both the challenges and opportunities together, the area will be able to deliver growth and tackle entrenched deprivation. A combined strategy will deliver greater benefits than the sum of multiple independent strategies.

3.2.1 People

A large and diverse number of people live and work across the Thames Estuary. The demographics across the Estuary area have their similarities – particularly when compared with the London, South East and East averages – but there are also key differences between different parts of the Estuary. This section explores population and demographic trends in the Thames Estuary, as well as the prosperity, skills and education, and the economic activity of its residents.

3.2.1.1 Population

With around 3.58m inhabitants, the Thames Estuary area has a sizeable population[2]. The scale of the population of the area provides significant opportunities including agglomeration benefits – more details of which are provided on page 111.

The population of the Thames Estuary area grew significantly between 1991 and 2016, with a 26% increase over the period[3]. This is higher than the South East (18%) and East (20%) regions' demographic trends and broadly comparable with the London growth rate at 29%. However, at the sub-regional level there is variation between local authorities. Tower Hamlets (83% growth), Newham (58% growth), and Greenwich, Barking and Dagenham and Dartford (around 33% growth each) have seen above average increases in population whilst Bexley, Thanet and Southend-on-Sea (around 12% growth each), Havering (9% growth) and Castle Point (3% growth) have seen much smaller increases. Unravelling why the areas that have not seen average (or above) growth is an important factor in both the people and place sections of this report. The lack of growth could be attributed to slower housing delivery and/or attractiveness of the place both as somewhere to live and to access jobs.

Within the Thames Estuary area, there are large variations in population levels. With close to 350,000 inhabitants, Newham is the most populated local authority in the Thames Estuary, more than three times bigger than the least populated local authority of Rochford (Figure 7). It should be noted, however, that authorities differ in size as well as population density and that this comparison may be misleading.

Government projections suggest that the population of the Thames Estuary is estimated to reach 4.3m by 2035, which would represent 20% growth[4]. This increase is expected to be mainly driven by growth in London boroughs, which will grow at a 28% rate compared to 20% for Kent local authorities and 16% for Essex local authorities. This will mean that, by 2035, London boroughs will represent about 70% of the Thames Estuary population, compared to around 53% at the projections start date (2014). This distribution of population growth is also reflected in recent residential planning permissions and adopted and proposed residential allocations in Local Plans – see pages 69-72 for more information. Government projections do not extend to 2050, however these trends can be extrapolated to provide an indication of how the area will continue to grow. More information is provided on page 102 and page 113. Accommodating this growth through the delivery of high-quality neighbourhoods and appropriate skills and employment opportunities across all skills levels has been a core component of the work to ensure a strong legacy is left for future generations.

Across the area as a whole, the population of the Thames Estuary has a balanced age profile with a broadly equal composition between 0-25, 25 to 49 and 50+ age groups. However, variations exist across the area. London boroughs have the youngest population; in Tower Hamlets the median age is 29[5], whilst older populations are resident in northern Kent and southern Essex. For example, the median age in Castle Point is 45.

Population growth since 1991 has largely been within the 25-49 and 50-64 age groups[6]. However, within the area the picture varies from one local authority to another, with a number of authorities experiencing an increase in the proportion of 0-15 and 16-24 population. This includes Barking and Dagenham (70% and 17% increase, respectively), Canterbury (7% and 70%), and Tower Hamlets (46% and 66%). In comparison, Castle Point has seen an absolute decrease in its very young population (0-15) and young population (16-24), with decreases of 16% and 20% respectively. Decreases in the 16-24 population were also recorded in Southend-on Sea (-11%), Basildon (-11%), Gravesham (-9%) , Havering (-8%), Dartford (-6%), Lewisham (-5%), Thurrock (-4%), Rochford (-3%) and Bexley (-2%). Conversely, some neighbourhoods in Canvey Island, Corringham, Chatham, Gillingham, St Mary's Island in Medway and north of Canterbury have registered more than a doubling of their 60+ population (almost trebling in some areas).

The reasons for demographic change are often complicated and multifaceted. However, as described earlier, in the Thames Estuary they are likely to be driven by a combination of the housing offer, job prospects, connectivity to centres of employment, and the relative quality of environment compared with other locations.

Changes in both the absolute number of people in the region and their demographic composition has impacted the workforce available, and affected the economic performance of the Thames Estuary. This is considered further on page 111 onwards.

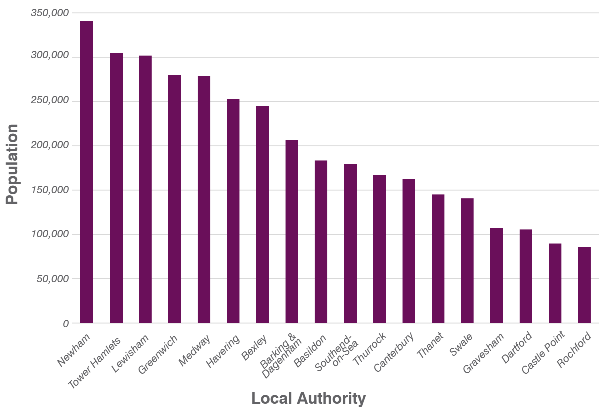


Figure 7: *Population by local authority, 2016*
Source: ONS

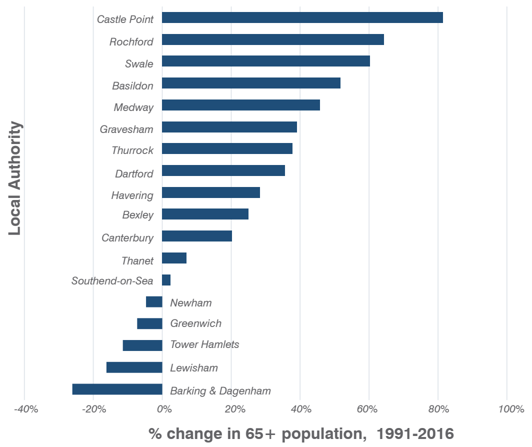


Figure 8: *Changes in population over 65, 1991-2016*
Source: ONS

3.2.1.2 Prosperity

Median weekly pay for Thames Estuary residents was around £596[7] in 2017. This is similar to the South East average (£597), slightly above the East level (£575) but below the London average (£654). The gap between the highest earning local authority in the area (Tower Hamlets) and the lowest earning (Thanet) has more than doubled in the last 15 years, from about £100 (in 2008 prices) to £200 (in 2016 prices). Households in the Thames Estuary have an average weekly income of about £800 before housing costs[8]; this is significantly below the combined average for London, the East and the South East of £885 (2014), but above the national average of £767. The different levels of income across the Thames Estuary may be related to the demographic composition, for example the higher proportions of older population in Kent and Essex compared with London (see page 29). However, it is also likely to be a function of the skills mix in the area (covered in more detail on page 35) and the sectors active across the Estuary (see page 43).This is where a focus on skills and reducing the poverty gap is fundamental to the ongoing strategy for the Thames Estuary and, to ensure that there is not simply an introduction of jobs but productive and well paid jobs.

In terms of housing affordability, the highest house price-to-earnings ratio9 is in Tower Hamlets at 12.49 with the lowest ratio in Swale at 7.2. Most of the area therefore falls above the England average of 7.6, with the ratio increasing closer to London. The average lower quartile house price is at its highest in Tower Hamlets at £362,500; in comparison, Gravesham, Canterbury and Castle Point have a lower quartile above £200,00010, illustrating the range across the area. Between 2010 and 2016, the median price of houses in the London boroughs increased by over £100,000. In contrast, the average increase outside of London was £73,450 in Essex and £65,600 in Kent. Generally, moving eastward from London on both sides of the river, the median house prices decrease. However, there are 'hot spots' within this trend with a slight uplift in Canterbury and Castle Point. This could be a function of environmental quality/desirability, or links to areas of employment activity.

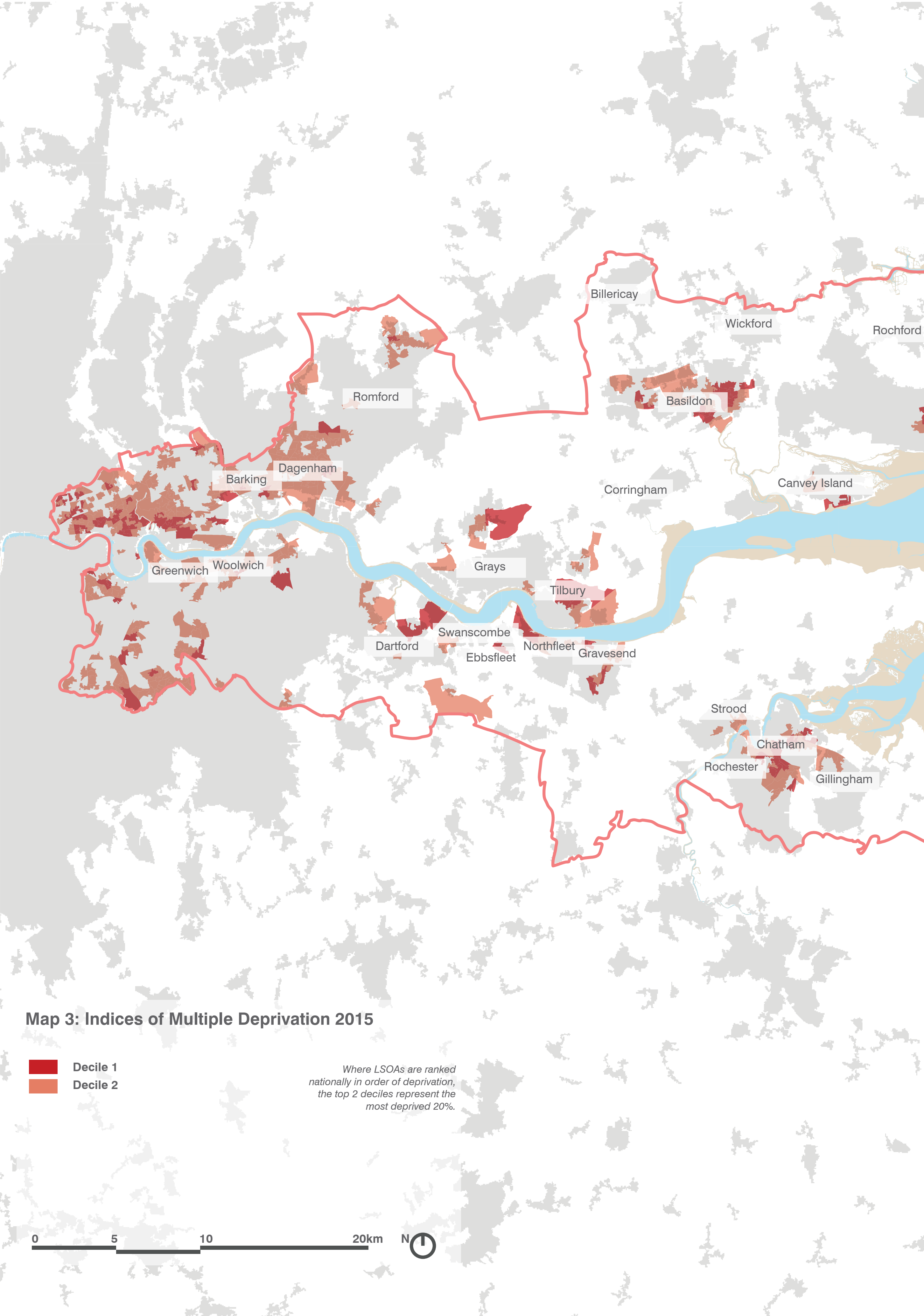
Housing vacancy rates for Essex and Kent are 2.15% and 2.46% respectively, compared with a national average of 2.49%[11]. The rate for Greater London is significantly lower than the national average, at 1.68%. A certain vacancy rate is a normal element of a functioning transitional housing market; a proportion of the housing stock will always be required to allow for normal 'churn' (buying, selling, letting and improvements). Lower levels in London may therefore be indicative of a tight property market. Across the area, there are some local authorities – Southend-on-Sea, Canterbury and Thanet – that have vacancies above the national average. Canterbury, Thanet, Havering, Lewisham and Newham have an above-average level of long term vacancy (defined as being vacant for over six months). It is not clear what is driving these more localised vacancy rates and whether the local authorities are taking active steps to tackle them.

The most deprived neighbourhoods of the Thames Estuary fall within Thanet, Tower Hamlets, Barking and Dagenham and Newham[12]. However, as illustrated in Map 3, most urban areas in the Thames Estuary contain neighbourhoods with higher levels of deprivation. This includes places such as Chatham, Tilbury, Basildon and Southend-on-Sea. The Isle of Sheppey also represents an area of deprivation, where deprivation might be coupled with spatial isolation. Broadly speaking, there are three different 'types' of deprivation across the area:

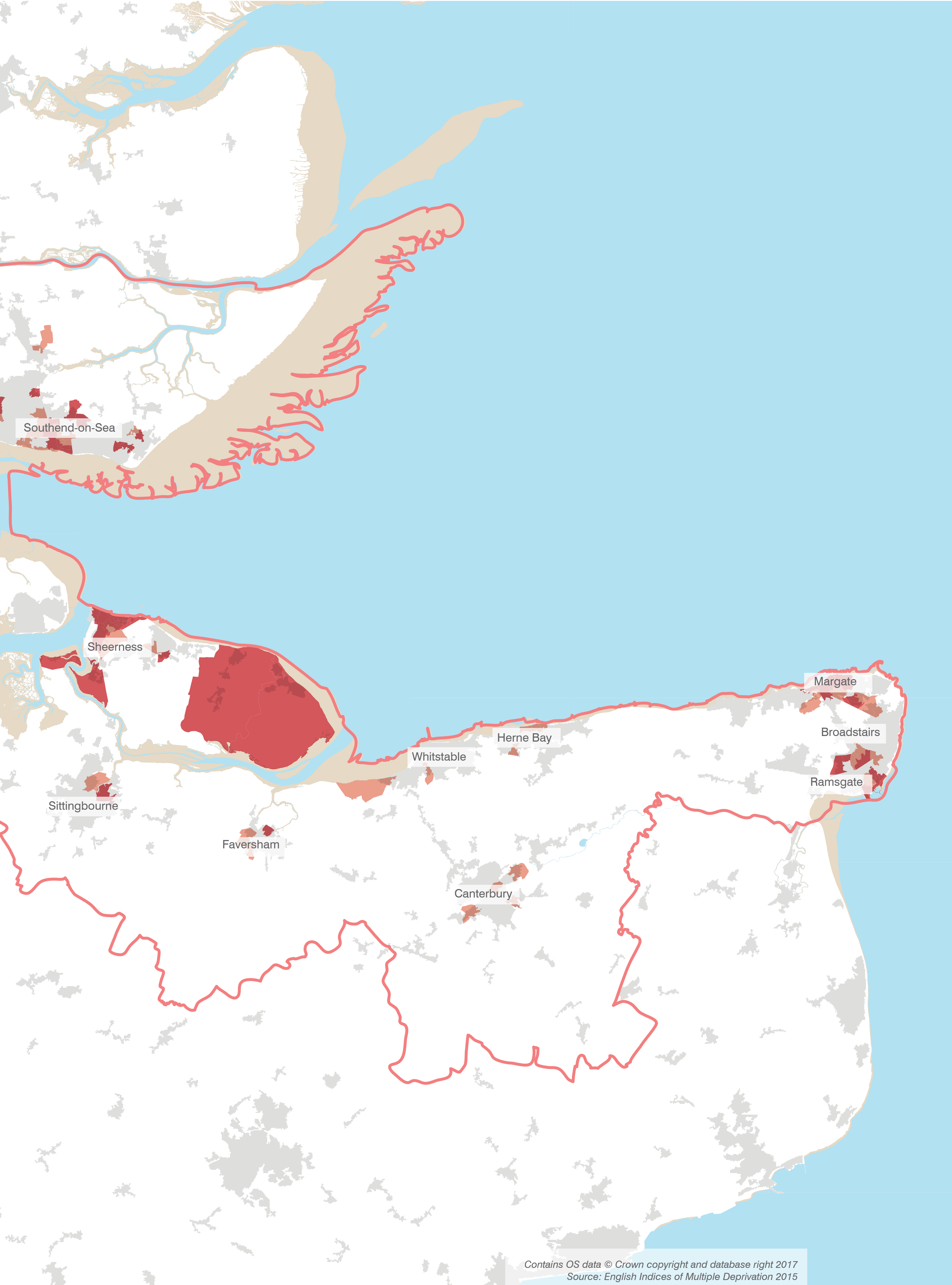
- rural deprivation in areas such as the Isle of Sheppey, linked to lack of connectivity to employment centres and the supply of jobs;
- city deprivation within London, linked to a mismatch between jobs and skills for the local population; and
- town deprivation in areas such as Tilbury and Basildon, caused by a mismatch between jobs and skills, a lack of connectivity both within the town and to more prosperous areas, and in some cases a poorer quality of the built environment.

The combination of the fact that the area is characterised by a 'low wage' economy (with a lack of connectivity to employment centres, supply of jobs and skills) with the pockets of more significant urban and rural deprivation is a significant challenge to prosperity of the areas.

Tackling deprivation can be a huge challenge as there is no 'one size fits all approach' and there will be different interventions to improve people's life chances. Deprivation across very different types of localities can also be difficult to address at a region wide level, which is why the prioritisation approach described later in the document sets out why it is so important to have different priority places (as well as projects). Deprivation impacts on local productivity, local economic spending (and the night time economy) and up-skilling opportunities. This affects overall economic growth and health and wellbeing. Breaking down the causes of deprivation and looking at solutions are central to the objectives and priority projects in the 2050 Vision.



Map 3: Indices of Multiple Deprivation 2015


Southend-on-Sea
Sheerness
Sittingbourne
Faversham
Whitstable
Herne Bay
Canterbury
Margate
Broadstairs
Ramsgate
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Source: English Indices of Multiple Deprivation 2015

3.2.1.3 Crime and Anti-Social Behaviour

Thanet, Medway, Dartford and Gravesham have the highest average rate of crime count per population of around 12-15 incidents per 100 residents[13] which is often a reflection of deprivation, as described above. On average, the London boroughs within the Thames Estuary have a lower rate, at 8.6 incidents per 100 people; however, this varies between boroughs, with Tower Hamlets and Newham having higher incidence rates. In comparison, the average crime rate in London is around 10 incidents per 100 people in London as a whole, and around 8 in the South East.

Antisocial behaviour, together with violence and sexual offences, are the most common types of offences across the area, accounting for around 25% and 28% of all crimes reported respectively. In terms of the latter, the average share across the Thames Estuary is in line with the averages for London (27%) and the South East (33%).

3.2.1.4 Employment and Skills

Across the Thames Estuary, some 23% of 16+ year olds have no qualifications, with a greater proportion living in rural than in urban areas[14]. This is five percentage points higher than the London average, two points higher than the South East, and broadly consistent with the East of England average. The north of the Thames Estuary (the Essex authorities, Barking and Dagenham and Havering) tends to have the lowest educational attainment; in Castle Point, almost 30% of the population have no qualifications. This picture could be set to improve given school performance at Castle Point (see below). Overall, the higher levels of adults with no formal qualifications, particularly in Essex, may mean the Estuary is a less attractive location for employers, particularly those which rely on high or technical skills. There is a link between qualification levels and occupations present in the Thames Estuary area (see page 37), but also – crucially – there is a relationship with levels of unemployment caused by skills mismatch (see page 38).

Wide variations exist across the area in terms of the quality of education – only 45% of 11-15 year olds in Basildon live within 5 km of a good or outstanding school, compared with 100% in Castle Point (against an English median of 69%)[15]. There is no clear geographical pattern in terms of the quality of education. However, five of the seven London boroughs are within the top three sextiles for the Department for Education's 'Achieving Excellence Areas', whilst three of the

Kent authorities (Thanet, Medway and Gravesham) are within the bottom two sextiles[16]. This may be a reflection of the success of the London Challenge programme to improve the quality of schools in the Capital. Across the area, levels of Education Skills and Training Deprivation[17] suggest the highest levels of educational deprivation are in areas such as Basildon, Canvey Island, Southend-on-Sea, areas of Thurrock, the Medway Towns, and the Isle of Sheppey. There are more isolated pockets of deprivation in areas of London and other urban areas.

Tower Hamlets has the highest share of people educated to a university level degree (which likely reflects those who work in professional industries in The City/Canary Wharf), despite pockets of deprivation in the borough. The destinations of students after completion of A-Levels show the variety of education and skills-related outcomes across the area. For example, in Tower Hamlets, around 81% of students pursue a higher education degree after their A-Levels, compared to 59% in Thurrock, which has a much higher share of apprenticeships (12% compared to the English average of 7%[18]). This higher take-up of apprenticeships may be linked to local employers, such as the ports, providing and promoting apprenticeships. Differences across the Thames Estuary become more pronounced when looking at the proportion of students joining one of the 24 leading 'Russell Group' universities after A-Levels. This is around 20% in Bexley, compared to around 5% in Thurrock or Lewisham[19] – this is likely due to a combination of both differing levels of educational attainment across the area and differing levels of (formal and informal) support available. More information on higher education in the Estuary area is provided on page 54.

A core component of the 2050 Vision is therefore to tackle skills and education and to make sure that young people (and indeed people of all ages) are afforded the best opportunities in skills and education. Once a child at the age of four starts in deprivation, with poor education, they can be stuck in an entrenched cycle which is very hard to break.

3.2.1.5 Economic Activity

Of the 1.3m people employed within the Thames Estuary in 2016, a total of 55% of them work within the London boroughs[20]. In general, the total number of people in employment grew in the area by 19% since 2009 (compared with a growth in residents of 11%). Much of this growth has been within the London portion of the area, which grew by 27% over the same period. In particular, both Tower Hamlets and Newham have grown by 40% in terms of employment since 2009.

Concentrations of jobs (defined as where the number of jobs exceed the number of residents) are found in places such as Grays, Tilbury, Corringham and parts of Southend-on-Sea, Basildon, the Medway Towns, Canterbury, and in locations within the London boroughs[21]. This distribution is shown in Map 4. This geography is in part indicative of where large organisations such as ports and universities are located, which are not only major employers in their own right but also support other businesses in their vicinity. Jobs concentrations are also reflective of industrial sites in the area.

There are a handful of authorities which have some sectors where there are more jobs in that sector than residents employed in that sector – in other words, there is a net inflow of employment for those sectors. Most significantly: manufacturing in Barking and Dagenham (+100% more jobs than residents employed); administrative and support services in Dartford (+140%); and real estate (+120%), information and communication (+140%), financial and insurance (+310%) and administrative and support services (+360%) in Tower Hamlets22. These places are the exception - comparing residents employed in a sector to available jobs in that sector within the authority, there is a net outflow of employment for most sectors and locations. More information on commuting patterns is provided on page 85.

Compared to London, the East and the South East, Thames Estuary residents working in the area are proportionally more likely to have a skilled trade[23] occupation, sales and customer service occupation and to be involved in process, plant and machine activities[24] (see Figure 9). In contrast, fewer residents employed in the area are engaged in higher managerial activities, professional and technical activities, and lower managerial, intermediate and semi-routine occupations. This supports the findings in the earlier section on wages and prosperity and relates to the focus for productive jobs and better skills and training to be brought to the area. The composition of Thames Estuary residents in terms of industry focus is therefore closer to the one of the East and South East regions than to London. More information on sectors can be found on page 43 onwards.

The Thames Estuary area has higher levels of unemployment than England as a whole, although since a peak in 2011 the unemployment rate has reduced from 9.9% to 5.3% (against an English average of 7.8% reducing to 4.5%). Some areas have seen particular reductions in levels of unemployment including Thanet where the rate has reduced from 12% to 4.5%[25].

The number of Job Seeker's Allowance (JSA) claimants across the Thames Estuary has decreased from a peak in 2011. In 2016, claimants represented about 0.9% of the population of the area[26]. However, whilst the level of claimants is similar to that of London as a whole (also at 0.9%), the reduction in the number of claimants has been slower. The level of claimants is higher than the East or the South East regions, both at 0.5%. As a result, although the population of the East region is bigger than the Thames Estuary, there were more JSA claimants in the Thames Estuary than in East of England in 2017. The number of JSA claimants aged 50+ remained relatively constant in the last four years, revealing a specific employability issue for this age group and the difficulty for more senior people to get back into work which is exacerbated in some areas by higher than average levels of an older population.

Unemployment rates in the Thames Estuary vary according to age. In 2011, more than 13% of the 16-24 population were unemployed, compared to less than 6% of the 25-49 population and just above 2% of the 50+ population[27] (also, as outlined above the numbers within this older cohort has remained more constant than other groups). In comparison, the unemployment level for this cohort is lower for the South East and East regions (at 10% and 11% respectively), and similar to the London average of 12%. Young unemployment is generally highest within the London boroughs – particularly Barking and Dagenham and Newham (16%), and Lewisham (15%) – as well as Thanet (16%) and Thurrock (14%). High levels of youth unemployment cannot be explained by students, who are classed as economically inactive (see page 36). Instead, youth unemployment might be a result of a mismatch between skills and jobs in some locations, or a more general lack of aspiration. Higher levels of youth unemployment may be a precursor to long term or entrenched unemployment, which would impact on the economic performance of the Thames Estuary area.

Long term unemployment[28] is particularly high in the London boroughs, with Tower Hamlets having the highest proportion of long term unemployment[29]. Across the Thames Estuary area, long term unemployment tends to be highest in urban compared to rural areas; the only exception to this is Barking and Dagenham, which has a concentration of unemployment in its rural hinterland. In rural areas, long term unemployment might be explained by low connectivity and mobility levels (see page 85). In urban areas, longer term unemployment might be linked to a local skills versus jobs mismatch problem, especially given the high job densities of London boroughs, particularly Tower Hamlets. This is a paradox of some inner city areas that can be both highly deprived and highly productive – comparable to areas such as Seine St Denis in Paris which is the most productive and most deprived area in France. This could be in part related to supply-related barriers to unemployment (for example employment discrimination), as much as potential employability problems on the demand side. Again, this supports the focus for productive jobs and better skills and training to be brought to the area.

Overall, the proportion of workless households (where no person over 16 is in work) in the Thames Estuary has shrunk from about 19% to 15% since 2004[30]. The geography of workless households is different from the geography of long term employment more generally; long term unemployment tends to be higher in London boroughs, however the five local authorities with the highest proportion of workless households are located in the south east and the east of the Thames Estuary area. This includes Gravesham, where more than one-third of households are workless, and the proportion of workless households has almost tripled in ten years. It is not clear why this entrenchment has taken place. Unemployment and long term unemployment might not fully capture the propensity of individuals or families to be at risk financially. However, the proportion of workless households might better indicate where families are likely to face high levels of financial exclusion.

Around 30% of the 16-74 population in the Thames Estuary were economically inactive in 2011[31]. This relatively high number (compared with the average of 28% for London, the South East and the East) is mainly driven by a high proportion of retired people in the area. However, the reasons for economic inactivity varies from one place to another. The London boroughs and Canterbury have the highest proportion of inactive people, largely explained by a higher proportion of students in these areas. In comparison, the Essex authorities and Thanet have a higher proportion of retired working age population (as high as 19% in Castle Point), with a lower proportion of students.

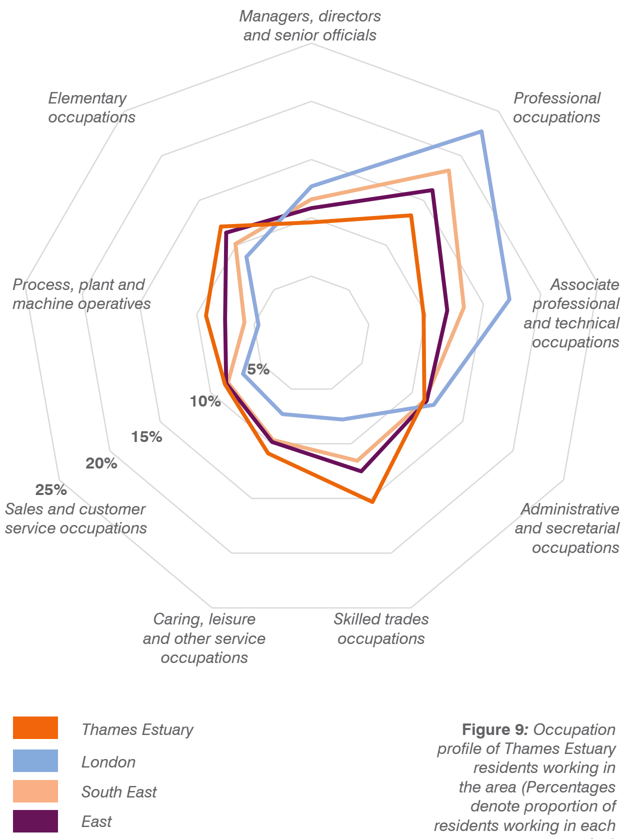
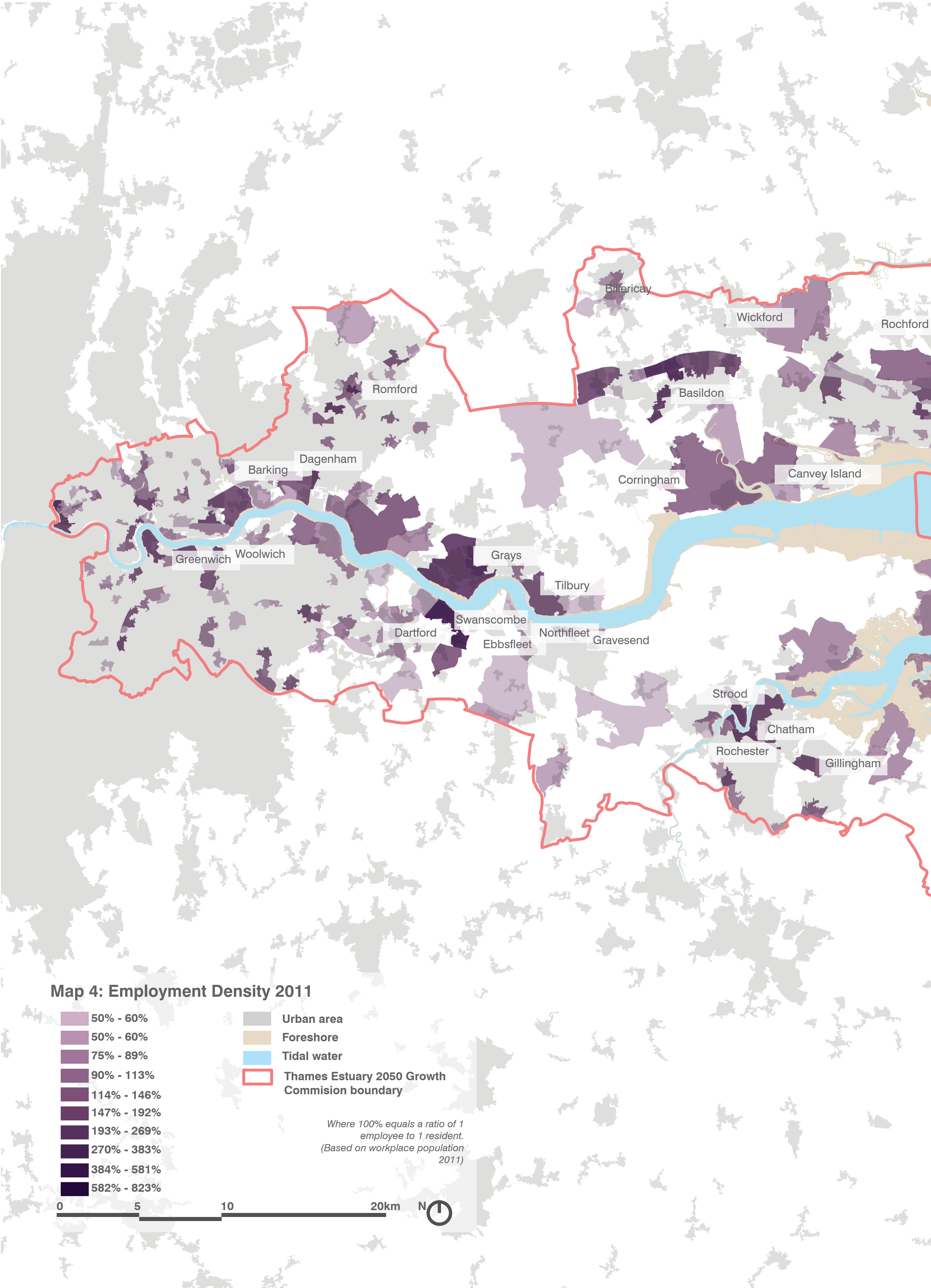
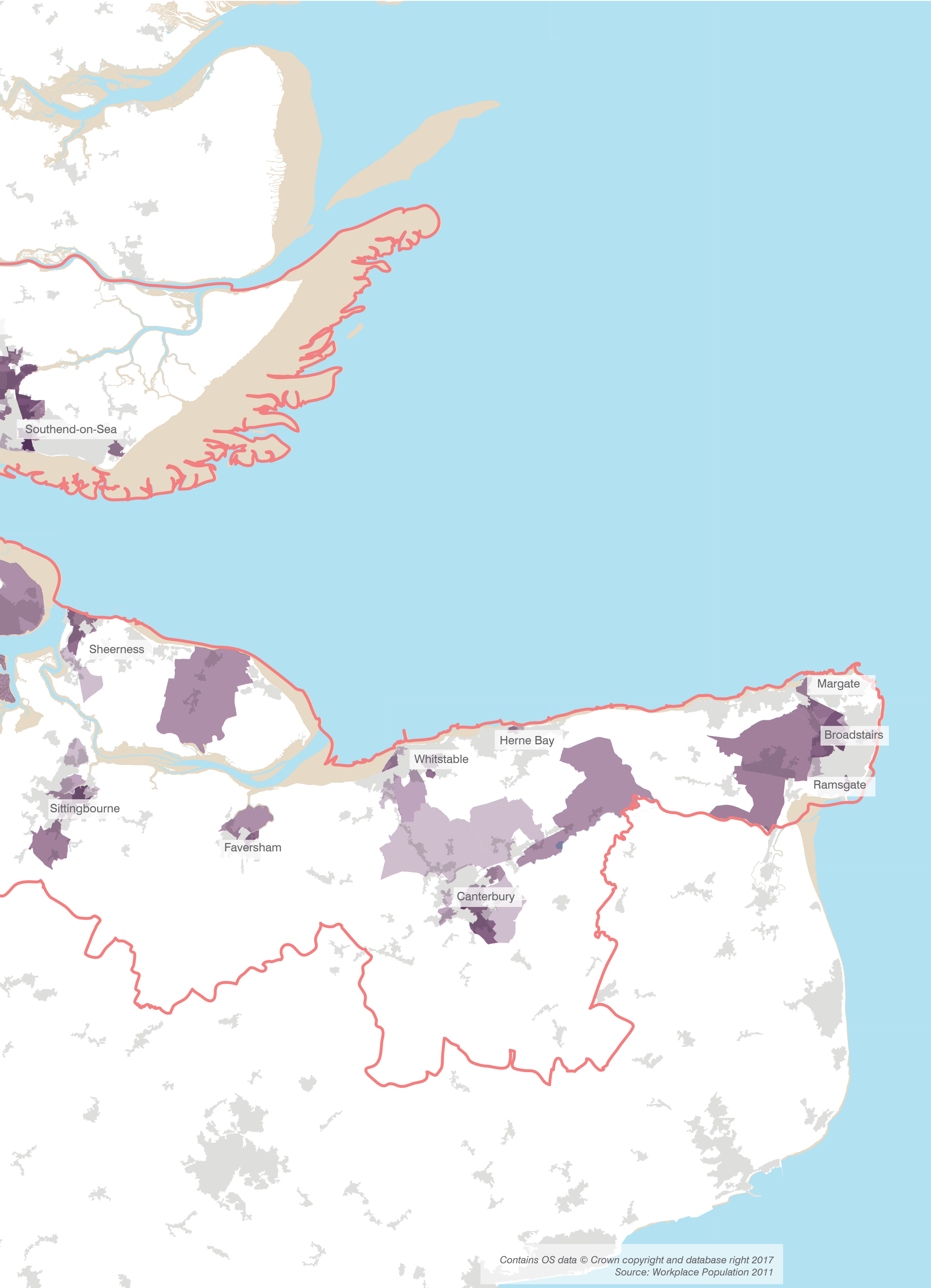


Figure 9: *Occupation profile of Thames Estuary residents working in the area (Percentages denote proportion of residents working in each occupation) Source: ONS*



Map 4: Employment Density 2011


Southend-on-Sea
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Canterbury
Margate
Broadstairs
Ramsgate
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Source: Workplace Population 2011

3.2.2 Places

The Thames Estuary is home to a diverse set of boroughs, cities, towns and villages which have their own identities and individual growth patterns. London plays a key role for places in the Thames Estuary, both as an employment and service centre. Beyond that, cities and towns within Kent and Essex offer a variety of employment and service offerings. This section explores the sectoral trends, environmental characteristics and key locations for tackling deprivation and delivering growth.

3.2.2.1 Sectors and Industries

The sectoral profile of the area shows that there are nine sectors (as of 2016) which account for around 80% of employment in the area[32]. These are:

- Wholesale and retail trade (15%)
- Human health and social work activities (12%)
- Education (10%)
- Administrative and support service activities (10%)
- Professional, scientific and technical activities (8%)
- Financial and insurance activities (7%)
- Accommodation and food service activities (7%)
- Transportation and storage (6%)
- Construction (6%)

There is a two-way relationship between the nine sectors most active in the Thames Estuary area and the skills profile of the residents (see page 35).

Table 1 provides a summary of the sectoral profile of the Thames Estuary, using data from 2009 and 2016 to demonstrate this current sectoral composition of the area and how it has changed over time. Figure 10 indicates the relative employment growth of these sectors compared to national employment growth trends for England in specific industries[33] – in other words, whether they are more or less concentrated in the Thames Estuary area compared with the country as a whole.

Figure 11 indicates the overall sectoral composition of the Thames Estuary and of each Local Authority in the area with regard to employment (number of jobs). The larger the circle, the higher the employment share of the sector (Y axis) for each place indicated (X axis). The colour gives an indication of whether the sector has been growing (green) or decreasing (red) between 2009 and 2016.

Figure 12 shows the rank of top 5 most significant industries based on Thames Estuary Location Quotients to England, with 1 being the most significant industry in that local authority.

Sector	Number of jobs (2009)	Number of jobs (2016)	Percentage change in number of jobs (2009-16)	Location Quotient for Thames Estuary (compared to England)	Location Quotient for Thames Estuary excluding London (compared to England)
A : Agriculture, forestry and fishing	590	560	-5%	0.1	0.1
B : Mining and quarrying	235	290	23%	0.3	0.3
C : Manufacturing	72,500	64,150	-12%	0.6	0.8
D : Electricity, gas, steam and air conditioning supply	3,840	3,370	-12%	0.7	0.7
E : Water supply; sewerage, waste management and remediation activities	7,875	9,900	26%	1.1	1.3
F : Construction	60,250	74,500	24%	1.3	1.5
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	188,000	200,000	6%	1.0	1.2
H : Transportation and storage	56,950	75,400	32%	1.1	1.4
I : Accommodation and food service activities	65,000	89,500	38%	0.9	0.9
J : Information and communication	34,550	57,000	65%	1.0	0.6
K : Financial and insurance activities	86,200	90,150	5%	1.9	0.6
L : Real estate activities	18,350	22,475	22%	1.0	0.9
M : Professional, scientific and technical activities	58,250	101,500	74%	0.8	0.6
N : Administrative and support service activities	97,750	131,750	35%	1.1	1.0
O : Public administration and defence; compulsory social security	57,950	51,050	-12%	1.0	0.8
P : Education	125,250	135,000	8%	1.1	1.2
Q : Human health and social work activities	142,000	165,750	17%	1.0	1.1
R : Arts, entertainment and recreation	24,700	30,700	24%	0.9	1.0
S : Other service activities	20,500	26,150	28%	0.9	0.9

Table 1: *Thames Esturary Sectoral Profile Source: Business Register and Emplotment Survey*

Wholesale and retail trade is the most highly represented sector, which reflects the presence of a number of key ports within the area; northern Kent and southern Essex employ a greater concentration of people in trade than the national average, with a location quotient of 1.2. The sector also continues to grow - in the Thames Estuary as a whole, the sector has grown by 6% since 2009, a trend which is experienced in almost all the local authorities and which exceeds national growth trends.

Thurrock has the largest share of trade (26%) reflecting the presence of Tilbury Port, and associated large trade and logistics businesses. Thurrock is also the only local authority which saw a decrease in that sector since 2009 (of 16%), which suggests a slight decline in the draw of the port as a focus of employment in the area, and the potential to re-invigorate this sector in the future. This is perhaps surprising given the opening of DP World in 2013, although much of the activities related to this are likely to be linked to the transportation and storage sector which has experienced growth in Thurrock, and across the Thames Estuary (refer to page 95 for further details). Given the importance of ports to the local economy, ensuring that there are levers in place to

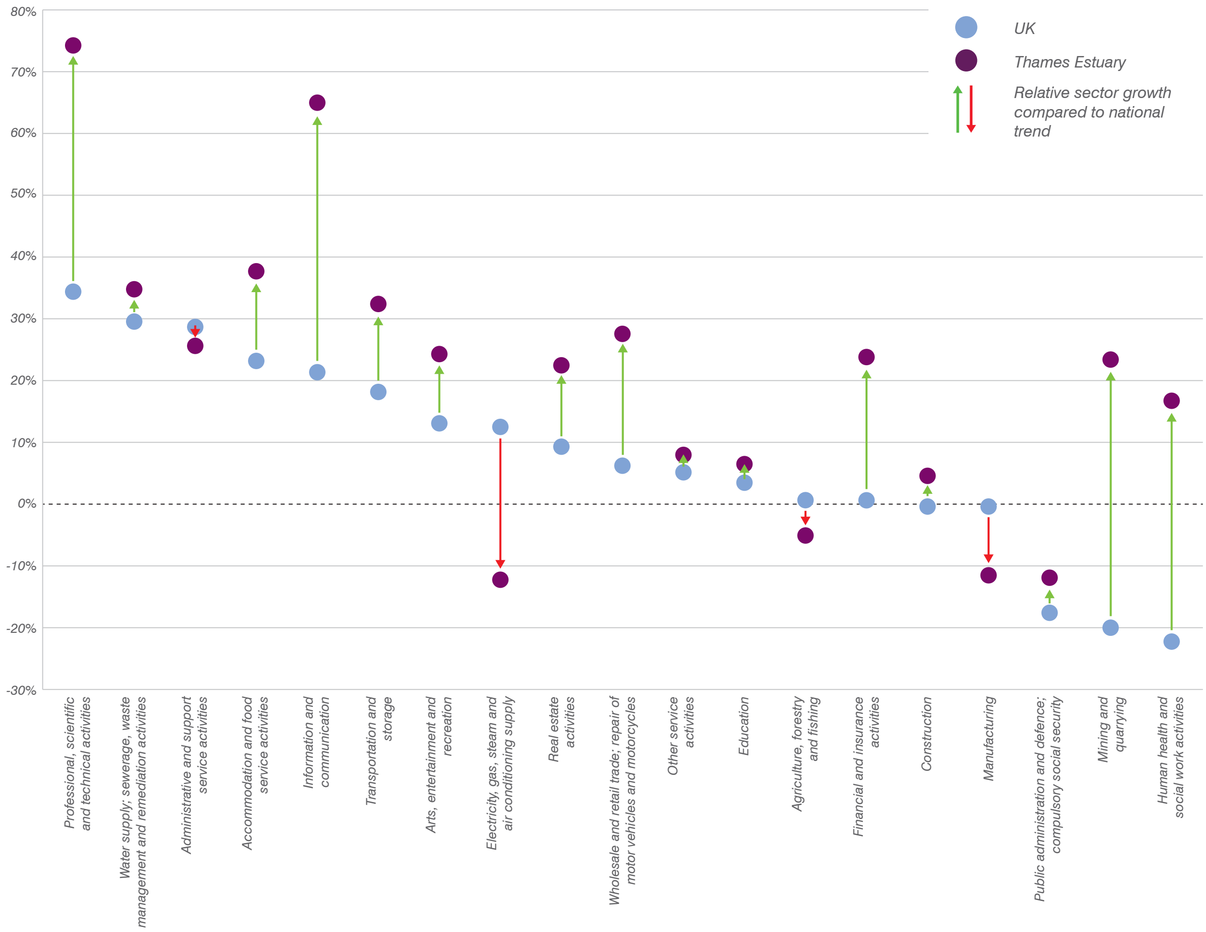


Figure 10: *Employment growth in the Thames Estuary relative to national average (2009-2016) Source: Business Register and Employment Survey*[33]

support their sustained growth is important. A loss of activity in the ports could result in a significant loss of employment and prosperity for the area. A particular focus on nurturing the ports as an area of investment will be important, especially as we move towards Brexit where there is uncertainty about what this might mean for imports and exports. The implications of Brexit for the area are explored further on page 111.

Health and education are also highly represented sectors in the Thames Estuary with regard to employment numbers (12% and 10% respectively). The 2050 Vision therefore explores how these sectors can be supported and grown.

Education is more concentrated in the Thames Estuary than in England as a whole, with a location quotient of 1.1. It has also seen growth since 2009 of 8% across the Thames Estuary. This aligns with national trends reflecting the area's growing population and therefore higher demand for education services. Excluding London, the education sector has a higher location quotient of 1.2, albeit with a lower growth rate at around 6% since 2009. Castle Point is the only local authority which has seen a decrease in education employment by 14%, which may be linked to the lower population growth it has experienced, compared to other authorities in the Thames Estuary (see page 28 for further detail on population trends)[34]. Canterbury is a particular 'hot spot' for education, with education representing 22% of employment in the local authority[35]. This likely reflects the growing role of Canterbury as a university hub, and the importance of the University of Kent and Canterbury at Christ Church University campuses.

Comparing 2009 to 2016, human health and social work activities have seen an increase in number of jobs of 17% across the Thames Estuary. While the strength of this sector appears to align with national average with regard to concentration of jobs in the industry, it has registered strong growth in the number of jobs (+23,000 jobs) compared to a national context where many jobs have disappeared (net loss of about 638,000 jobs nationally[36]).

Looking at individual locations, health has increased significantly between 2009 and 2016 in Greenwich, Dartford and Southend-on-Sea (6%, 67% and 20% respectively). This may be linked to the emergence of a cluster of medical equipment and surgical instrument manufacturers in Southend-on-Sea, alongside links to the medical sciences associated with University of Greenwich. Bexley and Canterbury noted a decrease in the sector employment (13% and 18% respectively). This is despite Canterbury remaining a significant centre for health-related employment due to the medical sciences hub around Canterbury at Christ Church University and the launch of its Institute of Medical Sciences. Given this cluster of health-related institutions, the 2050 Vision explores the potential to optimise employment opportunities around this hub. Further information on university specialisms is provided on page 54.

Administrative and support service activities provide for 10% of the employment within the Thames Estuary respectively. They are significantly concentrated in the area, compared to national trends, with a location quotient of 1.1. The sector is experiencing significant growth compared to national growth trends. Administrative and support service activities is the second strongest growing sector with regard to volume in the Thames Estuary (+34,000 jobs). Similarly, the professional, scientific and technical activities sector accounts for 8% of employment in the area, and has experienced rapid growth since 2009. Although providing fewer jobs as a proportion of total employment than the national average (with a location quotient of 0.8), professional, scientific and technical services represents the fastest growing sector in the Thames Estuary compared to national trends, both with regard to volume of jobs (+ 43,000) and proportional sectoral growth (+74%). If the Thames Estuary is looking to deliver more productive jobs, a keen focus on how to nurture and grow these sectors is important. This is reflected in the 2050 Vision.

The professional services sector only contributes to the top 80% of employment in Tower Hamlets, Lewisham, Havering, Basildon, Canterbury and Castle Point with any growth experienced in this sector since 2009 clustered in these locations. Similarly, growth in support services is limited to particular locations, including Tower Hamlets, Newham and Bexley in London, and Dartford in Kent[37]. This reflects a focus on growth in both sectors in and around the Thames Estuary's cities – Canterbury and London – which are the typical focus areas for such industries.

The financial and insurance activities sector is a significant sector within the Thames Estuary, accounting for 7% of all employment. It is the most concentrated sector in terms of employment, with a location quotient of 1.8 – which means that there are on average almost two times more jobs in this sector in the Thames Estuary than in England as a whole[38]. However, the presence of this sector is limited to the London boroughs within the Thames Estuary. Indeed, the high concentration of jobs disappears when London boroughs are excluded from the analysis[39]. This reflects the presence of Canary Wharf in Tower Hamlets, where financial services account for 25% of the sectoral share[40]. Similarly, while in London boroughs the financial and insurance activities sectors are growing, relative to the national average, when they are excluded from the analysis, these activities are declining in southern Essex and northern Kent since 2009 with a net loss of about 3,000 jobs[41]. This may indicate that these activities are choosing to relocate to London, and especially to Tower Hamlets where there is a centre of gravity for such industries, or moving further afield where land values may be less than those found in proximity to the Capital. Therefore the focus on delivering new employment in southern Essex and northern Kent needs to be cognisant of the type of employment it can attract, the associated requirements for employment space that need to be brought to the market and the incentives that might drive businesses to move there.

Accommodation and food services account for 7% of all employment in the Thames Estuary, with particular strength in Newham, Greenwich, Southend-on-Sea and Canterbury. The sector has experienced growth in all but one of the local authorities within the Thames Estuary (Gravesham). Compared to national trends the sector is growing rapidly with an additional 24,500 jobs due to local factors occurring since 2009 and 38% growth in the size of the sector (third strongest growing sector in both volume and rate of growth). The increase in accommodation and food services both in terms of volume and rate of growth suggests that tourism within the Thames Estuary is a growing market. Home to a number of important assets, including a rich natural estuarine environment, beaches and beach front activities, and a series of important historic assets, there is the opportunity to use this growth to strengthen the existing tourism industry. Page 59 onwards provide further detail on the potential of the environment to encourage tourism and recreational activities.

Transportation and storage activities provide for 5% of all employment in the Thames Estuary, and with a location quotient of 1.14 it shows a greater concentration in this area than in England as a whole. The growth experienced appears to be more rapid than national average at over 30%, with a particular focus of growth in Dartford, Gravesham and Rochford. The locations for growth may be a result of spillover from nearby ports and airports in neighbouring local authorities. Thurrock too has seen an increase in employment in transportation and storage. This increase will be reinforced in the future by new jobs being created at the Amazon storage facility, which opened in the area in spring 2017.

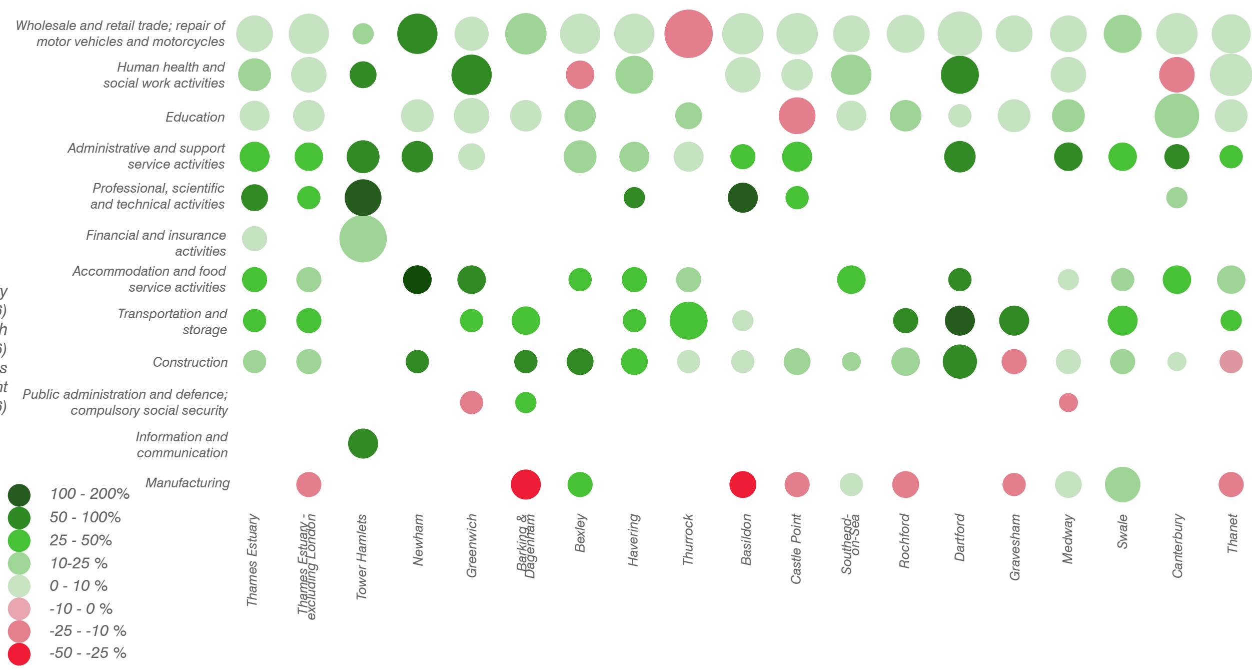


Figure 11: *Thames Estuary sectors profile (2016) and employment growth (2009-2016) Source: ONS, Business Register and Employment Survey (2016)*

Construction is the ninth most represented employment sector, and the final sector to make up the top 80% of employment in the Thames Estuary. With a location quotient of 1.25 (1.5 without London boroughs) it provides a greater number of jobs as a proportion of overall employment than England as a whole. The construction sector has grown faster in the Thames Estuary than at the national level since 2009. While construction has been stagnating at the national level over the period 2009-2016 (0.6% growth), it has increased by 12% in the Thames Estuary, with a net job creation of 14,000 jobs[42]. This suggests that development and construction is buoyant in the area and aligns with evidence that there is significant current and future growth planned for the Thames Estuary (see page 75 onwards). This trend also aligns with the presence of Barking and Dagenham College in Romford which specialises in construction and technical skills, and a series of proposed and existing modular housing facilities which demonstrate how the area is adapting to Modern Methods of Construction to enable the construction industry to remain competitive in the area. Given the scale of housing development the 2050 Vision proposes, following consultation with the local areas, focussing on using this strength to deliver high levels of employment growth is advantageous. This is even more so if the type of construction methods and quality can be used as an exemplar for the rest of the UK.

As well as these nine core sectors, there has been significant growth in information and communication services since 2009, which has grown three times faster in the Thames Estuary compared to national level[43]. The sector has seen a 65% growth in number of jobs, which equates to 22,000 jobs. This is likely linked to the growth trends experienced in the professional and support service sectors.

The manufacturing sector accounts for 5% of employment, and providing over 64,000 jobs. The sector has experienced a decline of 12% since 2009 (a net loss of 8,000 jobs). On a more granular level, manufacturing has experienced a decline in two thirds of the local authorities within the Thames Estuary. This suggests that its traditional position as a centre for this sector is reducing. Comparing these findings to national growth trends in the same sectors allows the strength of local factors in driving growth or decline of specific industries to be understood.

Manufacturing has declined much faster in the Thames Estuary than the national average over the period[44]. There could be many reasons for this including:

- a product of the changing nature of manufacturing, with the previous desire for co-location of finished products with ports reducing as the nature of logistics changes;
- manufacturing in the area may not have kept pace with technological developments,which would otherwise have provided an opportunity (in line with the visions of many of the local authorities in the area) to further develop a foothold in the advanced manufacturing sector; and/or
- the closure of large scale employers in the area including the Ford factory in Dagenham which resulted in significant job loss in 2013, and the Coryton Refinery closure in 2012.

However, while it may be experiencing decline, manufacturing remains an important employment sector. Some locations such as Basildon, Rochford and Castle Point still have significant manufacturing employment as a whole, but this is declining. Others, including Bexley, Havering, Medway, Southend-on-Sea and Swale have seen manufacturing employment growth increase since 2009 (see Figure 11). This may be as a result of the rise of advanced manufacturing and engineering sectors in the area, with Southend-on-Sea in particular employing over 4,700 people in the advanced manufacturing industry[45]. This demonstrates that while the industry may be declining, there are particular locations where manufacturing thrives or continues to support large numbers of jobs, which provide the opportunity to catalyse further growth in the sector. The area also needs to make sure it is getting ready for any further decline in 'traditional manufacturing' and looks for opportunities for skills transfer into other sectors.

Figure 12: *Rank of top 5 most significant industries based on Thames Estuary Location Quotients to England (2016) and employment growth (2009-2016)*
Source: ONS, Business Register and Employment Survey (2016)

	Mining	*Manufacturing*	*Electricity*	*Water and waste*	*Construction*	*Trade*	*Transportation*	*Food and Accommodation*	*Media, books, film, sound, programming, data processing*	*Financial*	*Real estate*	*Professional, scientific and technical activities*	*Support*	*Public administration*	*Education*	*Health*	*Arts*	*Other*
Barking & Dagenham				1	4	5	2								3			
Bexley			1	5	2		3						4					
Greenwich	2			1										5	3		4	
Havering					1	4	3									2		5
Lewisham											1				2	3	5	4
Newham			2	1							3			4	5			
Tower Hamlets									2	1	5	3	4					
Basildon				5	2	3			1							4		
Castle Point					1	3							4		2			5
Rochford				2	1		4										3	5
Southend-on-Sea								3			5				4	2	1	
Thurrock				2	4	3	1						5					
Canterbury						4		3							1		5	2
Dartford				5	1	3	2									4		
Gravesham	1				4		2						3	5				
Medway			1	3	2										4		5	
Swale		3		1	4		2				5							
Thanet					3	5		4							2	1		

Three other sectors have registered a negative growth rate between 2009 and 2016 in the Thames Estuary. These include, by order of magnitude:

- Public administration (net loss of about 7,000 jobs, 12% decrease over the period).
- Electricity, gas, steam and air conditioning supply (net loss of about 500 jobs, 40% decrease over the period).
- Agriculture, forestry and fishing (net loss of about 30 jobs, 5% decrease over the period)[46].

The decline in public administration and agriculture is more aligned with the national trend, reflecting the reduction in public sector spending and the decline of the agricultural sector generally across England. The decline in the electricity supply sector is contrary to the national growth trend, which is positive for this sector, and may be linked to the closure of the Tilbury power stations in 2013[47].

3.2.2.2 Size of Employers

A right mix of businesses of all sizes is important for the strength and dynamism of local economies. Micro (0 to 9 employees), small (10 to 49 employees), medium (50 to 249 employees) and large businesses (250+ employees) all contribute positively to local economies and perform complementary functions.

There are currently approximately 133,000 businesses in the Thames Estuary (2017). 56% of these are located within London. In terms of growth, the number of businesses in the area has grown by 55% since 2010, which is significantly higher than the 29% national growth average, and also higher than the 53% growth in London.

The business size composition of local authorities within the Thames Estuary does not vary significantly. A total of 99% of businesses in the Thames Estuary are micro and small. Although this number seems high, this is aligned with the England and European average. Approximately 92% of businesses in the Thames Estuary are micro businesses (0 to 9 employees), which is higher than the 90% national average. The presence of micro and small businesses, especially in high value added sectors, are signs of local dynamism and innovation. They also evidence the creation of new enterprises locally. However, the higher than average proportion of micro businesses could also indicate that local enterprises struggle to grow, up-scale their activities and to employ more people. This will therefore be a focus of the 2050 Vision to ensure that micro businesses are provided the support to reach their full potential.

There has been a particular boom of micro businesses in Newham (155% growth) and Barking and Dagenham (128%). This echoes the role of the London boroughs within the Thames Estuary as significant employers in the area. This growth has mainly occurred in the construction, and professional services, administrative and support activities and information and communication sectors.

The presence of medium and large firms is generally a good sign for local economies, as they tend to provide stable employment opportunities for the local population. They also tend to be more productive in terms of GVA creation. While more exposed to international economic shocks, large enterprises create a higher proportion of value added in the 'high and medium/low tech manufacturing' sector, while SMEs create a higher proportion of value added in the services sector and in knowledge intensive sectors[48].

The proportion of medium and large firms in the Thames Estuary is low, but in line with the national average. Basildon (60%) and Havering (63%) have registered positive growth in their medium sized business population. This is a positive indication that businesses are growing and employing more people in these areas, or that these areas have been able to attract medium size businesses. This growth has mainly occurred in the health and education sectors, which may link to the rise of the MedTech industry in southern Essex (see page 46).

Looking at the largest employers shows some congruence with the sectoral trends experienced across the Thames Estuary. The largest employers (by floorspace) show three types of major employers.

- The first type is retail superstores, such as Asda, Tesco and Aldi. This is typical in areas such as the Thames Estuary where large retail superstores utilise large floorplates. However, it should be noted that a significant portion of the floorspace for these businesses is office and industrial use, rather than retail. This suggests that the Thames Estuary may also have role in hosting back office functions for supermarket brands, as well as depots for distribution. This aligns with the rise of the support services sector and will also provide a significant number of supply chain jobs, supporting employment either in the area or nationally.
- The second type is trade, distribution and logistics firms which account for a significant amount of the floorspace of the largest firms in the area. This reflects the strength of the trade sector in the area. With regard to spatial location, these businesses are centred in established port areas including Tilbury (Amazon), Grays (Proctor and Gamble), and Northfleet (Seacon Group Ltd). PMS International, which is an import and wholesale distributor located further east in Basildon.
- The third type is businesses centres around engineering, sciences and technology. Spatially, these businesses appear to be broadly located in southern Essex, distributed across Basildon (Selex ES Ltd – an electronic and information technology defence systems business) and Grays (Industrial Chemicals Ltd – who supply chemicals across the country and internationally). South of the river, BAE Systems engineering firm is based in Rochester, linking in with Rochester Airport, and Delphi Automotive Systems are located nearby Gillingham. This suggests a cluster of such businesses in the Medway towns. The presence of these businesses aligns with the trend for growth in the science and technology services. The 2050 Vision seeks to support the clusters of these businesses within southern Essex and northern Kent.

3.2.2.3 Higher Education Institutions

The sectoral trends have shown that higher education employs a greater number of people than in 2009 within the Thames Estuary. As shown on Map 5, the area is home to 17 universities and higher education institutions, and there is a number of plans to introduce more such institutions to the area. There is a smaller number of colleges and higher education institutions in southern Essex, largely around Southend-on-Sea and Rainham. The educational offer of the Thames Estuary is stronger and more diverse south of the river.

There are three higher education hubs, clustered in Greenwich, Medway and Canterbury. Stratford is also emerging as an educational hub with University College London's new campus development at Queen Elizabeth Park. The University of Kent has an aspiration to increase the number of students at its Medway Campus by 1,000 full-time equivalents; the University of Essex shares a similar aspiration for growth[49]. There is potential for further growth of existing universities, both in terms of the number and diversity of courses offered, and research capacity. Building on the national and international reputation of the 'big university' annexes in Medway and Canterbury in particular could both attract students into the area and also better serve the local population. This opportunity is reflected in the 2050 Vision.

There is a number of key focus areas and specialisms associated with the higher education institutions in the area. To some extent, the specialisms reflect the sectoral trends of the area, which cover arts and creative industries, business-related courses, medical sciences and science, engineering, construction and technology. In order to provide direct pathways from education into jobs and to increase the level of retention of students within the Thames Estuary area following completion of their courses, there is an opportunity to better align the education, training and jobs offers. The 2050 Vision therefore identifies some priority projects to facilitate this. Further details on each of the areas of focus/specialism are set out below.

Arts and creative industries have strong representation. There is a number of performance colleges in the Thames Estuary, which focus on performing arts, music and drama. There is also a series of universities that specialise in visual arts, design, digital media and other creative courses. These include: the University of Kent Medway, which is home to a centre for Music and Audio Technology; the University for the Creative Arts in Rochester; and, closer into London, Goldsmith University and North Kent College, Dartford.
The recent Independent Review of the Creative Industries[50] made a series of recommendations, including around the role of universities in

cultivating highly skilled creative clusters and supporting the talent pipeline.

This specialism could also be strengthened through the proposed relocation of a number of creative institutions to the Thames Gateway, including the New Vic's relocation to Stratford and the delivery of a range of proposed creative industry projects. These include London's largest film studio complex in Dagenham (with Pacifica Ventures and Media Content Capital selected as preferred builder and operator for which Expressions of Interest were sought in late 2017), a proposed 'state-of-the-art facility' for manufacturing large-scale artworks and sculptures in Silvertown, and a new national centre for experiential arts at Woolwich[51]. This comes alongside plans for the Quartermaster Studios in Purfleet which is due to open in 2021, and wider opportunities to build on the success of The Turner Contemporary Gallery in Margate[52].

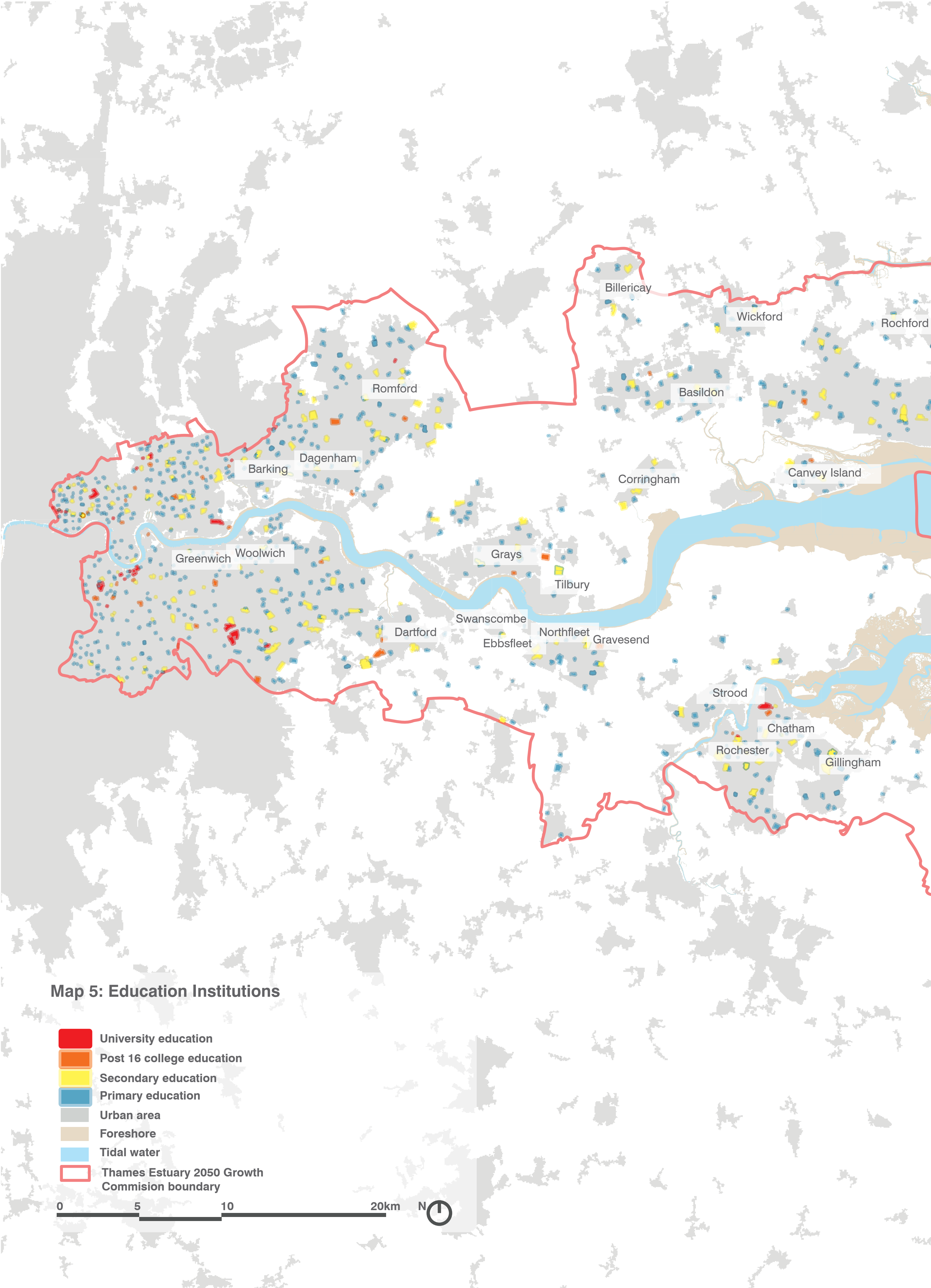
The success of these institutions and the projects proposed aligns with trends in the creative and cultural industries sector more generally. Whilst not the fastest growing sector in the area, compared to national trends, this sector has experienced significant growth since 2009. This is supported by the Mayor of London and South East LEP's ambitious vision for the Thames Estuary to become a creative industries hub along the length of the River Thames[53] and the South East Creative Economy Network (SECEN), which is a working partnership between local authorities, creative businesses and education bodies across Kent and Essex that aims to accelerate growth in the digital, creative and cultural sectors.

Business-related courses are well represented in the Thames Estuary, with two business schools at Southend-on-Sea and Canterbury. Other universities in the area also offer courses in business, accounting, management and law. This aligns with the growing sectoral share of support services, and the increase in the number of jobs in administrative and support service activities. There is also a possible link between this trend and the strong representation of trade as a sector in the area. The ports and logistics sector also provides the opportunity for a number of support and administrative jobs, which could become a focus in the area, building on the existing trend of growth.

The *medical sciences* offer is being strengthened in the Thames Estuary. Canterbury represents a hub for this specialism, concentrating around the Institute of Medical Sciences. There is also a focus on health sciences and social care in southern Essex, centred at the University of Essex in Southend-on-Sea. This aligns with the rapid growth of this industry, in relation to national growth patterns, and the emerging health focus in these two settlements in particular, as set out in page 43 onwards.

There is a strong *science, engineering, construction and technology* offer, reflecting the growth in scientific and technical services, information and communication, and construction/manufacturing. The University of Greenwich offers courses across many disciplines but with a focus on science, education and engineering. It is also home to research centres which focus on science, engineering and computing. Barking and Dagenham College in Romford specialises in construction, IT and engineering and technical skills and Rainham is home to the Centre for Engineering & Manufacturing Excellence which provides training and co-working space for the industry. There is also the proposed Place and Making Institute in Bexley, which aims to be a world leading learning, research, innovation, and enterprise campus, which provides training to support good growth in London and beyond.

There is potential to build on the science and engineering sector, by developing further specialisms in the area. The potential relocation of South Essex College from its Nethermayne Campus to a town centre location in Basildon, will also provide an opportunity to further establish a centre for excellence in the construction and logistics industries in southern Essex[54]. The Commission considers the potential of the science, engineering, construction and technology sector to be significant. This is reflected in the Vision 2050 where emphasis is given to establishing a new institute to lead research into and build on local knowledge on the design, delivery, funding and financing of major infrastructure. Beyond this, there are other opportunities, including for example research into environmental sciences given the important and vulnerable environment, Modern Methods of Construction and/or transportation, logistics and data systems.


Billericay
Wickford
Rochford
Romford
Basildon
Dagenham
Barking
Corringham
Canvey Island
Grays
Greenwich
Woolwich
Tilbury
Swanscombe
Dartford
Northfleet
Ebbsfleet
Gravesend
Strood
Chatham
Rochester
Gillingham
Map 5: Education Institutions
University education
Post 16 college education
Secondary education
Primary education
Urban area
Foreshore
Tidal water
Thames Estuary 2050 Growth Commision boundary
0
5
10
20km
N


Southend-on-Sea
Sheerness
Margate
Broadstairs
Herne Bay
Whitstable
Ramsgate
Sittingbourne
Faversham
Canterbury
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3.2.2.4 Environment

The potential growth in environmental technology and sciences sectors is linked to the natural environment of Thames Estuary. This includes a rich natural estuarine environment, characterised by a landscape of low-lying islands, mudflats, tidal salt marsh and reclaimed grazing marsh[55].

This richness is reflected in the plethora of environmental designations across the area, on both land and water, which are summarised below and illustrated in Map 6:

- There are six Ramsar sites, the majority of which lie in the Kent marshes: Benfleet & Southend Marshes, Medway Estuary & Marshes, Stodmarsh, Thames Estuary and Marshes, Thanet Coast and Sandwich Bay and The Swale.
- Much of the estuary and coastline is designated Special Protection Areas (SPA) reflecting the importance of the area as a habitat for wintering birds. The Outer Thames Estuary SPA protects the largest aggregation of wintering red-throated diver birds in the UK[56]. The Thames Estuary and Marshes SPA is home to a number of wintering waterbirds including grebes, geese, ducks and waders; it is also an important habitat in spring and autumn migration periods[57].
- The Essex Estuaries are a designated Special Area of Conservation which represents an example of a large contiguous area of estuarine habitat. It is home to a range of marine and estuarine sediment communities, alongside saltmarshes, and mudflats and sandflats that are not covered by the tide at low tide[55]. It is designated for six habitat features under the EU Habitats Directive (Annex I).
- Some 53 Sites of Special Scientific Interest (SSSI) - three are located within London boroughs, 35 are located in Kent and 15 in Essex.
- Some eight National Nature Reserves (NNR) are designated in the Thames Estuary: seven are in Kent and one is in Essex. The majority of the Kent NNRs are marshes associated with the River Thames.
- The Kent Downs, an Area of Outstanding Natural Beauty (AONB), the northern parts of which fall within the area.
- Almost 10,000 ha of Ancient Woodland are located in the Thames Estuary. There are particular concentrations in and around Canterbury (including Childs Forstal, Denstead Woods and Gorsley Woods), south of Rochester (including Brimp Wood and Great Wood) and south of Dartford and Bexleyheath (including Joydens Wood). In southern Essex, the presence of Ancient Woodland is focussed around Rayleigh (including Hockley Wood and Great Wood).

This rich and varied natural environment supports large numbers of wetland birds, rare plants and species, and marine wildlife. Many of these are internationally protected species, including nesting birds, nationally important bee species, invertebrates, and species of bats, badgers, barn owls, dormice, great crested newts, otters and water voles. The Thames Estuary is also characterised by a number of important brownfield sites; these provide a valuable resource to endangered invertebrates.

The Thames Estuary also contains a large number of heritage assets, including three World Heritage Sites (WHS) (Greenwich Maritime, the Tower of London and Canterbury Cathedral) and a series of Scheduled Monuments, Registered Parks and Gardens and Listed Buildings. The locations of these heritage assets are shown on Map 7. Particular clusters of heritage assets can be found in the London boroughs, including in Greenwich where there is the Royal Naval College, former Royal Observatory and Cutty Sark as well as in and around Canterbury and Rochester. Outside of these settlements, there is a number of castles and cathedrals which provide a rich history dating back to medieval times.

These environmental assets, both built and natural, can be described as the 'jewels in the crown' of the Thames Estuary. Noting the increase in the accommodation services in the area, and a common vision among many of the authorities within the Thames Estuary to increase tourism and recreation activities, the Commission believes there is an opportunity to use these assets (and others such as the rise in food related tourism) to encourage more visitors to the area. This should be from both residents and those living outside the area. There is also the opportunity to capitalise on the rise of the 'staycation' where more people are choosing to holiday in the UK. The tourism sector can be a good generator of jobs particularly where multi-day visits are undertaken. The growth of tourism therefore represents an opportunity to provide more productive jobs in the area.

There is also an opportunity for further economic growth, by increasing the use of the River Thames. Currently the water quality of the Thames Estuary is negatively affected by the effluent that overflows into the River Thames from London's sewerage system. This has affected the variety and prevalence of species living within the riparian environment. The Thames Tideway Tunnel, a new major sewer to help tackle the problem of overflows into the River Thames, will be operational by 2023. Once in place, it will significantly improve water quality and reduce biochemical oxygen demands due to the reduction in effluent entering the river[59]. As a result, it is anticipated that the wildlife and ecology of the River Thames will improve, helping to preserve and sustain commercial fishing industries[60], bringing new recreational opportunities and increasing the number of jobs the river supports.

There is a number of areas of poor air quality across the Thames Estuary area, particularly near river crossing points where high levels of congestion result in more vehicular emissions. There are also air quality issues associated with the use of the River Thames itself. In 2017, the Port of London Authority published draft plans[61] to boost air quality on and along the river from Teddington to Southend-on-Sea, aiming to reduce emissions from vessels and other marine sources.

The area has high vulnerability to flooding, as shown on Map 8. This estuarine environment contributes to the natural marshes that characterise the Thames Estuary whilst limiting the suitability of the land for development. The current flood management system includes over 330 km of walls and embankments, alongside the Thames Barrier and eight smaller barriers[62]. The Environment Agency has indicated that over the next 100 years a series of interventions will be required to enable continued management of flood risk including the replacement, enhancement and raising of existing walls and barriers, as well as introduction of a new tidal barrage across the Thames (see page 113 on environmental future for further detail). The upgrade of existing and construction of new flood defences present opportunities to both further improve recreational access and ecological enhancement. The Thames Estuary 2100 strategy and its supporting evidence base suggest that a number of small scale interventions could be implemented alongside flood defence infrastructure to provide ecological and recreational benefits as well as a reduced flood risk.

As well as fluvial and coastal flooding, much of the area is at risk from surface water flooding. In Kent, surface water flooding is estimated to have the potential to affect 76,000 properties (60,000 of which are residential)[63].

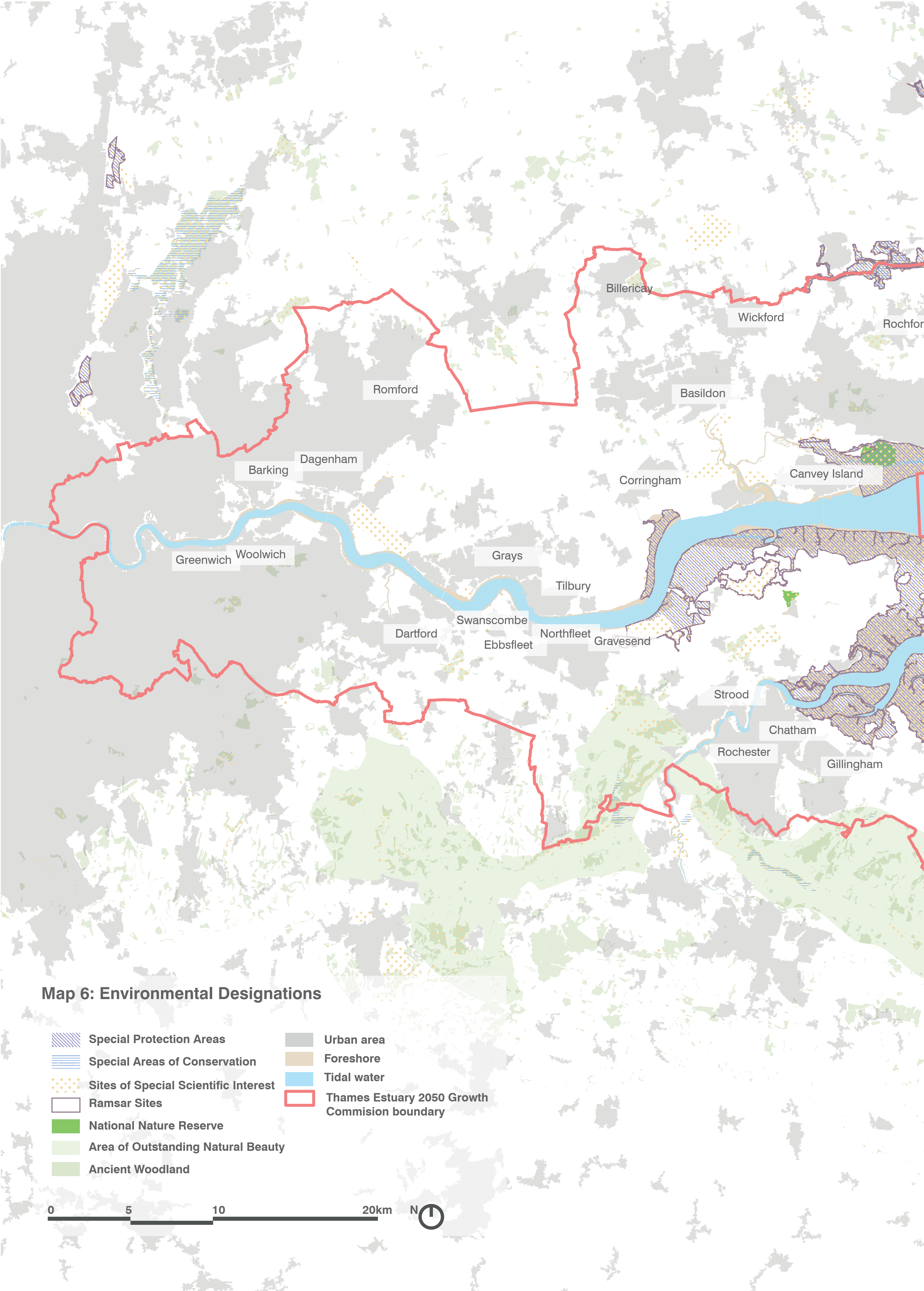
Across the Thames Estuary area, there are large areas of Metropolitan Green Belt providing a buffer between London and surrounding settlements. This includes:

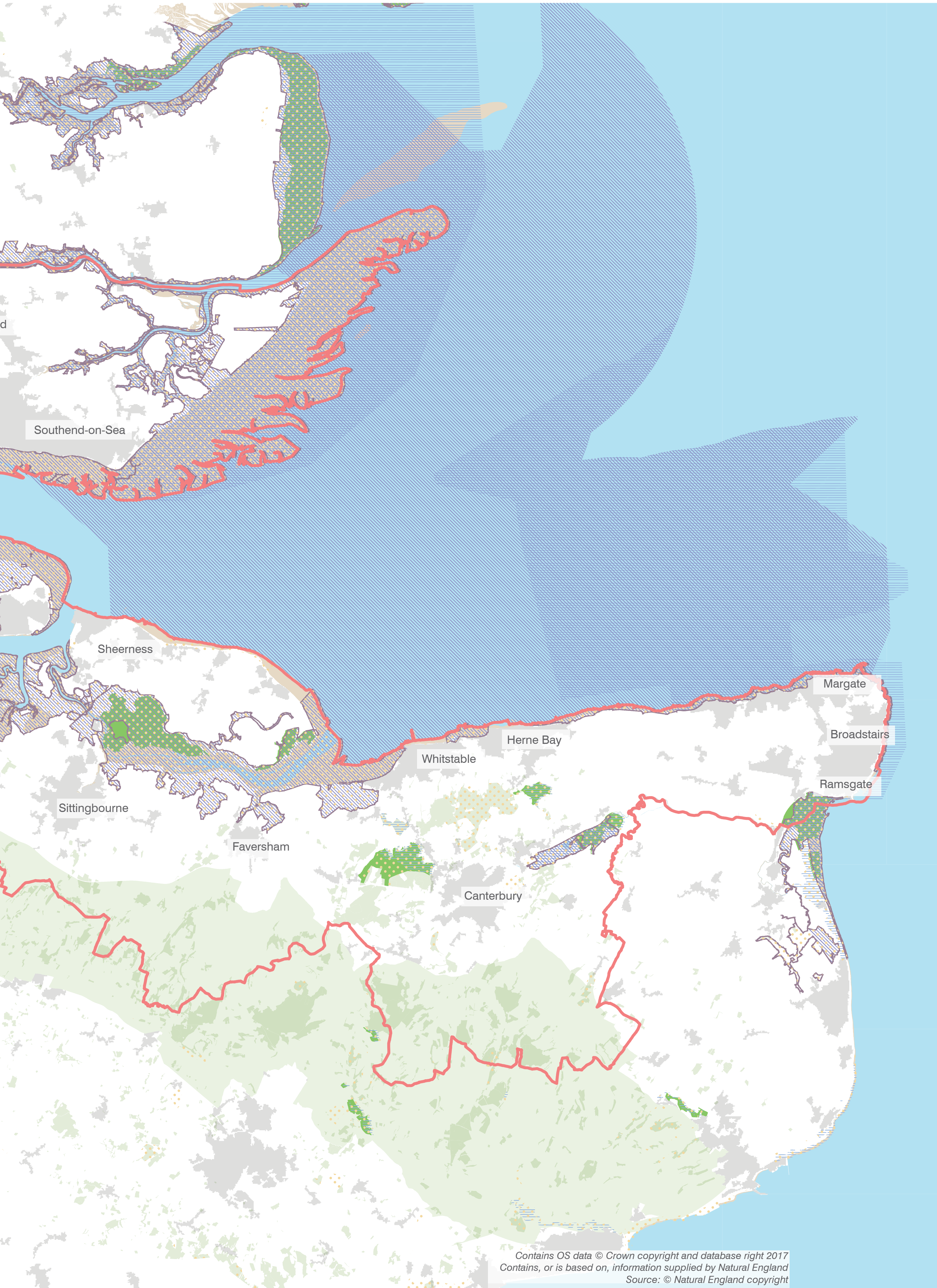
- land outside of the main settlements from Purfleet to Southend-on-Sea;
- land to the east of Gravesend and in the southern parts of the Kent portion of the Thames Estuary area; and
- around Bexley and Sidcup.

Within London, there are large areas designated as Metropolitan Open Land (MOL), which protects strategically important open space within the Capital from development. This includes Blackheath, Greenwich Park and the South East London Green chain, and parts of the Lower Lee Valley and Barking Park. Whilst the purpose of Green Belt and MOL is to focus new development within existing urban areas and potentially provide access to open space, it can also act as a constraint on land supply, which in turn can limit the amount of development coming forward in the Thames Estuary.

Whilst the Thames Estuary area is substantial, the land subject to one or more of the following designations – flood risk, Green Belt/MOL or environmental designations – is considerable. The spatial implications of these constraints to development are shown in Map 9, which shows that outside of existing urban areas in London and southern Essex land availability is particularly constrained. Whilst these constraints do not represent an absolute restriction on development, the flood risk and environmental designations do suggest that such locations are less suitable, and therefore less preferable, locations for growth. The 2050 Vision indicates that the area has significant potential to provide more jobs, which will need to be balanced with the provision of new homes. Given the level of growth envisaged and the range of environmental constraints, the Commission has placed emphasis in the Vision 2050 on the importance of Joint Spatial Plans.

Map 6: Environmental Designations

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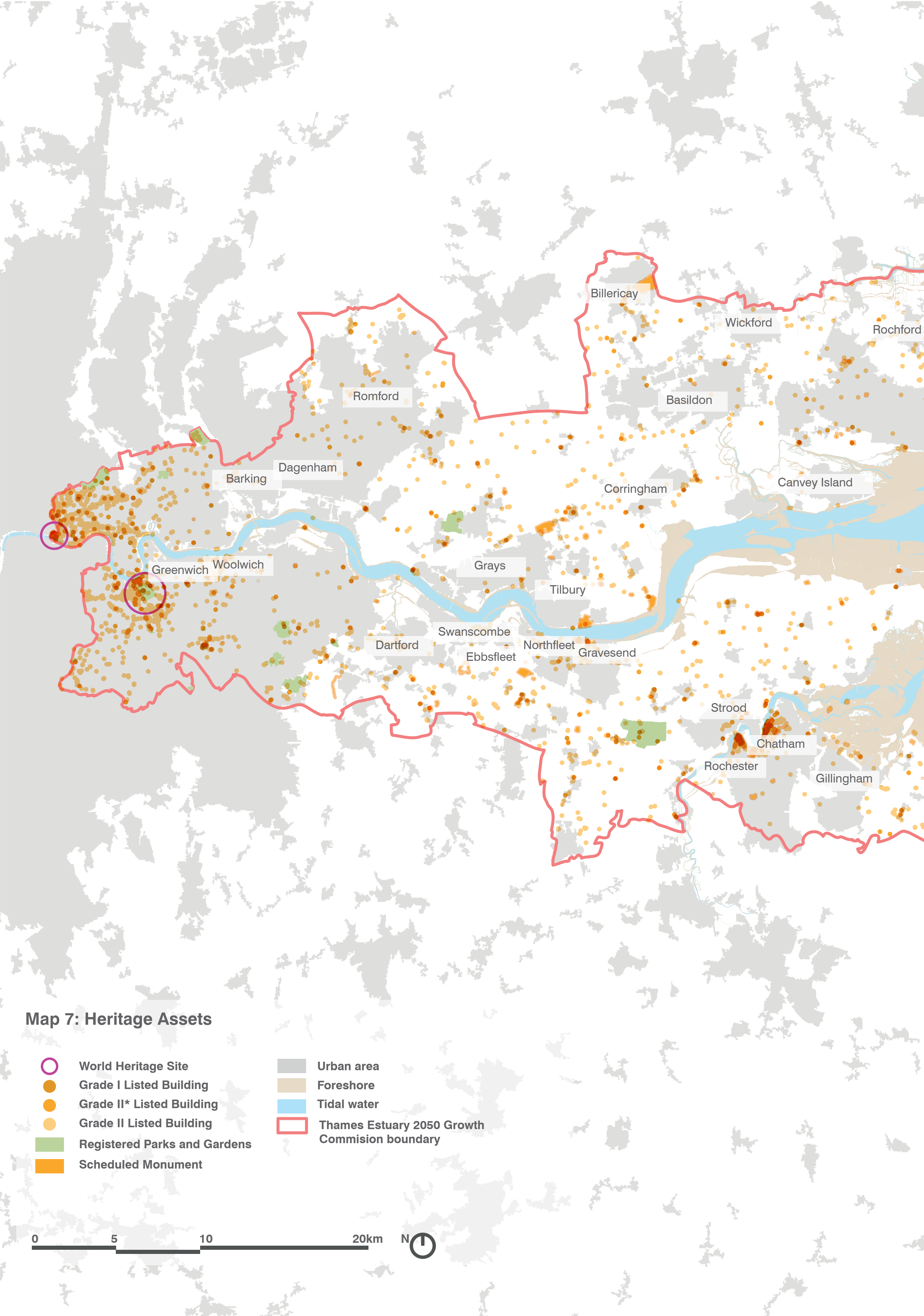
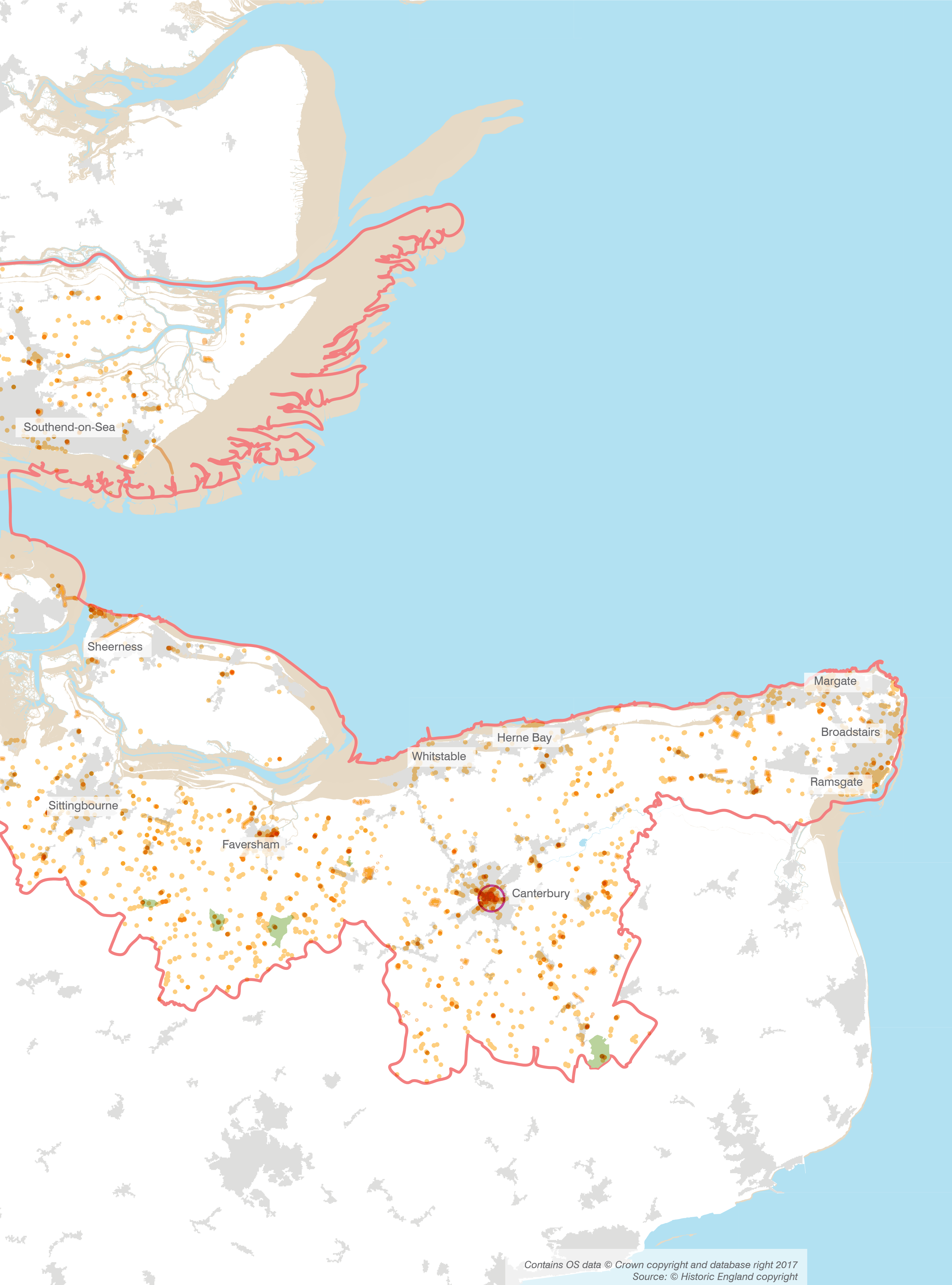


Map 7: Heritage Assets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Canterbury
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Map 8: Environmental Constraints

- Greenbelt
- Flood Risk Zone 3
- Flood Risk Zone 2
- Urban area
- Foreshore
- Tidal water
- Thames Estuary 2050 Growth Commision boundary

0 5 10 20km N


Southend-on-Sea
Sheerness
Margate
Broadstairs
Herne Bay
Whitstable
Ramsgate
Sittingbourne
Faversham
Canterbury
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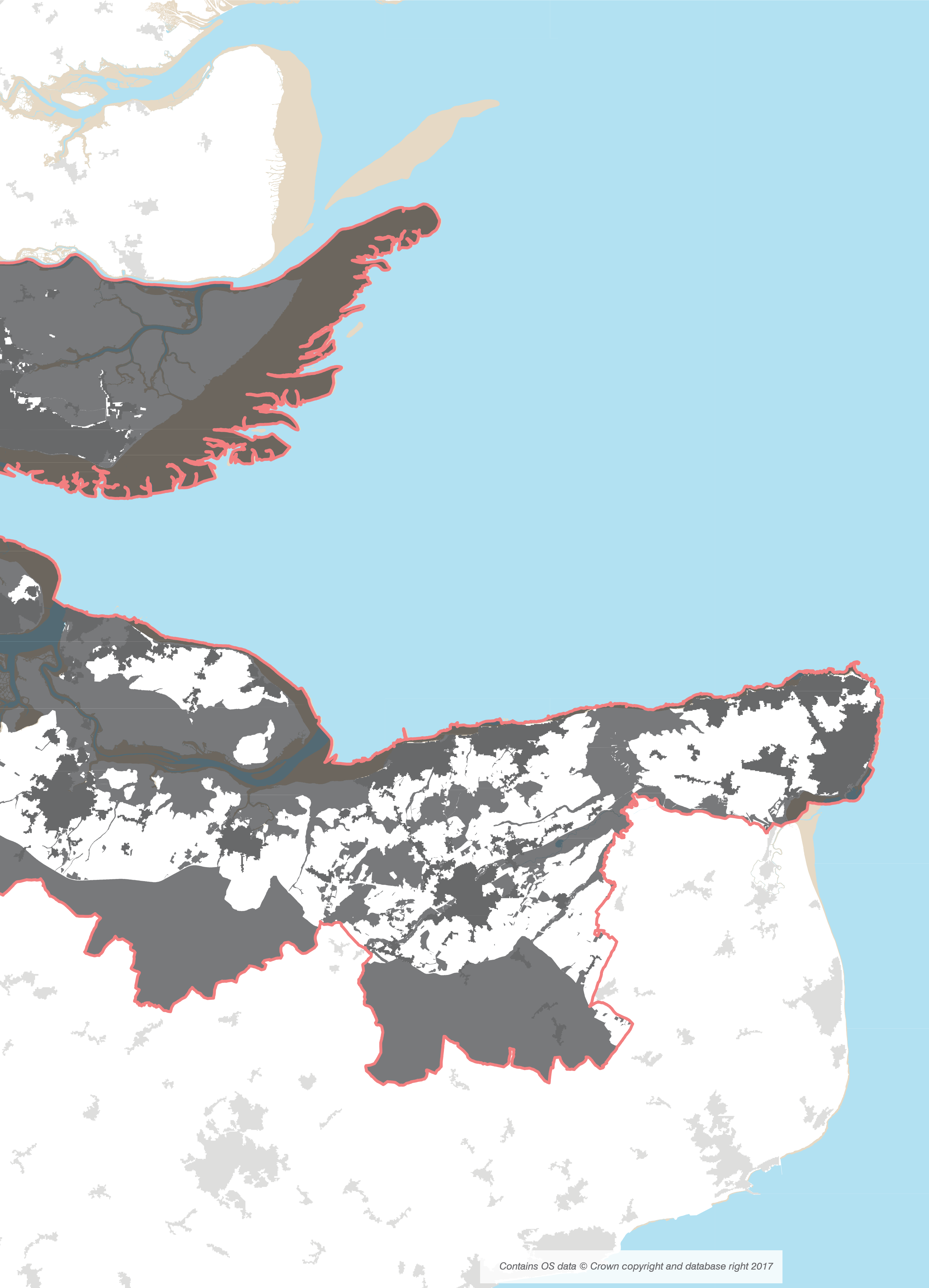
Map 9: Land Availability

Unconstrained land
Constrained land

0 5 10 20km N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3.2.2.5 Housing Growth Locations

Despite land availability constraints, there is still a need to cater for economic and population growth and demographic change in the Thames Estuary. As set out on page 28, it is expected that the population of the Thames Estuary will continue to increase, with the population expected to reach 4.3 million by 2035. Following existing trends, there is also an expectation that employment and business will continue to grow. In order to support this growth, and encourage further prosperity in the Thames Estuary, residential and employment development is required.

Local Plans set out a requirement for the number of homes per annum, or across the Plan period that an area should provide. This supports the Government's renewed focus on significantly boosting housing delivery across the country, to address the 'housing crisis' in which supply is not keeping pace with demand. To understand the scale of housing growth currently being planned for and being permitted by local authorities in the Thames Estuary, development activity (in the form of a review of residential-led planning permissions granted in the Thames Estuary between January 2013 and February 2018) and adopted and proposed site allocations (consisting of a review of residential sites allocated within adopted and emerging Local Plans) were analysed. Further details on how the data was collated to inform this review is presented in Appendix B.

Since 2013, some 72 residential-led schemes delivering over 500 homes have been permitted totalling 104,000 units. This sits alongside 93 sites identified in adopted and emerging Local Plans, with the potential to provide around 414,000 homes. This results in a total of 518,000 homes within the planning pipeline[64]. It should however, be recognised that a significant number of the homes permitted will now have been built out; this is explored further in Section 3.3.5. Around two-thirds (48) of the planning permissions are 1,000 units or less, with the biggest planning permissions located on the Greenwich Peninsula, Barking Riverside, Wood Wharf on the Isle of Dogs, and at Ebbsfleet. Map 10 shows the spatial distribution of planning permissions, and adopted and proposed allocations across the Thames Estuary.

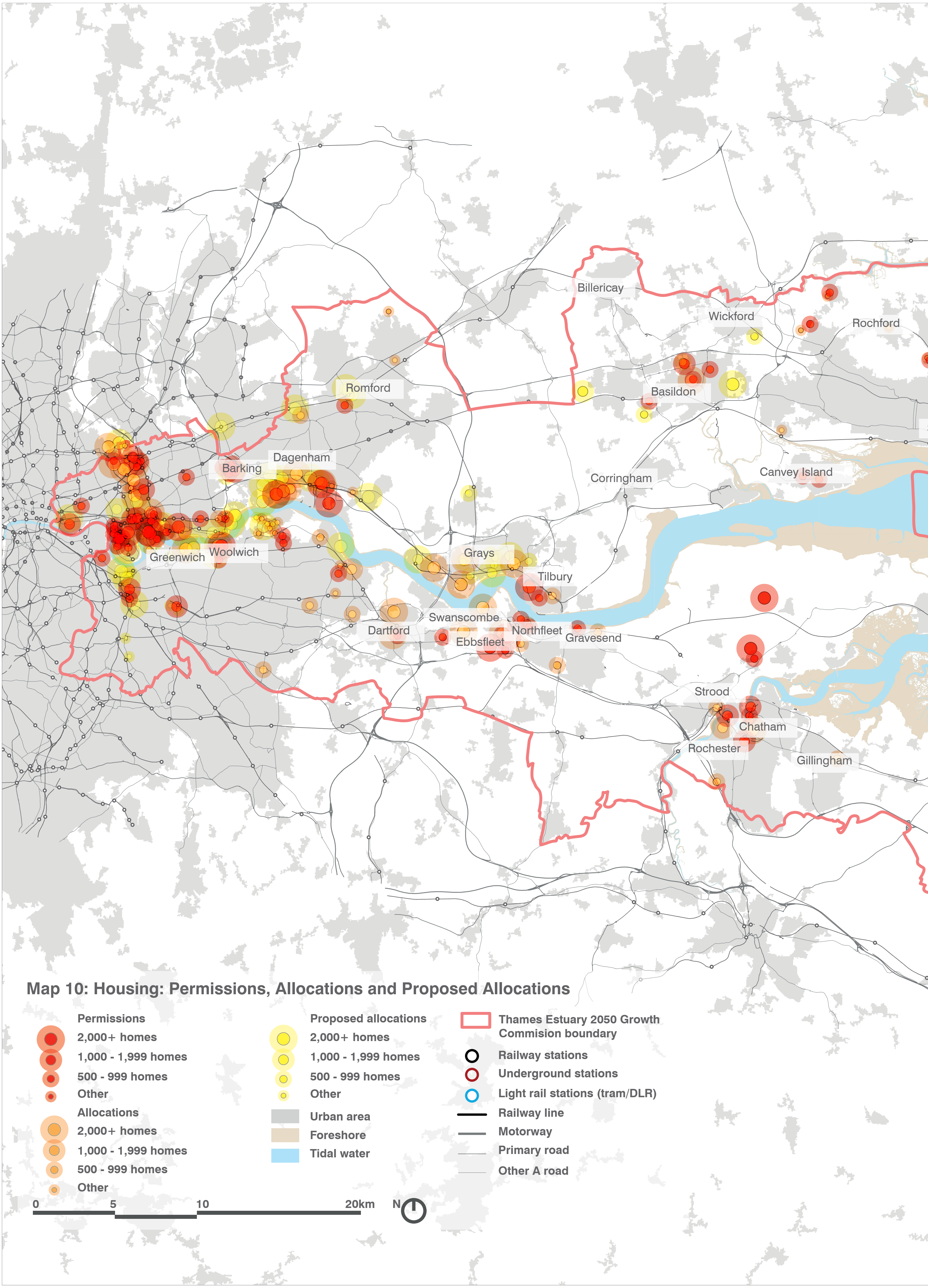
The majority of the planning permissions are within Greater London (46) compared with seven in southern Essex, and 19 in northern Kent. This trend is reflected for residential site allocations; London is particularly the focus for larger developments (over 2,000 homes). The scale of planned growth reflects the higher demand for homes in London, and the higher land values which make residential development more attractive and viable. A more limited mix of homes is being provided; mainly one and two bedroom homes within flatted developments. Unsurprisingly, the locations of growth in London align with the Mayor's Opportunity Areas and Mayoral Housing Zones[65] including: Newham (particularly the Docklands), Greenwich (particularly at Greenwich Peninsula), Tower Hamlets, Barking and Dagenham (particularly around the Abbey Road area and at Barking Riverside) and along the River Lea (extending south through the Isle of Dogs and across the River Thames to Lewisham). This is accompanied by major development proposals at Thamesmead, which represents Europe's largest regeneration project.

Outside of London, the majority of planning permissions are clustered within existing settlements comprising urban infill. This is in contrast to the adopted and proposed site allocations which tend to comprise urban extensions. Examples include the Broadstairs extension at Haine Road, or the extension to Hoo St Werburgh on the Hoo Peninsula. Other areas where there are large clusters of residential planning permissions or adopted and proposed site allocations include the Medway Towns, Canterbury, Broadstairs, Ramsgate, Basildon, and Tilbury. There is also significant growth planned in Swale with a series of planning permissions and allocations around Sittingbourne and Sheerness.

A key growth location in northern Kent is the Ebbsfleet Garden City, which has an aspiration to deliver a total of 15,000 new homes. Homes England has recently agreed a £74 million loan deal to unlock the next phase of development at Ebbsfleet Garden City, funding a range of infrastructure works to unlock more than 5,000 new homes and around 180,000 sqft (16,700 sqm) of commercial floorspace. In addition, the Swanscombe Peninsula represents a significant opportunity to bring forward large scale residential and mixed-use development. This is reflected by the London Resort's designation in 2014 by the Secretary of State as a Nationally Significant Infrastructure Project. An application for development consent has yet to be received for London Resort. This uncertainty alongside other recommendations identified in the Tailored Review of Ebbsfleet Development Corporation[66] are hampering the delivery of Ebbsfleet Garden City. The Commission believes that the planned development at Ebbsfleet and Swanscombe Peninsula represent significant opportunities for the area that must be realised in a timely fashion. This matter is explored further in the 2050 Vision.

In order to increase the scale and pace of housing delivery, Government is promoting greater use of public sector land. Publically available information on central Government and non-departmental public body owned land shows modest landholdings in the area. This includes a number of former Ministry of Defence barracks and other land owned and managed by Homes England. A number of these sites are currently proposed for residential-led schemes, including proposals for approximately 2,000 homes at Lodge Hill former army barracks on the Hoo Peninsula[67] and almost 1,000 homes at Fryerns and Craylands in Basildon. Data on county council and local authority owned land is not publicly available.

There are many areas of the Thames Estuary with limited or no residential development activity planned. These are largely rural areas, often with environmental (e.g. flood or environmental protection) and policy (e.g. Green Belt) constraints, such as the land between the A13 and A127, Wallasea Island and land south of the M2. There is also limited growth proposed in other, more built up areas such as Faversham, which may reflect a lack of available infrastructure and connectivity to accommodate growth at present (see page 83 onwards for more detail on accessibility and connectivity).



Map 10: Housing: Permissions, Allocations and Proposed Allocations


Southend-on-Sea
Sheerness
Sittingbourne
Faversham
Whitstable
Herne Bay
Canterbury
Margate
Broadstairs
Ramsgate
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Source: Local Authority Planning Policy Documents; Online Planning Portals

3.2.2.6 Employment Growth Locations

It is important that areas retain a jobs-homes balance. Therefore, as with housing growth locations, a review of employment (B Use Class) development activity and adopted and emerging site allocations within the Thames Estuary has been undertaken, to identify the level of employment growth proposed in the area. Where there was no up-to-date adopted or emerging site allocations, a review was undertaken of Employment Land Reviews (ELR) for the relevant local authority. For the purposes of this report these are also referred to as site allocations. Given the limited employment activity in the area, the analysis identified developments or site allocations over 1 ha or 10,000 sqm in size. Further details on how the data was collated to inform this review is presented in Appendix B.

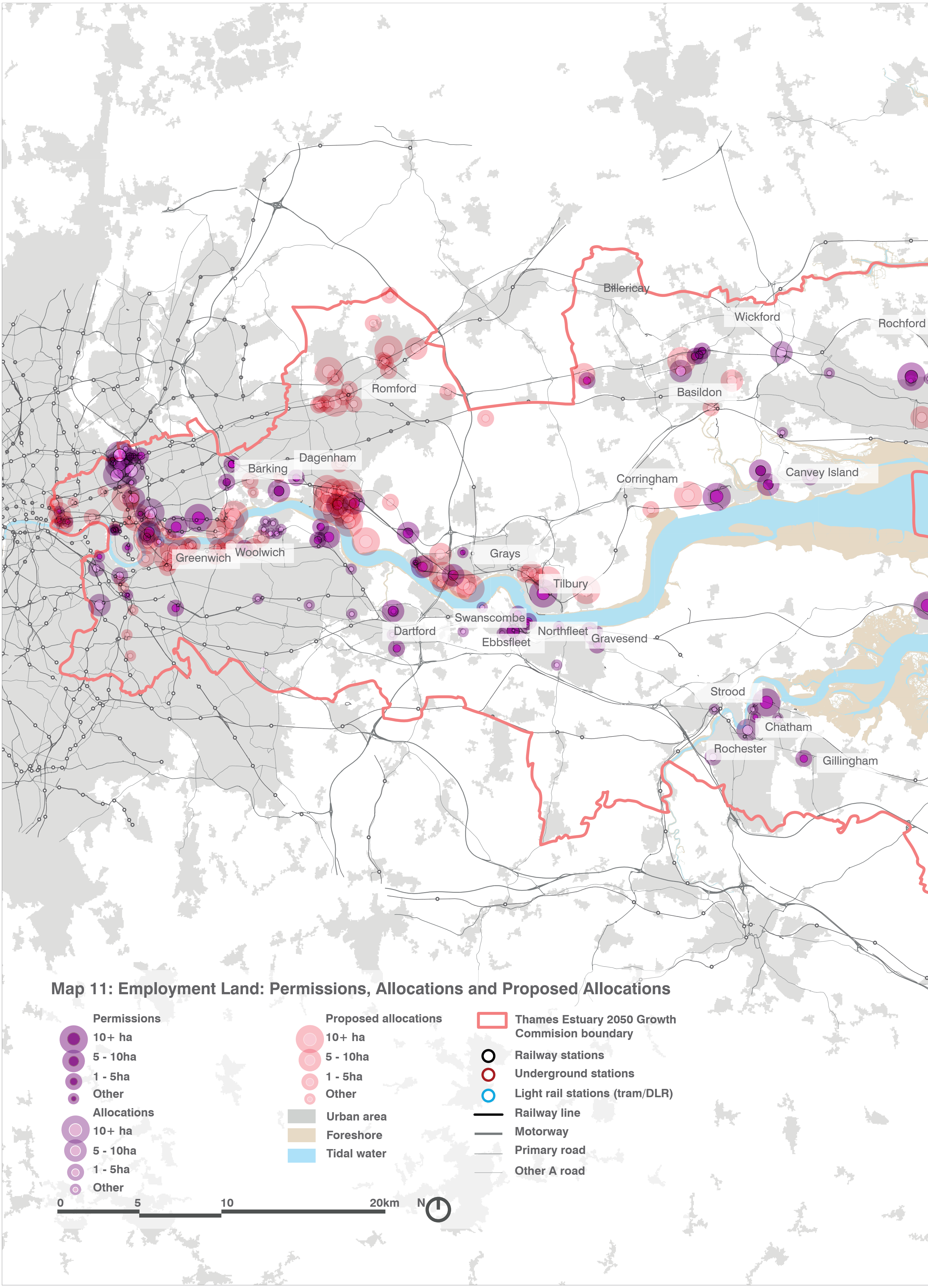
Since 2013, 48 employment schemes over 1 ha or 10,000 sqm have been permitted. This sits alongside 135 employment sites identified within adopted and emerging Local Plans, and relevant ELRs. The employment sites identified (permissions and allocations) comprise a range of employment-only developments (253) and some ancillary employment space within other developments, including housing and other land uses (45 planning permissions and 44 site allocations). Map 11 shows the spatial distribution of employment applications, and allocations across the Thames Estuary.

Over half (41) of the planning permissions are within London, compared with two in southern Essex, and five in northern Kent. Similarly, the employment site allocations are generally clustered towards London including at Greenwich, Woolwich, Beckton, Dagenham, Grays and Romford. The majority of the permitted and allocated employment sites in these areas over above 10 ha in size suggesting they comprise strategic growth locations.

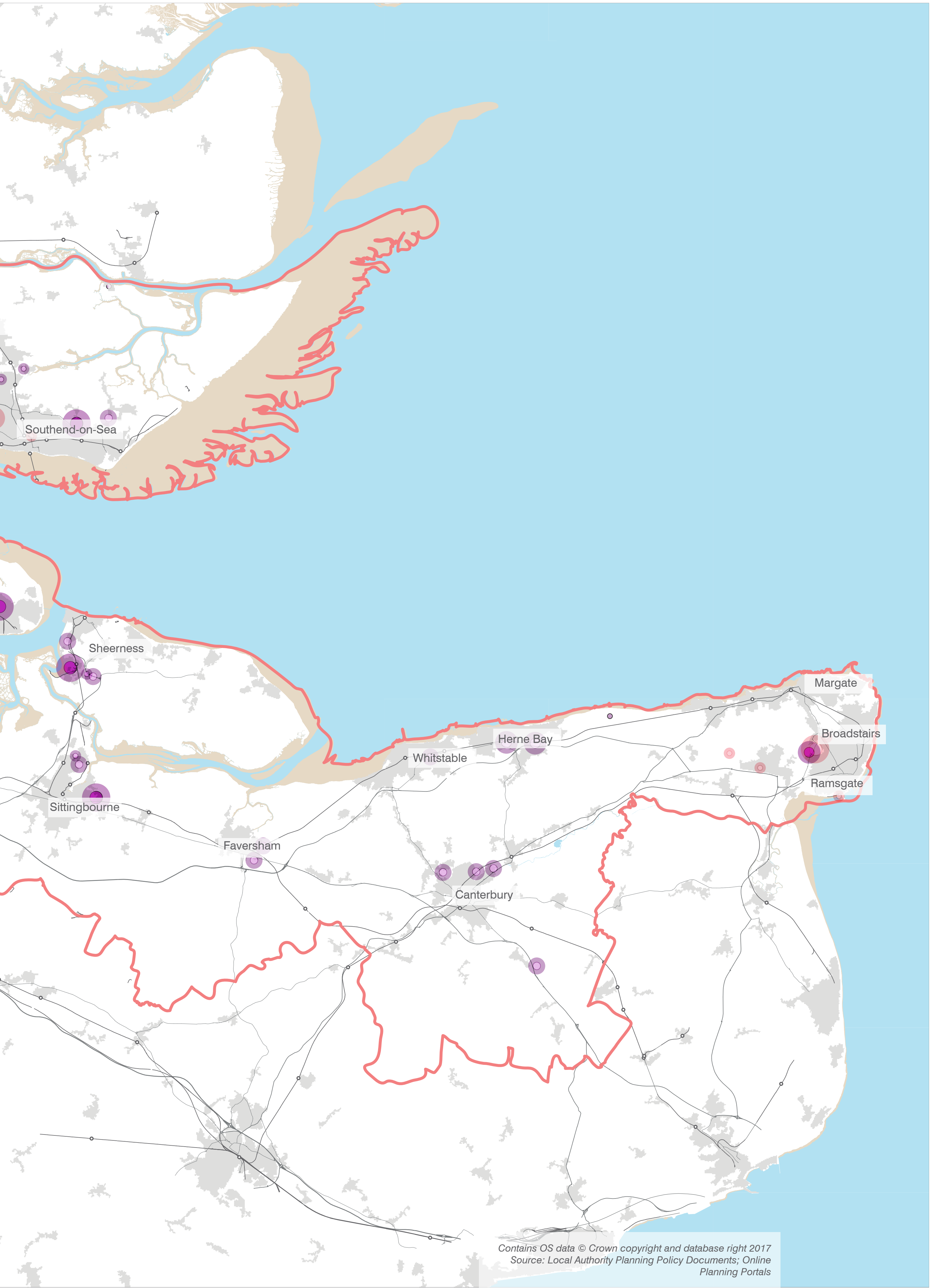
In both London and the wider Thames Estuary, the planning permissions and allocations are clustered as a corridor along the River Thames including around the Royal Docks, Dagenham, Corringham, the Swanscombe Peninsula and Chatham. There is also a strong concentration of site allocations along the River Lea. This aligns with the trends for employment density (see page 37), which show a significant concentration of employment along the river, which reduces inland. This suggests that despite its changing role the River Thames continues to provide a focus for economic development and jobs.

Outside of London, the employment site allocations and permissions tend to be located in larger urban locations but are distributed across a number of different locations suggesting that there are no focussed centres of employment growth. Identified locations for employment sites include

Basildon, Grays and Tilbury in southern Essex, and Canterbury, Sheerness and the Medway towns in northern Kent. The size of employment sites also tend to be smaller in southern Essex and northern Kent than London with few sites above 1ha. This is likely to reflect the composition of businesses within Kent and Essex, where there is a prevalence of micro and small businesses (see page 52 for further details). Notwithstanding this, it will be important to ensure that appropriate levels and types of employment space are provided to support the range of sectors identified. This may require a different type of employment floorspace than previously provided including studio space and live-work units.



Map 11: Employment Land: Permissions, Allocations and Proposed Allocations


Southend-on-Sea
Sheerness
Sittingbourne
Faversham
Whitstable
Herne Bay
Canterbury
Margate
Broadstairs
Ramsgate
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Source: Local Authority Planning Policy Documents; Online Planning Portals

3.2.2.7 Infrastructure

In order to support the planned and proposed growth in the Thames Estuary, a range of infrastructure is required. District-level Infrastructure Delivery Plans, combined with County Growth and Infrastructure Frameworks, Economic Development Plans, and LEP Strategic Economic Plans (SEP), provide an overview of the known planned infrastructure across the Thames Estuary, as well as additional infrastructure that will be required to accommodate future growth in the area. The projects identified from these documents are shown in Map 12.

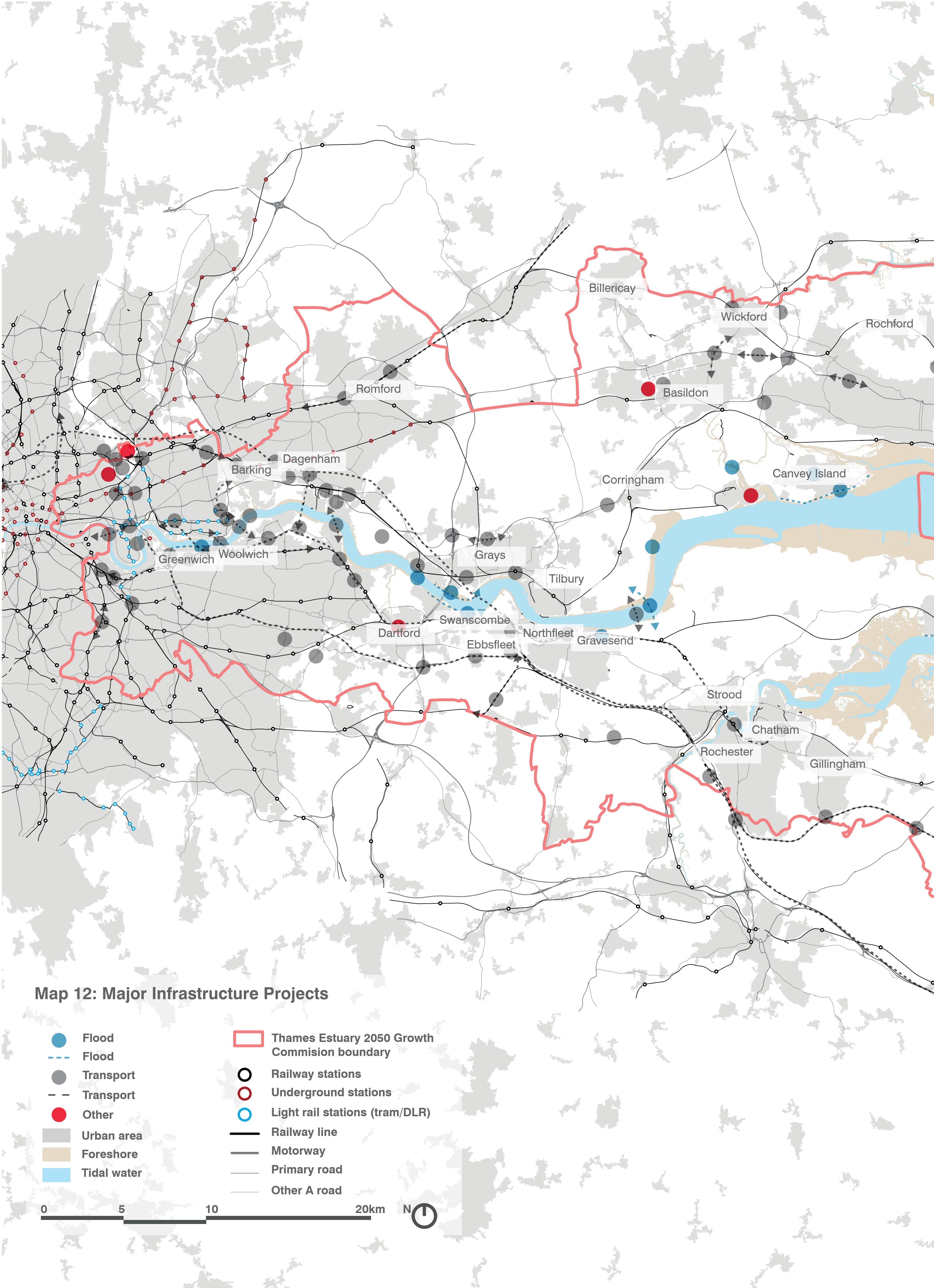
There is a range of projects planned or proposed which will act to unlock the growth potential of the Thames Estuary. These include:

- Major infrastructure which will facilitate developments across a number of local authorities. This includes Crossrail 1 and 2, the Silvertown Tunnel, the Lower Thames Crossing and a new tidal flood barrier at Long Reach.
- Capacity improvements in particular locations to address existing infrastructure constraints and/or support new development. The majority of projects planned and proposed are transport interventions, across a range of modes. These include widening of existing roads, improvements to motorway junctions, new railway stations, extensions to rail, London Underground and London Overground networks and other public transport enhancements. They also include revenue projects such as skills programmes in particular places within the Estuary.
- Packaged enhancements which unlock regeneration in combination to demonstrate that improving public transport accessibility or infrastructure provision can have a role beyond creating capacity for connectivity to unlock growth; it can also be combined with public realm enhancements and urban design interventions to enhance quality of place. These include Better Queensway (which was awarded Housing Infrastructure Fund funding in 2018); Basildon Integrated Transport Package; and Lewisham Gateway.
- Flood risk management schemes. Spatially, there is a clustering of planned and proposed infrastructure projects in the western parts of the Thames Estuary, particularly in the London boroughs and their near neighbours. This reflects the patterns of population and growth in the Thames Estuary, which show that London accounts for a significant portion of the Thames Estuary's population at present, and growth proposed will continue that trend. It may also indicate that the regional governance in London provides a more successful model for identifying the key infrastructure required to unlock growth at a wider, more strategic scale. Whilst the County Growth and Infrastructure Frameworks provide clarity on total infrastructure requirements within Kent and Essex, the Mayor's role has been significant in helping to prioritise needs, and maximise benefits of infrastructure investment. More information on governance is provided on page 97 onwards.

- There is a central government commitment to ensure that every premise in the UK has access to broadband with a minimum download speed of 10 Mbps by 2020. The quality of broadband connectivity differs across the Estuary area:
  - In Essex, the Superfast Essex Programme consists of three phases to increase the connectivity of the area. Phase 1 achieved superfast connectivity to 87% of premises in Essex by 2016, and Phase 2 aims to provide 95% coverage by 2019. However, there is currently a funding gap in relation to broadband rollout.
  - In Kent, the BDUK Superfast Broadband Programme comprised two phases. Phase 1 provided superfast broadband to 91% of premises in Kent and Medway in 2015, and was beneficiary to over £20 million of Government and Kent County Council funding. Phase 2 aimed to provide superfast broadband to 95% of premises in Kent and Medway by the end of 2017. Kent and Medway also have a focus on the remaining 5%, recognising the need for alternative technologies to overcome challenges related to deploying wired solutions. In terms of funding, there is not an estimated funding gap in relation to broadband provision.
  - In London, the London Infrastructure Plan 2050 (2015 update) reports that whilst in 2015, 89% of the city had access to fast connections, there are disparities in some parts of the city which are without sufficient access. To address this, in 2016, the Greater London Authority was a signatory to the Government's Digital Inclusion Charter which aims to reduce the number of people that are offline by 20% every two years.

While there is a lot of planned and required infrastructure across the Thames Estuary, there is a significant gap between the costs of the infrastructure requirements identified and the funding currently secured. The Essex Growth and Infrastructure Framework (2016)[68] estimates a funding gap of over £1.446 billion (at 2016 prices) for the five authorities in southern Essex, or 58% of total funding requirements. For northern Kent, the Kent and Medway Growth and Infrastructure Framework (2015)[69] estimates a funding gap of over £596m, or 22% of total funding requirements. The London Infrastructure Plan 2050 (2015)[70] also identified a significant funding gap for the capital. This demonstrates that there is a gap at present between aspirations for the Thames Estuary, and the reality of finance and funding.

The Commission has therefore given serious consideration to the types of investment to deliver a strong trajectory of growth for the Thames Estuary. As with many parts of the UK, there is no easy answer to this problem. However, given the potential in the Thames Estuary, innovative approaches to land value capture, revenue raising (including taxation and development contributions) or other mechanisms such as bonds and institutional investment is a key recommendation. Where this funding is particularly required for large scale, strategic infrastructure delivery identifying solutions to this challenge would be well suited to a 'think tank' or institution to test options and scenarios.



Map 12: Major Infrastructure Projects


Southend-on-Sea
Sheerness
Margate
Broadstairs
Herne Bay
Whitstable
Ramsgate
Sittingbourne
Faversham
Canterbury
Contains OS data © Crown copyright and database right 2017
Source: Local Authority Planning Policy Documents

3.2.3 Movement

The Thames Estuary contains some significant transport infrastructure that supports the people and places within it.

The road network is made up of several major east-west arteries that connect London to destinations within southern Essex and northern Kent. In southern Essex, the main routes include the A12 that connects East London to South Norfolk (via Romford and Brentwood) and the A13 that connects Central London with East London and Southend-on-Sea (via Rainham, Grays and Basildon). In northern Kent, the A2/M2 and A20/M20 connect London with Dover. The A2/M2 runs via Dartford, Gravesend and Canterbury while the A20/M20 runs via Maidstone and Ashford. North-south routes across the Estuary are limited; there are two road connections at the Blackwall Tunnel and the Dartford Crossing (which forms a short-non-motorway stretch of the M25).

The rail network is defined by radial routes that operate out of a number of major London termini. The main network in southern Essex is the Essex Thameside commuter rail line operated by C2C connecting London Fenchurch Street with Southend-on-Sea and Shoeburyness (via Basildon and Grays/Tilbury). There is also the Southend branch of the Great Eastern Mainline into Liverpool Street (via Shenfield) operated by Greater Anglia.

In Kent, Southeastern services operate out of London Cannon Street, Charing Cross and Victoria, which connect South London to Dartford, Rochester, Chatham, Gillingham, Faversham, Canterbury and Dover. The area is also served by the High Speed 1 rail link carrying Eurostar international services from St Pancras International to the Channel Tunnel at Folkestone. Southeastern operate high-speed passenger services that utilise this high-speed spine connecting Ebbsfleet and Ashford, with connections onto local routes to reach destinations including Dover Priory, Ramsgate, Faversham and Margate.

Within London, rail travel centres on the Overground and Underground rail networks, which include the Central Line, the Jubilee Underground Line, the Hammersmith and City and District Lines, and the Docklands Light Railway. There are also plans to extend the Bakerloo Line into the Thames Estuary area.

In terms of air travel, the area is serviced by two international airports. London City Airport flies to over 33 destinations across the UK and Europe, as well as a daily flight to New York City. London Southend Airport flies to 36 destinations across the UK and Europe. There is also a number of smaller airfields and aerodromes including Rochester Airport and the now closed Manston Airport which is the subject of plans for mixed use re-development as well as a development consent order for aviation uses.

Scheduled passenger ferry services are present at few locations along the Thames, such as the Tilbury Ferry, the Woolwich Ferry and the Doubletree-Dockland Ferry. A longitudinal passenger service operates between Central London and Woolwich.

3.2.3.1 Commuting Patterns

The patterns of employment and housing growth displayed across the area, may also be influenced by commuting patterns and accessibility of places within the Thames Estuary to each other, to London and to the wider South East. Journey to work commuting patterns from 2011[71] indicate that there are approximately 1.2 million residents who commute to work on an average weekday, of which 60% (i.e. 750,000) live and work in the Thames Estuary. Of the 496,000 residents that work elsewhere, 31% commute to the rest of London and 9% commute to elsewhere in the UK.

The journey to work patterns vary significantly between the London boroughs within the Thames Estuary and the local authorities within northern Kent and southern Essex. In the London boroughs 47% of residents live and work within the area, 48% commute into other London boroughs, and 5% to elsewhere in the UK. For the local authorities within northern Kent and southern Essex, 74% of residents live and work in the area, 13% commute to the rest of London and 13% commute elsewhere in the UK. This shows high levels of containment within Kent and Essex, relative to patterns experienced in London. In addition, this level of self-containment is somewhat higher than other comparable areas around London, including the London-Stansted-Cambridge corridor which had 53.6% of its population living and working in the area in 2011[72]. The higher levels of self-containment experienced in Kent and Essex may be linked to the historic and continued presence of trade and storage employment in the area, which encouraged people to move to this area or reflect the reduced accessibility of this area to other parts of the UK.

From the approximately 1,059,000 employees within the Thames Estuary, commuting patterns reveal that 71% (i.e. 750,000) live inside the Thames Estuary. This compares to 58% of the total employees in the London-Stansted-Cambridge corridor who live and work in the area[73]. Of the 309,000 Thames Estuary employees that live elsewhere, 17% commute from the rest of London and 12% commute from elsewhere in the UK. Once again, these patterns vary between the London boroughs and the local authorities in Kent and Essex. Of those working in the Thames Estuary's London boroughs, only 58% live in the same area, while 29% commute from the rest of London and 13% commute from elsewhere in the UK. Of those that work in Kent and Essex, 86% also live in the area, while 2% commute from London and 13% commute from elsewhere in the UK.

Overall, this presents a relatively high level of containment between resident population and employment, which suggests that while links into London and further afield are important for growth in the area, improving travel connectivity within the Thames Estuary will also be important to support improved accessibility to homes and jobs in the area. This is supported by the significant levels of congestion witnessed within the Thames Estuary at peak times (see page 87 for further detail on congestion), which is likely to be exacerbated by more limited public transport modal share.

This trend of self-containment is also reinforced by comparing, the average distance of commutes between parts of the Thames Estuary[74]. The area around Dartford and Thurrock has the highest average trip length (at 10.3 km compared with national average of 17.5 km), while the outer London boroughs of the Thames Estuary (Barking and Dagenham, Havering and Bexley) have the lowest (at 7.9 km). In the remainder of Kent there is a slightly higher average trip length (8.9 km) than in the rest of Essex (10.0 km), but the trends are relatively similar in both.

Looking more closely at larger settlements within the Thames Estuary, plus Maidstone and Ashford for comparative purposes, the results show that the average commuting trip distance is between 0.5 and 2 miles (0.8 to 3.2 km) for all places, except Ebbsfleet, Maidstone and Ashford[75]. These towns have an average trip length between 2 and 6 miles (3.2 to 9.7 km), primarily due to their access to High Speed 1, which provides high-quality services to London. This shows that on average, people are commuting to locations within close proximity of their homes, and matches the findings that the Thames Estuary (particularly outside of London) has a high level of self-containment with regard to residents living and working in the area.

The Commission has therefore given serious consideration to the need to improve connectivity within and between different places in the Thames Estuary. This comprises localised packages of road or public transport improvements alongside more strategic road and railway investment.

3.2.3.2 Congestion and Capacity

The transport network suffers from traffic congestion at key points along the strategic road network. Accessibility by road to Bank in London from the Kent and Essex parts of the Thames Estuary is expected to take more than two hours in the AM peak under medium-heavy traffic conditions. For example, Gravesend has a journey time by car of more than two hours to Bank (130 minutes) despite only being located around 30 km away. It should be noted that much of the impact upon journey times occurs from delays and capacity constraints on routes within Greater London including the A13, A2, A102 and A20. The benefits of the A2, M2 and M20 in Kent mean that journey times by car from Margate and Ramsgate (both 170 minutes) to London are similar to those from Chatham (140 minutes), Rochester (130 minutes) and Gillingham (140 minutes). In Essex, peak hour congestion on the A13 in and around Grays, Rainham and Dagenham has an impact on the accessibility to London from areas such as Basildon and Wickford (both 120 minutes) with journey times to Bank often exceeding two hours.

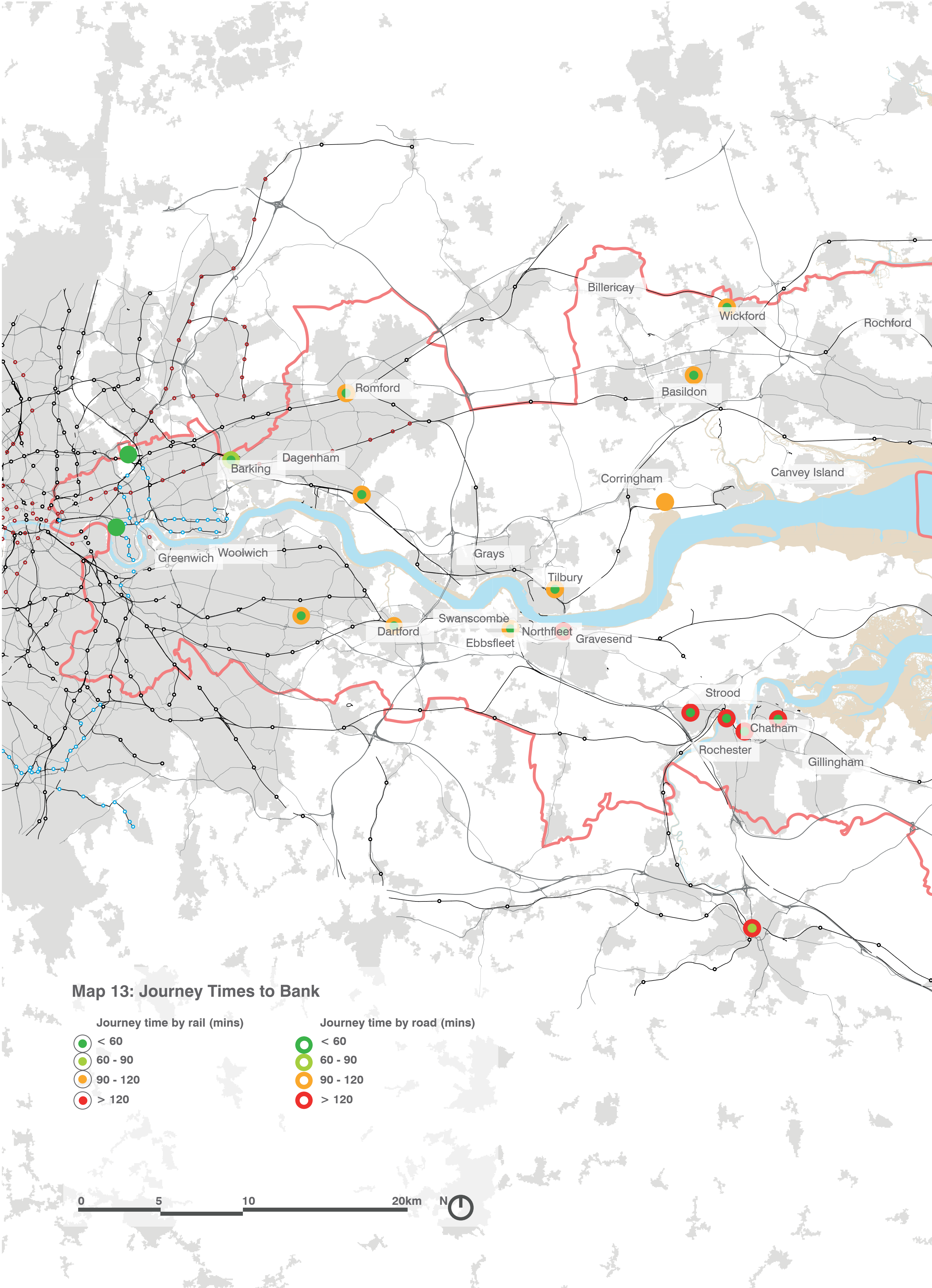
The rail network is also subject to constraints; both within the Thames Estuary, and beyond into London. In northern Kent, High Speed 1 provides high speed access for the key stations to which it connects. However, much of the Southeastern rail network is constrained by a lack of connections to the High Speed 1 corridor. Areas directly along the High Speed 1 route, including Ebbsfleet International and Ashford International, have sub-hour journey times to Bank (36 minutes and 57 minutes respectively), while areas off the High Speed 1 network such as Faversham (88 minutes) have a comparable 60 to 90 minute journey time, despite being closer to London than Ashford. The accessibility benefits of High Speed 1 are also evident in that Ashford has a comparable journey time to London to that of Strood (51 minutes), Chatham (57 minutes) and Gillingham (58 minutes), despite being around nearly 40 km further outside of London. Large proportions of the Southeastern rail network external to High Speed 1 have low line speeds and are constrained by conflicting movements with other services (i.e. freight), which is extending journey times. Stations on the network including around Dartford also suffer from a lack of capacity.

In southern Essex, accessibility by public transport is good due to the coverage of the Essex Thameside rail network. The network has competitive journey times to London despite operating at relatively low line speeds. It also has a high level of performance with respect to service reliability and frequency. On the rail routes, most of the constraints on the Essex Thameside route are focused around a lack of capacity/ conflicts created by high levels of demand from commuting trips within this area. The greater constraints on this part of the network exist when the regional commuting demand interlaces with the local trips originating from within London such as Dagenham, Hornchurch and Romford. To add to these constraints, these are areas of the network that are shared with freight traffic, placing significant limitation on the number of train paths available.

Map 13 shows average journey times by rail and road from key centres within the Thames Estuary to Bank, London.

These constraints inform possible and potential locations for growth in the Thames Estuary. The concentration of growth in London and key towns across the Estuary is intrinsically linked to the accessibility of these locations. In determining where new jobs and homes should be based, careful consideration will need to be given to how existing networks and any planned improvements can be capitalised upon. The Commission therefore considers there is an important role for statutory Joint Spatial Plans in making sure such opportunities are capitalised upon.

The Commission has also carefully considered the impact of goods and passengers on the transport network and considers that further consideration should be given to how the operation of the road and railway systems can be optimised.



Map 13: Journey Times to Bank

Journey time by rail (mins)
- < 60
- 60 - 90
- 90 - 120
- > 120

Journey time by road (mins)
- < 60
- 60 - 90
- 90 - 120
- > 120

0 5 10 20km N


Southend-on-Sea
Sheerness
Margate
Broadstairs
Ramsgate
Herne Bay
Whitstable
Sittingbourne
Faversham
Canterbury
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Source: Google Maps

3.2.3.3 North-South Connectivity

Connectivity between the north and the south of the River Thames, between northern Kent and southern Essex in particular, is a constraint on the transport network. On road, there is a lack of fixed north-south road infrastructure connections across the River Thames, as well as heavy congestion levels between the Estuary and London. The lack of road infrastructure funnels traffic towards ‘pinch points’ on the network, increasing congestion and impacting upon journey times. The congestion causes delays for trips within certain parts of the Estuary, and trips between the Estuary and London. This constraint is evident in particular at the Dartford Crossing (M25/A282) where traffic speeds in peak hours are low and traffic movements are ‘stop and go’. This affects local and strategic long-distance trips such as orbital trips on the M25 and strategic freight traffic from Dover to other parts of the UK. Journey times between Dartford and Grays can be as high as 40 minutes for a 10 mile (16.1 km) journey.

In addition, journey times between Southend and Rochester can take up to 100 minutes in the AM peak despite being located only around 22 km apart. Similarly, within Greater London congestion at the Blackwall Tunnel (representing the only other fixed infrastructure crossing on the Thames east of Rotherhithe) can mean that a journey between Blackheath and Blackwall can take up to 45 minutes to complete a four mile (6.4 km) journey. This constrains accessibility for orbital movements between areas of East London.

The lack of north-south rail connectivity is also evident; there are no fixed public transport connections across the Estuary. The only way to reach, for example, Southend-on-Sea from northern Kent is to travel via Central London and change trains. Although this journey is indirect, the overall journey time compared to private car is similar.

The lack of connections between northern Kent and southern Essex also acts to prevent potential synergies between the two places. The information presented in the preceding sections indicates there are similarities between the two areas with regard to emerging and growing sectors, populations, and commuting patterns. The lack of connectivity between the two areas, therefore acts to constrain their ability to work together and build on each other’s successes to generate further growth. The Commission has therefore considered how planned and potential infrastructure improvements can unlock and encourage economic growth.

3.2.3.4 Planned Improvements

There is a number of plans and proposals to provide additional river crossings within the Thames Estuary (many of which are shown on Map 12 on page 81). These have multiple aims to relieve the pressure on the current road crossings whilst facilitating wider jobs and homes growth. Known plans include the Lower Thames Crossing and Silvertown Tunnel road crossings. The Mayor of London has also suggested further crossings including at Gallions Reach, Belvedere and a possible Docklands Light Railway extension across the river to Thamesmead. If put in place, these infrastructure projects could significantly alter the movement patterns within the Thames Estuary as new locations within and outside of the area become accessible or travel times between them are reduced. In turn, this will help to unlock sites and areas that are currently constrained in part by lack of accessibility, such as Eltham and Gallions Reach, as well as relieving congestion in highly used routes.

Alongside the planned river crossings, a number of other improvements are proposed to the transport infrastructure within the Thames Estuary. These include a number of regional/national scale infrastructure projects, including Crossrail 1, Crossrail 2, High Speed 1 improvements, and the electrification of the Barking to Gospel Oak line. A business case is also being developed for the extension of Crossrail 1 to Ebbsfleet. This would relieve congestion on commuter rail routes into London and improve connectivity to the major growth area around Ebbsfleet, whilst potentially creating new development opportunities in north Bexley.

There are also planned improvements to the road network that look to strategically enhance the local and strategic road network through new roads or bypasses, improvements to specific junctions or widening of particular sections of road. These include improvements along the A2, M2 and M20, including Junction 5 at Swale to facilitate growth as well as address local capacity issues; long term improvements to the M25 junctions 30 and 31; widening of the A13 between M25 and A126; various improvements to enhance access to Canvey Island; the Lodge Avenue Flyover replacement; and A13 Renwick Road junction improvements. These improvements act to unlock development sites across the Thames Estuary by providing capacity to cater for additional transport movements.

Enhancements to the public transport network are also proposed either through new stations, new lines or extensions to existing routes. These include:

- Extensions to existing routes, such as extension to the DLR in East London and extending the Bakerloo line to New Cross Gate, Lewisham, Catford and Lower Sydenham.

- New railway stations to provide greater accessibility and unlock their growth potential including at: Beam Park, Bermondsey (associated with Millwall redevelopment), Strood, Thanet Parkway and West Thurrock.
- Capacity improvements on existing lines such as increasing the frequency of the Crossrail 1 trains; providing a fifth carriage on the London Overground; increasing the frequency of the Ebbsfleet high speed rail service; and improvements to the Thameslink service.

More localised public transport interventions are also proposed in a variety of locations including Bus Rapid Transit or Tramway schemes, such as East London Transit, North Bexley Busway and Tram, Northern Corridor Rapid Bus Priority Scheme, and South East Rapid Transit; new ferry routes and piers, such as an alternative ferry crossing at Gallions reach, and the Eastern Isle of Dogs new pier; and a series of new bus, pedestrian and cycle bridges, including Rainham Creek bus bridge; Beam River bus bridge, Old Ford Crown Close Bus Bridge, and a series of land bridges between Billingsgate and Poplar High Street, over Aspen Way and DLR Poplar depot (as an alternative to the decking of Aspen way).

Proposals for growth at Southend Airport are also set out in the Joint Area Action Plan for the airport and include expanded services, enhancement of airport infrastructure, and a package of surface access improvements as well as wider mixed use development surrounding the airport. These align with other plans for the redevelopment of Rochester Airport, including resurfacing the runway. City Airport has major plans for expansion which are due for completion in 2021 and will provide a new airport entrance, and relocated terminal building. The expansion will provide capacity for an additional 30,000 flights per annum.

Overall, the planned transport improvements across all modes are expected to unlock housing and employment growth across the Thames Estuary area, as well as improving journeys and travel times (see page 87 onwards). In addition to unlocking sites, good connectivity can also enhance place making given good transport nodes can be attractive places to live. The knock on impact of delivering high-quality places with excellent place making and public realm can drive local economic activity meaning that transport improvements – whilst not the silver bullet – can be an incredibly important economic driver when combined with other measures for a ‘whole place’ solution to generating better prospects for people.

3.2.3.5 Ports and Freight

The Thames Estuary contains a number of key ports, including DP World London Gateway, the Port of Tilbury and Thamesport. Freight arriving by sea at these and other smaller ports along the Estuary can travel by rail routes, but in order to transport freight by rail from northern Kent to southern Essex (or vice versa) it would have to be taken into Central London and then across the Thames. This can significantly increase journey times.

Road is therefore the most common mode used for the movement of freight. The strategic road network in the Thames Estuary carries some of the highest levels of HGV traffic in the UK. The key ports within the Thames Estuary have good connections by road, although as with people movements, accessibility is hampered by congestion on strategic routes including the A13, A2 and M25.

The proportion of HGVs is particularly high along the M25, M20, and A13, mixing with heavy commuter traffic. The reliance on freight traffic to use the M25 and Dartford Crossing to connect to the Channel Tunnel and strategic routes to other parts of the UK, places significant additional strain on the crossing and its infrastructure. This is particularly relevant for trips between northern Kent, southern Essex, Suffolk and Norfolk. The journey between DP World London Gateway and Junction 21a for the M1 has a journey time of around 80 minutes, while the London Thamesport on the south bank of the Thames has a journey time of around 130 minutes. Consequently, road freight transport in the area suffers from congestion related delays, especially in the AM and PM peak periods.

Associated with rail freight, particularly coming from Europe, there is a lack of overnight lorry parking in Kent. Previous plans for ‘operation stack’ to provide a lorry park have been withdrawn; the Department for Transport is currently working to find a long term solution for lorry holding and overnight parking in the area. Ensuring the effective management of the routing of HGVs is a key consideration to reduce the impact on local communities, improve the reputation of the area and quality of place, and increase the capacity of the network throughout Kent.

3.2.3.6 Mode

The modal share of trips in the Thames Estuary reveals that public transport constitutes 27% of motorised trips inside the area[76]. Looking at particular routes, public transport mode shares between the Thames Estuary and the rest of London are the highest, at 78% outbound and 66% inbound, respectively. Conversely, public transport mode shares to the rest of the UK are the lowest, at 17% outbound and 30% inbound, respectively. The public transport mode share of all trips departing from the area is 43%, while it is 34% for all trips arriving to the study area.

Public transport mode shares vary significantly between the London boroughs and other local authorities of the Thames Estuary. Public transport accounts for 63% of all trips departing from the Thames Estuary's London boroughs, while it accounts for only 21% of those departing from the authorities outside of London. Similarly, 53% of trips into the London boroughs are by public transport, compared to only 12% for the other districts.

Improving accessibility within Kent and Essex – that is both within and between places – can provide access to new and better job opportunities. This, along with other measures discussed in this chapter including enhanced education and skills training, can help provide better prospects for people.

3.2.4 Policy Direction and Governance

The Commission has emphasised the importance of strong delivery and governance arrangements to achieve its 2050 Vision. This section provides an overview of the current policy context and governance arrangements within the Thames Estuary.

3.2.4.1 National Policy Direction
In 2017, the Department for Communities and Local Government (now Ministry for Housing, Communities and Local Government) published a White Paper 'Fixing our broken housing market'. The White Paper set out an aspiration to significantly increase the number of homes delivered across the country, by ensuring that: homes are planned for in the right places; homes are built faster; the market becomes diversified; and people are able to access suitable housing. Specific initiatives include a new standardised approach to calculating housing need, amending national policy to reflect greater support for brownfield development, bringing forward homes on public sector land, and only using Green Belt land when all other reasonable options have been examined. Where appropriate, these themes are reflected in a revised draft National Planning Policy Framework issued for consultation in March 2018.

The Commission is supportive of the Government's aspiration for the Thames Estuary to deliver affordable, high-quality homes that meet the needs of local communities.

Also in 2017, the Department for Business, Energy & Industrial Strategy produced a White Paper 'Industrial Strategy: building a Britain fit for the future' which sets out a long term plan to boost productivity and earnings. It is based on five 'foundations of productivity':

- **Ideas** – increasing total research and development investment and funding programmes to capture the value of innovation.
- **People** – investing in technical education, STEM subjects and re-skilling.
- **Infrastructure** – increasing the National Productivity Investment Fund for transport, housing and digital infrastructure, and supporting electric vehicles.
- **Business environment** – rolling out 'sector deals' between government and industry to increase sector productivity, and invest in high potential businesses.
- **Places** – agree Local Industrial Strategies and fund intra-city transport.

The Thames Estuary is well placed to benefit from, and deliver against, the foundations of the Industrial Strategy. On Ideas, there are opportunities to find innovative and creative ways to boost economic growth. On People, interventions could significantly increase employment, skills and earning potential. On Infrastructure, there are many schemes already identified which could help to deliver homes, jobs, and GVA. On Business environment, there is an opportunity to make the Thames Estuary the best place to do business. On Places, the potential of existing cities, towns and villages can be harnessed to build and maintain thriving communities. The potential of these foundations is reflected in the 2050 Vision.

The Thames Estuary area has been beneficiary of a number of Central Government initiatives to support growth and regeneration in particular areas. These include:

- **Southend-on-Sea City Deal**: Agreed in 2014 with £3.08m private sector and £3.15m local and national public sector investment, the City Deal sought to secure jobs growth and increased business start-up and survival rates, redevelopment of Victoria Avenue and deprived wards in central Southend, support local skills, direct business support for businesses across the southern Essex area, and incubator space.
- **Growing Places Fund**: The Growing Places Fund supported key infrastructure projects designed to unlock wider economic growth. Funds were allocated to 15 projects across the area.
- **Enterprise Zone**: Enterprise Zones are designated areas across England that provide tax relief and Government support. North Kent Enterprise Zone has six sites in Ebbsfleet, Medway and Maidstone. Recent key successes include construction of the access road at Kent Medical Campus and award of £3.7m from the Local Growth Fund for Rochester Airport Technology Park.
- **Coastal Communities Fund**: Various projects in the Estuary area have been recipient of this fund designed to promote sustainable economic growth and jobs in coastal communities, administered by the Big Lottery Fund. This includes Queenborough Harbour (Sheppey) upgrades, refurbishment of Dreamland in Margate, post-Olympics legacy development at Hadleigh Farm and Country Park, and other projects at Southend-on-Sea, Rochester, Chatham and Ramsgate.
- **Assisted Area Status**: Assisted Areas are places where Central Government are able to offer additional financial support to businesses under European Commission state aid rules. These include areas of Barking and Dagenham, Newham, Medway, Swale and Thanet.

3.2.4.2 Sub-Regional Policy Direction

There is a number of sub-regional plans covering parts of the Thames Estuary area, including the London Plan, Draft Local Plan (2017), South East LEP Growth Deal and Strategic Economic Plan (2014), Opportunity South Essex, Thames Gateway Kent Partnership Plan for Growth 2014-2020 (2014), A Growth Deal for London (2014) and Economic Plan for Essex (2014). Key themes arising from these documents include:

- The economic relationship between the Estuary and London as a centre for employment.
- The role of the ports as 'gateways' to the rest of the world.
- Connectivity as a barrier to growth, both for road and rail.
- A challenge of an over-reliance on certain sectors and employers (particularly the public sector), and a need to diversify and foster an entrepreneurial business culture.
- A need to foster growth in rural and coastal communities.
- Built environment quality in some locations not reflecting the aspirations of the area.
- The need for enhanced skills and training (particularly in STEM subjects), improved support for start-ups, increasing access to finance.
- Delivering more houses to support population growth and demographic change.

Key growth locations cited include Ebbsfleet, the Ports, London Southend Airport, Lakeside Basin, Basildon town centre, Purfleet Centre, and a range of major business parks including Thames Enterprise Park and Innovation Park.

In developing its proposals for the Thames Estuary the Commission has given careful consideration to how the challenges facing the area can be overcome to enable the potential of the area to be fulfilled.

3.2.4.3 Local Policy Direction

The existing policy direction for the Thames Estuary can be understood from the eighteen Local Plans produced by each of the local authorities within the area. These documents set out the aspirations for each area alongside a spatial strategy to promote delivery.

Based on a review of adopted and emerging Local Plans for each of the authorities, the following themes emerged:

- **Maximising opportunities to realise economic growth and opportunities for residents.** For example, Newham will become the ‘urban arc of opportunity’, Rochford will become ‘a green and pleasant place with a focus on business and high-quality homes’ and Medway will become a ‘leading waterfront city’. The majority of local authorities therefore focus on making their area attractive for inward investment and economic growth whilst ensuring that residents have ‘the education and skills to capture a wide range of local jobs’ (Thurrock) and therefore capitalise on the opportunities presented.
- **The relationship with London.** Not unsurprisingly, each of the London boroughs aligns their aspirations with those of the Capital. For example, Havering seeks to ‘make a greater London’ and Bexley will ‘play its part in making London a sustainable place’. For authorities outside London including Swale, Canterbury and Thanet, they recognise that their proximity to London and this relationship is a benefit to their localities. Thanet, for example, seeks to build on its proximity to London and Europe to expand the potential for business investment.
- **Strong support for advanced manufacturing, environmental and creative sectors.** In general there is an aspiration to move away from more ‘traditional’ sectors such as logistics and manufacturing (see page 43 onwards), towards higher value sectors. Canterbury and Medway convey a specific drive behind education in their aspiration to become the ‘Knowledge City’ and ‘Waterfront University City’ respectively. There is also a significant ambition to increase tourism in the authorities north of the river such as Rochford and Southend. Within London there is greater focus on financial services and business, as well as the creative industries.
- **A focus on communities.** Be it ‘diverse communities’ (Tower Hamlets), ‘integrated communities’ (Barking & Dagenham), ‘sustainable communities’ (Thurrock), ‘resilient communities’ (Basildon), ‘happy communities’ (Havering) or ‘cohesive communities’ (Greenwich). It would appear that whilst each local authority is ambitious for the future and the need to attract development, they are aware that this need must be balanced with the desire to enhance resident’s quality of life.
- **Better public transport.** This is cited as a key objective to achieve local authority aspirations and is seen as central to unlocking latent development potential.

As described in preceding sections, many of the themes identified by local authorities have been emphasised by the Commission as key to unlocking the potential of the area. The 2050 Vision therefore seeks to support diverse economic growth within the area, focus on the tools needed by communities to create thriving places and deliver transport improvements which will unlock development potential and improve quality of place.

3.2.4.5 Governance

There are eighteen local authorities across the Thames Estuary area – seven London boroughs, six authorities in Kent and five in Essex. Each authority has responsibility for planning, housing, leisure and recreation, and waste collection. Three authorities – Thurrock, Southend-on-Sea and Medway – are unitary authorities, and are responsible for all local government services within their area, including highways and transport, education and social services, waste disposal, and minerals planning. For the other non-London authorities, these functions are met by the two upper-tier county councils – Essex County Council and Kent County Council. In London, the upper tier authority is the Greater London Authority, although the balance of functions differs from non-metropolitan areas. The Greater London Authority also has a strategic plan making function and the ability to 'refer' planning applications over prescribed thresholds.

There are two development corporations in the Estuary area: Ebbsfleet Development Corporation and London Legacy Development Corporation. Development corporations are responsible for overseeing significant levels of development in defined areas. The powers held by Ebbsfleet and London Legacy Development Corporations differ; however both have powers to make decisions on planning applications.

In addition to the local authorities and other statutory bodies which have responsibility for designated functions in the area (such as the Port of London Authority, Environment Agency, Natural England and Marine Management Organisation), various partnerships between the public and private sector have been established to coordinate growth across the Thames Estuary area.

There are two LEPs in the area – the South East LEP and the London Economic Action Partnership. The LEPs are voluntary partnerships between local authorities and businesses to help determine local economic priorities and lead economic growth and job creation.

The Thames Gateway Kent Partnership (formed in 2001) includes representatives from Dartford, Gravesham, Maidstone, Medway and Swale local authorities as well as private sector partners. The Partnership seeks to champion sustainable economic growth across northern Kent, in particular: improving productivity; attracting investment; improving skills; and attracting knowledge-based employment and new business start-ups. It has an aspiration to deliver 50,000 new homes between 2006 and 2026. The Partnership's Plan for Growth 2014-2020 (2014) reflects a commitment to collaborative working toward these objectives.

Similarly, Opportunity South Essex, a partnership between the private and public sectors including Thurrock, Castle Point, Basildon, Southend and Rochford local authorities, presents a strategy for collaborative economic growth across the region. This strategy presents a series of priorities similar to the Thames Gateway Kent Partnership's Plan for Growth. In addition, it emphasises the importance of connectivity and quality of place.

The Thames Gateway Strategic Group is an informal partnership of local authorities and private sector representatives, established in 2010. Its purpose is to coordinate economic priorities across east London, southern Essex and northern Kent. It has recently done work to prioritise potential transport interventions, and has helped to coordinate local input to the Thames Estuary Commission's work.

The Association of South Essex Local Authorities (ASELA) is a grouping of six councils (the five authorities within the Thames Estuary area plus Brentwood) plus Essex County Council, which seeks to provide place leadership across administrative boundaries. Its key areas of focus include: developing a spatial strategy for housing, business and leisure; supporting key sectors and local labour and skill markets; transforming transport connectivity; and influencing and securing funding for strategic infrastructure including energy and digital connectivity. A Memorandum of Understanding between the authorities was signed in January 2018.

3.3 Future

As well as the current context of the Thames Estuary, the 2050 Vision has sought to respond positively to a number of challenges and opportunities that will arise over the coming years. The Commission wants its work to leave a legacy for future generations so that its recommendations are able to deliver high-quality homes for existing and new communities, a step change in the skills and educational attainment in the area and, importantly, a place which is attractive to the investment market, bringing new jobs and prosperity to the area. A summary of key trends relevant to the Thames Estuary are set out in the following sub-sections.

3.3.1 Employment Need

Employment has been growing in the Thames Estuary at an average annual rate of 2.5% since 2009. This does not necessarily mean that employment growth has been the ‘best’ jobs for the area; earlier analysis demonstrates that a high proportion of the jobs are low skilled and low paid. The Commission is therefore looking to prioritise projects that will generate more productive jobs with better wages and opportunities for up-skilling.

The average growth rate is largely driven by London boroughs; Newham grew annually by 5.2%, Tower Hamlets by 4.6%, and the remaining London boroughs by 2.4%, with Lewisham being slightly behind with 1.8%. Outside of London, Dartford has been leading with an average annual growth of 3.6% with Gravesham and Swale at around 2.2%. For the remaining local authorities the average growth has been around or less than 1%, with Castle Point, Southend-on-Sea, Thurrock and Thanet growing by less than 0.5%.

Taking those historic trends into account it has been assumed that employment in the area will grow at average annual rate of 2%, which equates to an additional 1.3 million jobs created in the area by 2050; this would represent a doubling in the current number of jobs. Based on historic growth rates 2% is a relatively modest level of growth to assume. However, it is considered that consistently applying the historic growth rate of 2.5% or higher for the next 30 years is unrealistic. The 2050 Vision supports achieving this level of job growth. However, as described above, the Commission has identified priority projects which it believes will support the generation of more productive jobs.

Based on the current average density for one job in the Thames Estuary area (taking into account the current occupational breakdown and government guidance on different employment densities for particular types of workplace[77]), this level of growth would suggest an additional employment floorspace requirement of almost 73.75 million sqm. Since 2013, 48 employment schemes over 1 ha or 10,000 sqm have been permitted in the Thames Estuary area, alongside 135 schemes identified within adopted and emerging Local Plans (see page 75). Whilst it is difficult to compare the indicative total requirement with the amount of growth within the planning system (given the different mix of types of employment space and the way it is measured in planning documents), it appears there will need to be a step change in delivery of employment floorspace to meet the growth aspirations for the area. It should also be noted that there is expected to be changes in the working environment and patterns over the period – including new technologies, flexible workspaces, and a continuation in the trend of remote working – which will impact on the amount of employment floorspace required to sustain jobs. Notwithstanding this, the Commission has prioritised the production of statutory Joint Spatial Plans to ensure there is a clear strategy that responds to the scale of the opportunity in the area.

3.3.2 Future of Key Sectors

With regards to productivity, it has been growing in the UK at an average annual rate of 2% since at least the 1970s. It then stagnated after the 2008/2009 recession. In quarter two of 2017 the productivity level was still below what it was at the end of 2007. However in the past two quarters of 2017, the UK has experienced what seems to be a strong upward change. Based on the general historic trends and recent data, the Bank of England and Office for Budget Responsibility will keep their long term productivity growth forecast at a relatively low level of 1.25%. This is therefore assumed to be a reasonable assumption for annual productivity growth rate across the Thames Estuary. Average GVA per workforce job in Thames Estuary in 2015 was £60,000. If it were to grow annually by 1.25% this would amount to £94,000 GVA per workforce job in 2050. Based on 2.7 million jobs in the area by 2050, this could lead to a total GVA of £280 billion in 2050 or a net addition of £190 billion. The 2050 Vision supports this increase in GVA.

3.3.2.1 Ports

Ports have historically constituted trade and commerce assets for cities and countries, acting as drivers of economic growth, technological change and the shaping of urban form – this is particularly true for the Thames Estuary, which is home to a high number of ports. Wholesale and retail trade, into which ports jobs fall, is the most highly represented sector in the Thames Estuary, and is the largest sector in twelve of the eighteen local authorities in the area. The role of ports along the Thames will continue to evolve in the future as they continue to adapt to a fast growing international shipping industry. Key future drivers are likely to include:

- **Growth in the shipping industry.** With increased trade volumes and bigger shipment size, many ports around the world are finding the need to improve their infrastructure capacity and efficiency. Increased traffic and vessel size also adds pressure on supporting infrastructure such as surface access. Ports within or close to urban environments are also exposed to higher road congestion levels, which directly impacts their productivity and the surrounding urban environment. There is therefore an opportunity to improve ports' connectivity and to integrate port freight transportation with broader transport schemes in the area. To cope with increased frequency and volumes, some ports will also rely on technology and innovation to optimise their activities and movements on site. As an alternative or complement to expansion, new digital technologies and applications have the potential to optimise port activities.

- **Concentration of the shipping industry.** The shipping industry is becoming more concentrated. This may have a knock-on effect on ports, with larger ports more able to thrive. This might mean that smaller ports will need to adapt and include new functions, for example tourism and recreational uses, or riverside living.
- **Increased competition for land.** Competition for alternative uses of port land is likely to get more acute, compounded by growing shipping activities, increasing urbanisation and demand for useful urban land – particularly attractive if the land is central to and/or well-connected to the urban area, and close to water.
- **Changing labour requirements.** With automation and other innovations in technology and logistics, port labour is changing from semi-skilled/manual positions to professional/high-skilled functions such as logistics planning. Ports such as Tilbury are already active in local training and skills development; one opportunity would be to develop the higher value skills required locally.
- **Demonstrating local benefits.** Ports will be increasingly asked to show local benefits, in terms of employment generation and value added to the local economy. There is a contradiction in that the economic benefits are spread wider-than-local, whereas negative impacts such as congestion/environmental harm are felt more locally. There is therefore an opportunity to bring more economic benefits back to local areas. This may include diversifying local employment (e.g. logistics command centres).
- **Meeting higher environmental standards.** Ports will also need to develop strategies to mitigate their impact on local air quality, water quality and liveability.

3.3.2.2 Manufacturing

As outlined in page 43, whilst manufacturing is not the largest employer in the Thames Estuary, it remains an important sector (particularly for specific communities) and represents a significant opportunity.

By 2050, it is expected that the manufacturing sector will be very different from today. It is expected to become faster and more responsive to changing global markets; manufacturing firms will therefore need to be capable of rapidly adapting their products, skills and operations to exploit these changes. In particular, firms will require a wider skills base, employing highly qualified individuals with expertise across disciplines (typically in science, technology, engineering and maths subjects). The ability for manufacturing firms to adapt in all parts of their business (from research & development and innovation, production processes, supplier and consumer relationships, and product maintenance and repair) will be important.

There is likely to be a greater focus on sustainability in the manufacturing process as well as the end product. Manufacturers are likely to incorporate re-use, re-manufacturing and recycling for products reaching the end of their useful lives, in efforts to minimise waste.

Manufacturing is increasingly becoming focussed on the wider 'value chain' to generate additional revenue. It will no longer just be about making a product and selling it but also about pre- and post-production activities.

This includes:

- Selling services in combination with products.
- Using products to generate information about consumers, the usage and performance of products.
- Generating value through selling knowledge to others, not necessary undertaking production activities.
- Adapting to changing patterns of ownership, such as providing products for 'collaborative consumption' as opposed to outright ownership.
- Forming strategic alliances with manufacturers in the same and different sub-sectors which will result in more collaborative approaches.

Efforts to unlock economic growth in the Thames Estuary area will need to be cognisant of, and responsive to, these expected changes in the manufacturing sector. In particular, the skills market of the area will need to reflect the requirement for highly qualified and flexible staff. The Commission has therefore focussed priority projects on ensuring that the right skills are available now and in the future to respond to market requirements.

3.3.2.3 Construction and Modular Housing

The construction industry is growing in the Thames Estuary, at a faster rate than in the UK as a whole. However, the nature of the construction industry is necessarily changing, and by 2050 will need to provide innovations and respond to wider global trends in a way it has not previously done.

The Government considers construction to be a key driver of the UK economy and, given its role in the Thames Estuary at present, it has the opportunity to play a major role in the economic growth of the area. This reflects the growing housing need and demand for more homes, which is not currently being addressed in the Thames Estuary as well as the rest of the country (see page 115 on future housing need). Skills shortage is also another reason that the construction industry is being driven to change, as the availability of skilled labour to build homes becomes more scarce.

In order to respond to the rising need for homes in the Thames Estuary, and further afield, there is a drive for greater innovation in construction practices. In the next decades, the rise of Modern Methods of Construction, including off-site construction has the potential to transform the industry[78]. In 2015, off-site construction as a proportion of the total construction market in the UK (2%) was significantly lower than that in a number of other countries, including Germany where it is circa 20% and Japan where it is 14%[79]. Reasons for this include: the age of the construction industry, which means practices are entrenched making the industry less responsive to change than younger industries; and the long-standing nature of the housing market in the UK (where there is a reliance on larger house builders), meaning innovations have not been forthcoming. There is also a perception that innovations such as modular homes are associated with lower quality housing[80].

However, recent trends suggest the incorporation of Modern Methods of Construction is beginning to influence the construction industry. For example, a 2016 report by the National House Builders Federation suggested that the majority of UK house builders have made use of Modern Methods of Construction in some form, and consider it to be a part of the industry that will continue to grow[81].

Off-site construction and modular housing is a particular growth area that is already starting to gain traction in the UK, and the Thames Estuary specifically. This will take the construction industry from a site-based approach to building, into the factories. A report by the Building Societies Association in 2017 suggested that it had the potential to reduce time on site by 80%, significantly improving environmental impacts, speeding up delivery and reducing costs for builders and purchasers[82].

In the Thames Estuary, a number of sites has been identified for the use of modular housing, and factories are emerging to cater for this trend. In early 2017, Swan Housing Association took over a new factory in Basildon for the production of 500 new modular homes to support their Beechwood development as part of the regeneration of the former Craylands Estate[83]. Similarly, Berkeley Homes is developing a 150,000 sqft (14,000 sqm) manufacturing facility in Northfleet which will produce up to 1,000 homes a year to support the growth of Ebbsfleet and surrounding areas[84].

The construction industry is therefore already establishing a foothold in the Thames Estuary, responding to the need to produce homes at a faster rate. This provides a major opportunity to provide resilience to the already growing construction sector, while also supporting development of housing in the Thames Estuary (more details of which are provided on page 115).

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3.3.3 Economic Resilience

Changes in national and global economies and uncertainties around the future – such as the global recession, Eurozone crisis, and the UK's decision to leave the European Union – have reinvigorated debates around economic resilience and the ability to respond positively to shocks. They have also raised questions about the contributions that different areas make to national competitiveness. Over the last few years, the rise of initiatives that seek to invigorate regional economies – such as the Northern Powerhouse, Cambridge-Milton Keynes-Oxford Corridor and Midlands Engine – has increased, with the intention of rebalancing the economy away from dominant London and contributing positively to UK Plc.

On the near horizon, the impacts of Brexit on regional and national economies is still uncertain but may bring both challenges and opportunities for the Thames Estuary. The box opposite outlines how some key sectors may be impacted by the decision to leave the European Union.

Beyond Brexit, there is a wider discussion to be had around economic resilience and the role that the Thames Estuary plays in the economy of the country as a whole. Work led by ESPON, European Institute of Urban Affairs and Liverpool John Moores University in 2012 highlighted the potential of 'second tier' cities (as opposed to capital cities) across Europe in driving forward economic growth. The work argues that 'places' matter more in a global world, and that globalisation makes the capacity of particular places more important. It focuses on the positive contribution that 'second tier' cities can make, many of which already contain major concentrations of economic activity and human capital, which offer businesses and residents better local access to services than if they were all concentrated in the capital, and can achieve many of the agglomeration effects of capital cities. Second tier cities can lift the economic performance of wider regions and countries as a whole.

The report recommends that more investment should be made in second tier cities when: the gap between them and the capital is large and growing; there is a history of underinvestment; and there is clear evidence about the negative impacts of capital city growth.

Whilst the Thames Estuary is in close proximity to London, further economic development in the area could have the impact of strengthening agglomeration benefits outside of the capital and reducing pressure on London. The area does not include a 'second tier city' along the lines of Birmingham, Manchester or Glasgow, but being home to 3.5 million people and 1.3 million employees across the Estuary makes it comparable in these terms.

Opportunities and challenges of Brexit

Aviation

Brexit creates an array of challenges for the aviation sector; in particular, it is still uncertain what legal framework will apply for airlines to fly in Europe. At present, UK aviation is underpinned by the 'Single European Sky', which allows any EU airline to operate from, between and within any country of the European Economic Area in return for compliance with safety requirements and economic cooperation. If a new agreement is not reached it may result in planes being grounded across the country or potentially unable to fly on to other destinations having left from the UK.

Ports

Around 90% of UK trade by volume is handled by ports and the EU is the UK's largest trading partner. It is fair to assume that, post-Brexit, the UK will require greatly expanded handling facilities to deal with customs checks and administrative requirements to check country of origin etc. The British Ports Association has stated that a particular challenge is for roll-on-roll-off and ferry routes, which may have to incorporate both enhanced immigration as well as customs checks. This may have operational and land take implications for the ports.

If Brexit leads to increased trade with other parts of the world this may also offer opportunities – particularly for deep water ports such as London Gateway Terminal which is able to accommodate larger berth vessels.

Logistics

Every few seconds added to the transition time at international gateways such as Dover is likely to lead to the increased likelihood of queues and back-ups along the motorway etc. Whilst Dover is outside of the Thames Estuary, its main highways routes fall within the area and would be affected by such disruption.

Energy

The energy sector will be affected at multiple levels, from interconnectors between the Continent and the UK, through to standards for appliances. There are critical issues around the monitoring, reporting and reciprocal recognition requirements for environmental protection currently associated with EU membership and a risk that such protection could be considerably weakened. More importantly, there is a danger of a regulatory vacuum that could do serious damage to business and trade.

The European Internal Energy Market is likely to become less accessible following Brexit, which may impact domestic prices and the amount of energy required to meet domestic need. This could be an opportunity for the Thames Estuary, which has both alternative energy gateways (e.g. interconnectors at the Isle of Grain and Richborough/Pegwell Bay, gas import terminal on Canvey) and the possibility of generating energy through onshore, offshore and tidal technologies.

Agriculture

The impact of Brexit on agriculture is uncertain, particularly around impacts on regulatory frameworks, the future of funding (e.g. what will replace the Common Agricultural Policy in the UK), international trade of products, and access to labour. Conversely, there may be opportunities for farmers in the Thames Estuary and across the UK more generally to play an increased role in ensuring food security for the country.

3.3.4 Environmental Changes

As outlined previously, the Thames Estuary has a rich natural estuarine environment (see page 59 for more information).

In many ways, the industrial land uses and urban development that characterise the Thames Estuary successfully cohabit alongside its unique natural landscape. Nevertheless, ensuring that increased development pressure in the Thames Estuary is considered in the context of the protection and enhancement of existing and historic habitats, wildlife and landscapes will be of central importance to unlocking the future of the area. In Natural England's national character area profile for the Greater Thames Estuary, they identify a plan of action for ensuring a strategic approach to development which ensures the tranquil and remote character of the estuary is retained[85]. Green infrastructure networks are highlighted as vitally important to this, to provide ecosystem services and maintain the "open mosaic and coastal habitats, and historic and geological features"[86].

The Department for Environment, Food & Rural Affairs (Defra) published its 25 Year Environment Plan in February 2018[87], which sets out action to help the natural world regain and retain good health. It includes a number of policy areas which are relevant to the future of the Thames Estuary including: using and managing land sustainably; recovering nature and enhancing landscapes; connecting people with the wider environment; and increasing resource efficiency and reducing pollution. The Commission believes the long term view of the 2050 Vision provides an opportunity to embed these principles in the future of the area.

Development is not the only challenge facing the environment of the Thames Estuary. It is estimated that by the year 2100, around 1,200 ha of internationally designated habitat will be lost as a result of tidal flooding in the Thames Estuary, resulting from coastal squeeze where sea levels rise but habitats are prevented from migrating inland due to the presence of flood defences and existing development[88]. The Thames Estuary 2100, the Environment Agency's action plan for responding to change in the Thames Estuary and associated flood risk, proposes to replace over 876 ha of intertidal habitat to mitigate for the habitats lost by sea level rise[89]. There are also plans to undertake localised environmental enhancements in specific locations to enhance wetland areas as well as greater public access to the natural and estuarine environments.

The Thames Estuary is and will remain susceptible to tidal flood. The current flood management system includes over 330 km of walls and embankments, alongside the Thames Barrier and eight smaller barriers. As we move towards 2050 and beyond, flood risk and its management will continue to be important. The Thames Estuary 2100 identifies a number of changes and challenges which will have an impact on flood risk in the area[90]. These include:

- **Ageing flood defences***.* Many of the current defences were constructed over 30 years ago and are reaching the end of their life. They will all need replacement or enhancement between 2030 to 2060.

- **Sinking land levels**. The land in the estuary is sinking as a result of isostatic rebound associated with the ice age.

- **Socio-economic change**. Increases in wealth mean the impact of flood is greater, as both the number of buildings susceptible to flood, and the value of the buildings and their content increase. As growth continues in East London and outwards into the wider Thames Estuary, this challenge will only increase.

- **Increasing public and institutional awareness**. Current awareness is low, but there is a need for public and institutions to take a greater and more active role in helping to manage flood risk.

Flood risk will therefore become increasingly challenging and important as a key driver of change for the Thames Estuary. While the Environment Agency acknowledges that there is greater capacity within the current flood management system than previously thought, major changes will be required to respond to the changes set out above. The Thames Estuary 2100 plans for three stages of intervention[91]:

- **First 25 years (2010-2034)***:* approximately £1.5 billion programme of maintenance and improvements to the current management system.

- **Middle 15 years (2035-2049)***:* major renewal and replacement of the Thames Tidal defences costing approximately £1.8 billion.

- **Final 50 years (2050-2100)***:* a review of the plan and either further upgrade and modification, or provision of a new barrier further east of the existing Thames Barrier. It is currently envisaged that such major changes to the flood management system would not be required until 2070, with design work to start in 2050 to be in place for 2070.

The Environment Agency's plans to upgrade the Thames Estuary's flood defences will help ensure that the area adapts to future flood risk caused by climate change, providing certainty that the world-class standard of flood protection that is currently in place will be maintained to 2050 and beyond. The Commission encourages relevant authorities to work together to ensure that land identified as necessary for future flood risk management is safeguarded for this purpose whilst minimising the constraint to development.

While the location of a proposed new barrier is yet to be fixed, the Environment Agency's preferred location is at Long Reach, which is closer to the existing barrier than the alternative option of Tilbury[92]. A new tidal barrier brings not only an opportunity to protect the landscape and new and existing communities from flood. It also presents opportunities to provide better linkages between the two places either side of the river. A tidal barrier could therefore become more than a tool for flood management, but could become a multi-functional infrastructure to enhance connectivity in the Thames Estuary. It is also understood that locations other than those identified by the Environment Agency could be acceptable locations for flood defence whilst providing additional benefits potentially including multi-modal transport links and/or renewable energy generation capacity. The Commission considers this to represent a significant opportunity and priority for the Thames Estuary which can bring multiple benefits to the area.

3.3.5 Housing Need

By 2050, a minimum of one million homes will be required in the Thames Estuary. This number is derived from the Department of Communities and Local Government's (now Ministry for Housing, Communities and Local Government (MHCLG)) 2017 consultation on a standard methodology for calculating local authorities' housing need[93]. The approach to the standard methodology consists of a demographic baseline, which is then modified to account for market signals (the price of homes) and deliverability.

As part of the consultation the 'Housing need consultation data table' set out the housing need for each local planning authority. Table 2 presents the annualised housing need (rounded to the nearest 100 for each local authority) across the Estuary area.

The figures produced by MHCLG run to 2026. Beyond this, the annualised figure has been extended to 2050 to reflect the time period of the Commission. In the absence of more detailed forecasts, the extrapolation of existing trends is considered to be appropriate because the economy is still expected to grow and recent trends in household formation rates and household size (e.g. a general move towards more single person households) are expected to continue. Table 3 therefore shows the housing need from 2018 until 2050. This figure should be considered a minimum; there may be opportunities to deliver growth in excess of this, e.g. through the use of strategic infrastructure to unlock growth.

The standard methodology for calculating objectively assessed housing need provides a figure by each local authority. If this distribution is adhered to, around two thirds of these homes will need to be delivered in east London. The Commission believes that solely focusing on homes in London is unsustainable and that more of these homes should be provided in Kent and Essex. The one million homes figure should be viewed as an Estuary-wide total. There are specific opportunities and constraints across the Thames Estuary; authorities should work together to ensure that housing is delivered in the right places alongside the necessary jobs and infrastructure. This is reflected in the 2050 Vision through the promotion of statutory Joint Spatial Plans in Kent and Essex.

Local authority	Indicative housing need 2016 - 2026 (dwellings per year) (rounded)
Barking & Dagenham	2,100
Basildon	1,000
Bexley	1,700
Canterbury	1,100
Castle Point	300
Dartford	800
Gravesham	500
Greenwich	3,300
Havering	1,800
Lewisham	3,200
Medway	1,700
Newham	3,800
Rochford	400
Southend-on-Sea	1,100
Swale	1,100
Thanet	1,100
Thurrock	1,200
Tower Hamlets	4,900
Total	**31,100**

Table 2: *Housing need to 2026*
Source: MHCLG; additional analysis by Arup

Local authority	Indicative housing need 2018-2026 (9 year cumulative total) (rounded)	Indicative housing need 2027-2050 (23 year cumulative total) (rounded)	Total
Barking & Dagenham	18,800	48,300	67,100
Basildon	9,200	23,000	32,200
Bexley	15,500	39,100	54,600
Canterbury	9,900	25,300	35,200
Castle Point	3,100	6,900	10,000
Dartford	7,000	18,400	25,400
Gravesham	4,600	11,500	16,100
Greenwich	29,900	75,900	105,800
Havering	16,400	41,400	57,800
Lewisham	28,600	73,600	102,200
Medway	15,000	39,100	54,100
Newham	34,600	87,400	122,000
Rochford	3,300	9,200	12,500
Southend-on-Sea	10,000	25,300	35,300
Swale	9,500	25,300	34,800
Thanet	9,600	25,300	34,900
Thurrock	10,400	27,600	38,000
Tower Hamlets	43,900	112,700	156,600
Total	**279,300**	**715,300**	**994,600**
Rounded	**280,000**	**720,000**	**1,000,000**

Table 3: *Housing need to 2050*
Source: MHCLG; additional analysis by Arup
Note: time period assumed from 01 January 2018 until 21 December 2049 (32 years).

3.3.5.1 Meeting Housing Need

The latest annual targets set out in adopted or emerging Local Plans are set out in Table 4[94]. They suggest that, across the Thames Estuary area, around 20,000 units per year are planned. This is far fewer than the recent assessment of housing need undertaken by MHCLG of some 31,000 per year, as set out on page 115.

Based on an assessment of current planning permissions in the area, it is estimated that there are unimplemented permissions, which could deliver around 80,000 units from 2019 onwards on large sites (500 or more homes). In addition, there are around 364,000 units on large sites 'in the system' (either as allocations within Local Plans or other planning documents, or proposed allocations within draft Local Plans) expected to be built out from 2019 onwards. However, this leaves a significant shortfall to deliver to 2050. It is clear that a step change is required to meet the housing requirements of the Thames Estuary.

This is supported by analysis undertaken by MHCLG, which concluded that current housing delivery in the Thames Estuary area is significantly below the level needed to prevent affordability worsening due to undersupply. This is most acute in London, where only 46% of the annualised housing targets were delivered in the period 2012/13 to 2014/15 (compared with 52% in Essex and 61% in Kent). Whilst the level of ambition in Local Plans is generally close to the level needed, and a similar number of units are granted planning permission, the largest gap is between permission and delivery – i.e. units that are subject to planning permission are not being built out. Understanding historic levels of housing delivery is not simple; delivery lagging behind planning permissions or Local Plan allocations is not just a case of developers holding back sites, but also the changing role of public and other investment in ensuring that areas are unlocked for delivery.

Modular housing and other forms of Modern Methods of Construction represent an opportunity to meet the ambitious scale and pace of housing delivery required in the area. Beyond this, in the short to medium term, the Commission supports the development strategy adopted by local authorities which seeks to maximise the potential of sites within existing urban areas and/or through settlement extensions to support the creation of thriving communities. Over the longer term, the Commission believes local authorities will need to consider other forms of development. The Commission's engagement with stakeholders has indicated that possible future opportunity areas could include the Hoo Peninsula and homes unlocked through the extension to Crossrail 1 and the Lower Thames Crossing subject to the necessary infrastructure being funded by the scheme promoter. Given the longer lead in times for these types of development, the 2050 Vision emphasises the importance of statutory Joint Spatial Plans in Kent and Essex in producing an integrated strategy for delivering and funding high-quality homes, employment, transport and other infrastructure. The Commission also encourages local authorities to make the Plans ambitious - going above the minimum housing numbers set by Government - to attract substantial infrastructure investment from Government. In addition, the Commission has carefully considered the need for governance reform in order to more effectively support the scale and pace of development required in the area.

Local authority	Document	Annual planned housing delivery
Barking & Dagenham	The London Plan (Further Alterations) (2016)	1,236
Basildon	Basildon Borough Council: Draft Local Plan (2016)	767
Bexley	The London Plan (Further Alterations) (2016)	446
Canterbury	Canterbury District Local Plan (2017)	803
Castle Point	New Local Plan Submission Version (2016) *Note: withdrawn in March 2017*	107
Dartford	Core Strategy Local Plan (2011)	867
Gravesham	Gravesham Local Plan Core Strategy (2014)	269
Greenwich	The London Plan (Further Alterations) (2016)	2,685
Havering	Havering Local Plan 2016-2031 (Regulation 19) (2018)	1,170
Lewisham	The London Plan (Further Alterations) (2016)	1,385
Medway	Medway Local Plan 2012-2035 (Regulation 18) (2018)	1,283
Newham	The London Plan (Further Alterations) (2016)	1,994
Rochford	Rochford District Council – New Local Plan: Issues and Options (2017)	394
Southend-on-Sea	Development Planning Document 1: Core Strategy (2007)	325
Swale	Bearing Fruits 2031 (2017)	776
Thanet	Draft Thanet Local Plan to 2031 (2015) *Note: in March 2018 the Council voted not to progress with the Local Plan*	600
Thurrock	Core Strategy and Policies for Management of Development (2015)	925
Tower Hamlets	Managing Growth and Sharing the Benefits (Regulation 19) (2017)	3,630
Total		**19,662**

Table 4: *Annual planned housing delivery*

3.4 Engagement

3.4.1 Call for Ideas

Since the Commission was established in 2016, it has undertaken a programme of engagement with areas within the Thames Estuary. Key elements of the engagement included the Call for Ideas (set out in more detail below), a charrette held in March 2017 which brought together local partners and industry experts to discuss the future of the area, as well as visits and meetings with a wide range of stakeholders. These include local authorities, businesses, higher education institutions, civil society and community organisations. Details of the organisations and individuals who have been engaged through the Call for Ideas and other channels of engagement is provided in Appendix A.

3.4.1.1 Overview

A Call for Ideas was launched by the Commission in 2016 to invite thoughts on the future of the area. The Call for Ideas was an open invitation for all interested parties, both within and outside the Thames Estuary.

The document accompanying the Call for Ideas outlined the six initial workstreams which represented the focus of the Commission, accompanied by a number of questions. Respondents were not constrained by these topics and were able to respond on any topic. For ease of reference the six workstreams and associated questions were as follows:

- **Creating high productivity clusters***:* What high productivity clusters are there in the region currently and what clusters might there be up to 2050? What skills will be needed to support these clusters and how can those skills be delivered? What can policymakers, businesses and education providers do to encourage the development of high productivity clusters?
- **Increasing connectivity***:* What connectivity constraints, including energy, transport and digital, exist in the region? To what extent will planned infrastructure address these constraints? What additional infrastructure may be needed to unlock growth and productivity? How should projects be prioritised?
- **Creating new homes and communities***:* What barriers exist to creating high-quality communities where people want to live, work and visit? What specific locations offer the most potential for new homes and how should these be prioritised? How can the quality of associated social infrastructure be maximised? How can growth in the region be achieved whilst meeting the UK's long term emissions reduction targets and enhancing the region's natural assets?

- **Securing investment***:* How can public funding be used to maximise private investment in the region, including foreign investment? What can be done to reduce risk for potential investors? How can increases in public sector land values be used to fund infrastructure investment?
- **Harnessing innovation in the built environment***:* What international examples of innovation in design and construction should the Commission consider? What particular opportunities exist in the Thames Estuary for promoting sustainable development that can be delivered quickly?
- **Putting it together – centres of excellence***:* What is your vision for creating high-quality growth that benefits the whole of the Thames Estuary? What organisational structures and interactions are needed to deliver your vision? What specific locations, of any size, have the greatest potential to become 'centres of excellence' by attracting high productivity clusters and creating world-class communities?

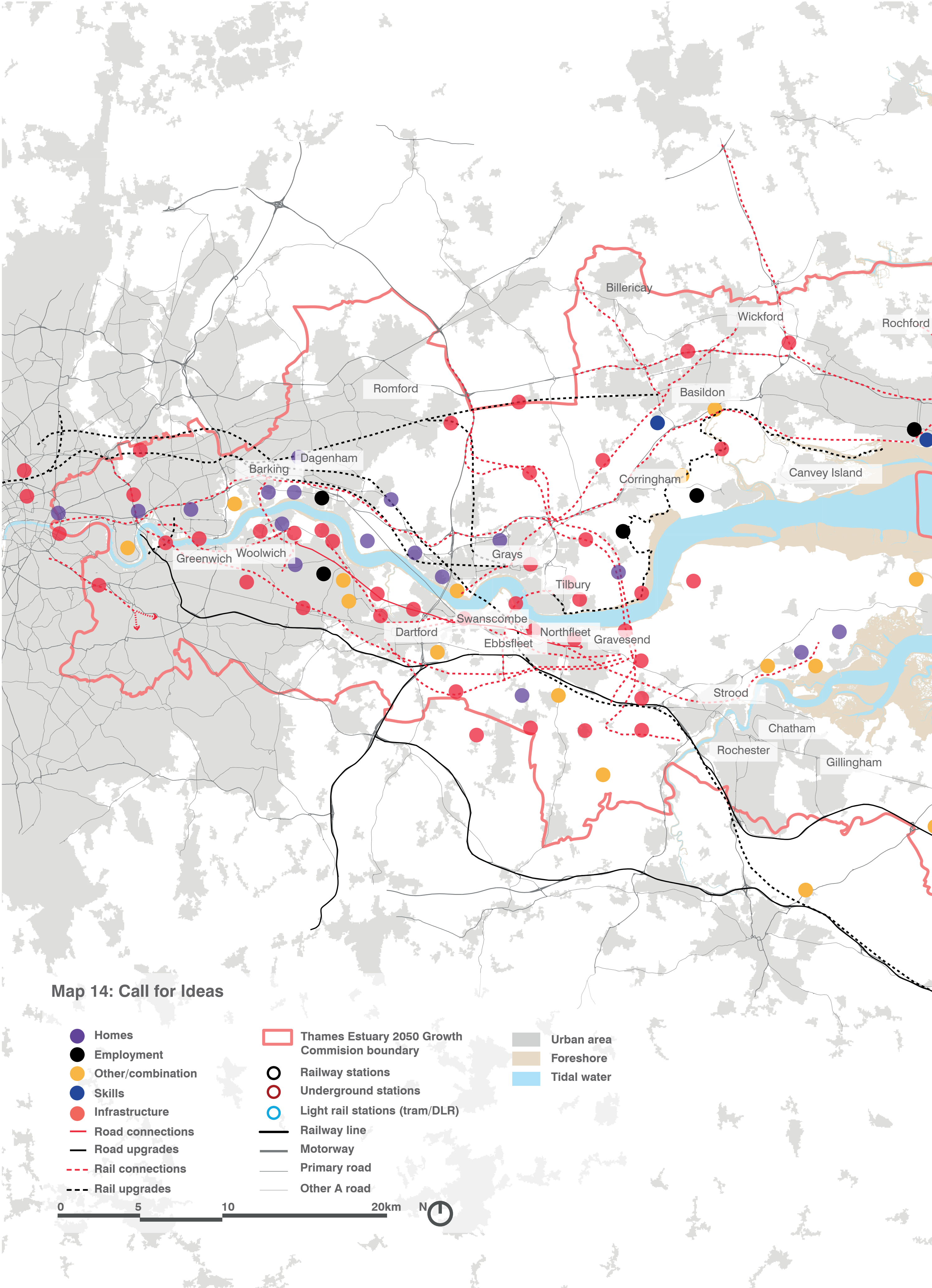
The Call for Ideas also asked what lessons might be learnt from previous initiatives in the Thames Estuary.

3.4.1.2 Response Rate

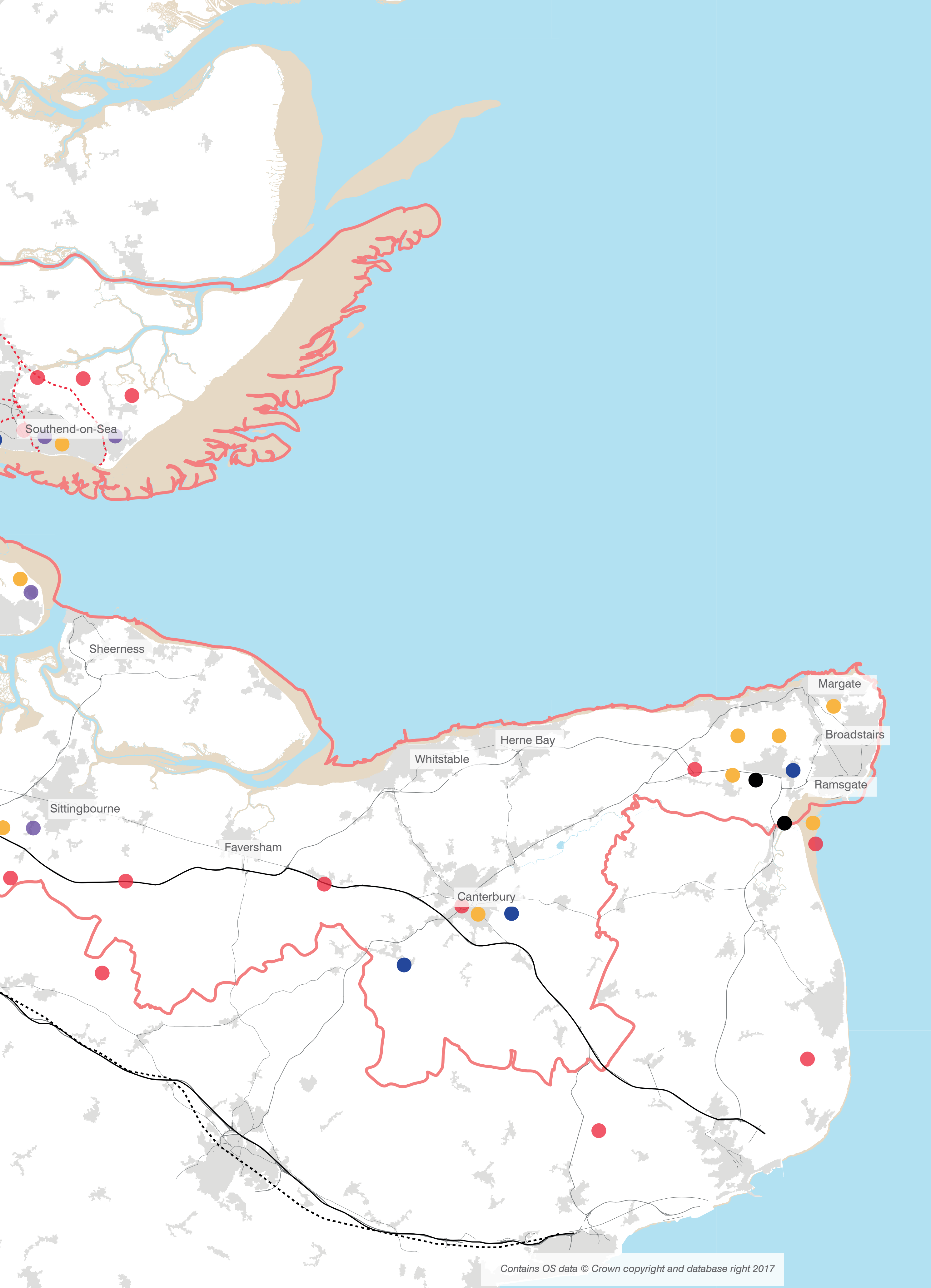
The Call for Ideas ran from 14 July to 9 September 2016. In total, 119 responses were received comprising around 400 separate ideas. There was a good spread of respondents from across the Thames Estuary area (see Map 14) but – perhaps unsurprisingly – relatively few from outside the area.

Responses were received from twenty local authorities and a large number of other organisations and groups, including consultancies, charities, lobby groups, special interest groups, universities, colleges and government agencies. Relatively few responses were received from residents and smaller local businesses.

All of the ideas promoted to the Commission have been considered as part of the prioritisation process. They have directly informed the priority projects identified by the Commission in the Vision 2050. Further details of this process are provided in Section 3.6 and Appendix B.



Map 14: Call for Ideas


Southend-on-Sea
Sheerness
Margate
Broadstairs
Herne Bay
Whitstable
Ramsgate
Sittingbourne
Faversham
Canterbury
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3.4.1.3 Responses

Transport
Transport schemes made up the majority of ideas expressed through the Call, and covered a wide range of modes of transport.

Overall, there was general support for the Lower Thames Crossing, although some responses proposed additional routes – for example, closer to the M11 which provides an alternative to the M25, or further towards the estuary to better serve northern Kent. Other responses focused on additional interventions required to alleviate local effects of the crossing, or unlock wider north-south connectivity. A smaller number of responses were against the crossing. Further Thames crossings were also suggested at Belvedere, Silvertown and Gallions Reach.

A number of ideas related to the High Speed 1 network, and included: extension of the high speed rail look from Ebbsfleet to Canterbury and Thanet; and additional stations particularly north of the river (e.g. Barking Riverside). Crossrail extensions from Shenfield to Basildon and Abbey Wood to Dartford, Gravesend and Ebbsfleet were proposed, and a Crossrail 2 extension to Barking, Dagenham and southern Essex, was also suggested. A small number of submissions also suggested a link between Crossrail 2 and the southern spur of Crossrail under the Thames. Perhaps more ambitiously, one submission proposed a new double deck rail and vehicular transport tunnel under the Thames.

Other transport-related ideas included:

- New train stations, including Canterbury Parkway, Thanet Parkway and on the Hoo Peninsula.
- Bakerloo Line extension to Canary Wharf and DLR extension to Thamesmead.
- New public transport systems, e.g. to connect the three major Essex rail corridors.
- Expansion of London Southend Airport and upgrades to surface transport links, and a new hub airport on the Isle of Grain.
- Various highways upgrades, particularly in relation to the M2/A2 corridor, M20, and M25 junctions.
- Reinstation of the Ramsgate passenger ferry service.

Housing
A number of submissions related to housing growth, including several which proposed new settlements. This included proposals for a garden city on the Hoo Peninsula and other expansion at Hoo St Werburgh, growth on the Isle of Grain, a new garden city in Thanet, and a new garden village near Sittingbourne.

Other housing-related ideas included:

- Major growth at Basildon.
- Intensification of Thamesmead and Ebbsfleet.
- Designation of the 'Thameside Towns' of Purfleet, Grays and Tilbury as Housing Zones.
- A comprehensive brownfield land remediation strategy to bring forward complex brownfield land in areas such as Barking and Dagenham.

Economic development
A number of submissions included proposals for economic development in specific locations. This included:

- Growth of the Port of Ramsgate, particularly around renewable energy and logistics.
- A health and social care 'centre of excellence' in Kent, building on the University of Kent's Biotechnology proposal for the Super Centre including medical school and research-based enterprise; and a new major medical campus at Ebbsfleet.
- Economic growth at Manston Airport, including suggestions for an enterprise zone, an advanced manufacturing park and aviation academy.
- Thames Valley 'production corridor' within London.
- A new 'createch' cluster of creative, digital and technology companies.
- Southern Essex as a UK logistics 'centre of excellence'.
- A 'digital construction centre of excellence' in Southend.
- Enhanced broadband provision across the Thames Estuary area to support economic development.

Skills and education
Ideas relating to skills and education included:

- A devolved skills agenda, with local or regional authorities having a much greater influence over the curriculum in schools and higher education institutions, and greater links to employers.
- Expansion of the university offer, including an additional South Essex University campus in Basildon.
- Provision of pathways to employment for adults and young people to access high value jobs in key sectors such as construction, advanced manufacturing and engineering, transport and logistics, environmental technologies and creative sectors.

Environment and energy
Ideas relating to the environment and energy production included:

- Extension and upgrades to the Thames Estuary path.
- Enhanced environmental protection through the use of buffer zones around sensitive locations.
- Strengthening the green infrastructure network across the whole area, particularly around major development sites such as Ebbsfleet and London Gateway Port.
- London Tidal Array and onshore generation including anaerobic digestion, energy from waste and combined heat and power projects.

Governance
A number of submissions covered governance arrangements in the Thames Estuary area. Proposals included implementing a new sub-regional governance body for the area with a strategic plan-making role, and a new South Essex unitary authority (comprising Thurrock, Southend, Castle Point, Rochford and Basildon) to improve decision-making. Closer working between the Mayor of London and surrounding areas was raised as important, and the creation of a new transport body to provide a more integrated approach to transport provision was also suggested.

A smaller number of submissions covered additional powers required, including:

- Devolution of business rates.
- Local incentives to encourage implementation of planning permissions, e.g. through additional taxes on undeveloped sites.

3.5 Challenges and Opportunities

The Thames Estuary is an area with great potential. It has sizeable economic power, a strong feeling of collaboration and a ‘can do attitude’ from London, right out to the sea. It has a significant brand and status, which is important to the UK economy and UK plc.

However, as shown in the preceding sections, the Thames Estuary is made up of a number of diverse places which have their own economies, independent characters and roles. Taking a one-size-fits-all strategy will not be successful.

The Commission believes that by building on the good work which is already taking place and leveraging the distinctive characteristics of each place, more jobs and prosperity can be attracted to the area; this will support the creation of more thriving and attractive places.

Trends across the baseline identify a number of geographic clusters and consistencies. There are some significant differences between the London boroughs within the Thames Estuary, and the districts further east – particularly around jobs and economic activity rates, skills and education, house prices, and movement and connectivity.

In addition, the natural and built environments change as one moves along the River Thames away from London; there is a distinct ports and industrial zone around Tilbury and Gravesend, with settlements becoming more interspersed by the landscape beyond this. The River Thames too is a unique and important entity, which the Commission believes is an asset in its own right. The Commission has ensured that the Vision 2050 responded to these differences and that the resulting priorities for each place comprise targeted interventions, which seek to address the challenges faced by the specific area.

The evidence gathered reaffirms the Commission’s view that the ‘business as usual’ approach is not working. Without concerted action, there is a risk that the Thames Estuary will fail to achieve its potential, at huge opportunity cost to local communities, and the national economy. To inform the action required, the Commission identified a series of key challenges and opportunities of the area. These are summarised opposite.

Challenges

Scale of the area: The Thames Estuary is home to many boroughs, cities, towns and villages, which have their own distinctive characteristics. The diversity of the area, the natural barrier provided by the River Thames and the different functional economic areas mean that developing a singular 'vision' is challenging; it makes more sense to 'read' the area as a series of interconnected places.

Stimulating economic growth: The Kent and Essex parts of the area have struggled to keep pace with the scale of employment growth in east London. Between 2009 and 2016 east London employment grew by 27%, in comparison to the Thames Estuary average of 19% and the London average of 21%[95].

Low skills and education levels: There is a higher proportions of adults with no formal qualifications compared with the regional average across the Thames Estuary although this challenge is particularly acute in Essex[96]. Relative to the London, South East and East regions, residents in the Thames Estuary are more likely to work in trade, sales or machine activities, which have historically been less highly skilled[97]. This makes the area a less attractive location for employers seeking skilled and agile workers.

Entrenched deprivation: The area is characterised by a 'low wage' economy with limited connectivity to employment centres and a shortage of jobs and skills. The average weekly household income in the area is £800 before housing costs, which is below the combined average for London, South East and East of England at £885[98]. Most settlements in the Thames Estuary therefore contain neighbourhoods with high levels of deprivation (in the top two deciles of the Index of Multiple Deprivation)[99]. The area also has higher levels of unemployment (5.3%) compared with the average for England (4.5%)[100].

Delivering homes: The area needs to cater for population growth and demographic change. Whilst an increased number of planning permissions are being granted, this is not being reflected in delivery rates. Between 2012/2013 and 2014/2015, on average, fewer than 10,000 homes were built per annum[101] against Local Plan targets of 19,495 per annum[102]. Low land values, challenging site conditions and a limited number of house builders are all contributing to the delivery gap.

Limited mobility: Outside of London, the high speed railway network has been the focus of historic transport investment. Beyond this, access to affordable, high-quality public transport or active transport links is more limited between and within cities and towns. This is affecting access to jobs.

Environmental constraints: The Environment Agency estimates that the sea level will rise between 20cm and 90cm by 2100[102]. Without intervention, this could affect up to 1.25 million people who live in the Thames tidal floodplain and 1,200 hectares of internally designated habitats[103]. The Thames Estuary 2100 Plan is the Government's current strategy to adapt to the challenges of future sea level rise. The area also suffers from poor air quality, particularly near congested river crossing points.

Fragmented governance: There are 18 local authorities alongside the Greater London Authority, Kent and Essex County Councils and two development corporations in the area. The lack of coordinated governance structures makes strategic planning and prioritisation of interventions more difficult. This is in the context of significant funding gaps, particularly for infrastructure delivery.

Opportunities

Strengthen existing sectors: The Commission believes that the area should continue to grow 'traditional' industries of freight, logistics and construction, capitalising on the five major ports and growing logistics and manufacturing sectors around them as well as the planned modular homes factories. The creative and cultural industries (spearheaded through the Thames Estuary Production Corridor) and medical sectors (e.g. medical instruments manufacturing at Southend-on-Sea) should also be supported.

Diversify sectoral mix: Locally distinctive sectors which capitalise on the area's assets should continue to be supported, whether they are existing or emerging sectors. The Commission believes this includes health, tourism, creative and cultural industries, agriculture and renewable energy and green technologies.

Utilise higher education institutions: The Commission believes that links between the South East Local Enterprise Partnership, institutions, employers and schools should be strengthened to maximise economic growth and provide pathways from school to employment. This includes building on the skills legacy from large infrastructure schemes in the area such as High Speed 1.

Prioritise infrastructure investment: There are over 327 infrastructure projects identified by local authorities to address existing constraints and/or support future growth in the area. The Commission believes that delivery of infrastructure will support delivery of homes and jobs. For example, the extension of Crossrail to Ebbsfleet could support up to 50,000 jobs and 55,000 new homes. Investment in and delivery of green infrastructure will also be key to securing good growth.

Improve intra-town connectivity: The Commission believes this should be achieved by making better use of existing capacity, and delivering currently planned, road and rail infrastructure. Providing additional capacity within the transport network will reduce congestion and journey times. The delivery of transport hubs will provide opportunities for agglomeration and regeneration.

Integrate environmental assets: The Commission believes that the Thames Estuary area provides the long term solution to managing the impacts of sea level rise on London. If appropriately planned, opportunities including maximising flood attenuation and improving air quality should be pursued alongside provision of replacement habitats and improved access for recreation and leisure (as promoted by the Thames Estuary 2100 Plan).

Realise planned development: There is an opportunity to deliver the homes (including affordable homes) and employment space, that are needed to support demographic change and new jobs in the area. Homes and jobs should be delivered across the Thames Estuary to support the tapestry of places.

3.6 From Baseline to a Vision and Priority Projects

The review of the baseline has enabled the Commission to identify the opportunities, which the Thames Estuary could capitalise upon alongside the constraints, which are hindering the area reaching its full potential.

Chapter 4 of this report presents the vision, supporting objectives and associated priority projects for the Thames Estuary. The purpose of these elements is to focus aspiration and identify the priority mechanisms to realise the potential of the area.

3.6.1 Vision 2050

The baseline analysis indicates the Thames Estuary is better viewed as a series of places rather than as a single functional economic area, single place or single community. The vision therefore organises the area into five places; the Commission believes that by structuring the Thames Estuary in this way it better supports its aspirations to create a tapestry of productive places. It also enables the distinctiveness of each place to be emphasised and a more targeted strategy to be developed to realise its opportunities and address its challenges.

Further details of the Commission's vision are presented in Section 4.1.

3.6.2 Objectives 2050

Whilst the Thames Estuary is varied in character, the baseline analysis indicates that there are some consistent themes, which apply to a greater or lesser extent to the five places.

These are:

- providing more productive jobs with the aim of addressing the area's low wage economy;
- enhancing the physical and digital connectivity in the area;
- creating more attractive places which are well used by the community and provide the education and training needed to support them with accessing more productive jobs;
- delivering more affordable and high-quality homes which respond to the needs of the area's changing demographics;
- enabling the places and spaces in the area to adapt to the changing natural environment; and
- completing the good work already started in order to create thriving and affordable places.

The Commission has identified six objectives which address these themes. Further details can be found in Section 4.2.

3.6.3 Priorities 2050

To enable the Commission's overarching vision for the Thames Estuary to be successfully translated to each of the five 'productive places', a vision was developed for each. The vision for each place draws on its distinctive characteristics, builds on its existing strengths and identifies a future for the place where its current challenges have been addressed.

It is important to the Commission that its vision for each place can be realised. In order to provide more clarity on how this could be achieved, it has identified the priority projects. In order to identify these, a prioritisation process was followed. This exercise involved considering all existing and proposed projects, including those promoted to the Commission through its Call for Ideas. The existing and proposed projects covered a range of topics comprising development projects as well as infrastructure projects (widely defined to include transport, utilities, business, employment and skills projects). In total some 1,338 projects were identified for assessment.

The project prioritisation comprised a number of stages; projects were sifted at each stage of the process with a greater level of assessment undertaken at each one. Figure 13 provides an overview of the process.

Further details of the purpose of each stage and how the process was applied is provided in Appendix B.

The results of the prioritisation process are presented in Sections 4.3 to 4.7. In summary, for each of the five productive places, the following have been identified:

- Three priorities which the Commission has identified as being most critical to achieving its vision for each place.
- Further projects which the Commission believes are important to delivering its vision. These are a combination of: existing projects which the Commission supports; existing or proposed projects where the Commission believes their delivery needs to be accelerated; and new projects which may not currently be planned but which would address existing challenges and/or help unlock growth potential. In many instances these further projects act more as 'packages' with a number of sub-projects within them.

As indicated in this chapter, there is a lot of good work already being undertaken in the Thames Estuary. The Commission recognises that a significant number of projects is being developed and implemented by businesses or local government. It encourages these organisations to continue this work. In selecting the priority projects, the Commission has therefore identified those projects where its support can have the greatest impact and will deliver the best outcomes. This often means that the Commission has identified projects which go beyond the scale and pace of what is currently being achieved. Further justification for the projects selected is provided in Sections 4.3 to 4.7 and Appendix B.

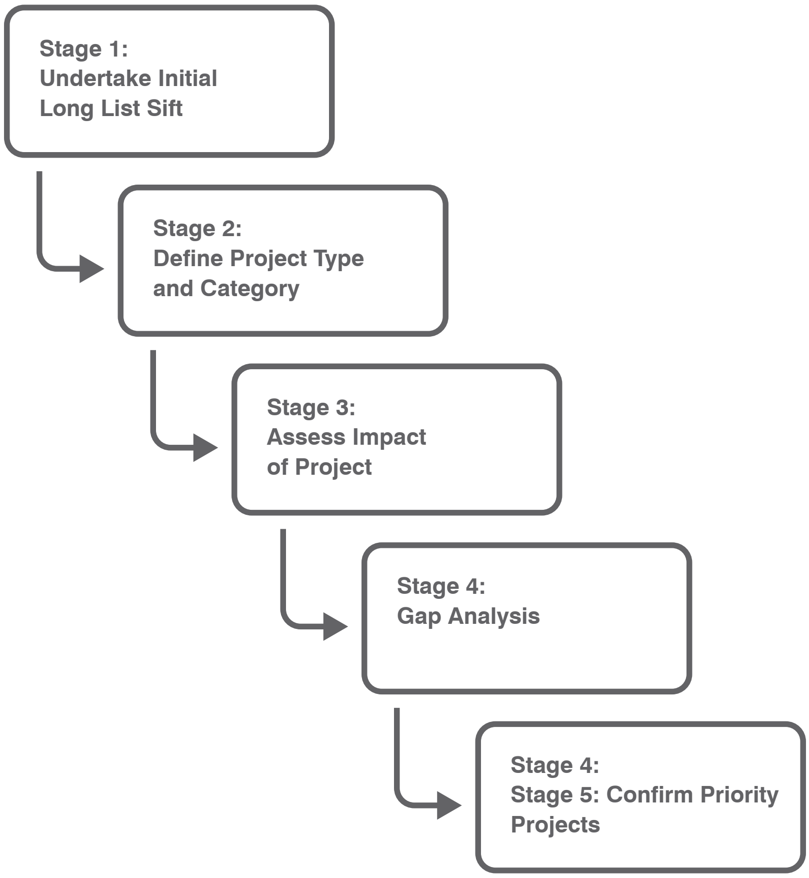


Figure 13*: Project timeline*

Chapter 4: Vision for Thames Estuary 2050

4.1 Vision

From an underperforming river region to a tapestry of 'productive places' along a global river.

A lot of good work is already taking place in the Thames Estuary. Examples include public and private investment in the economy (e.g. Port of Tilbury and London Gateway Port), homes (e.g. through Ebbsfleet Development Corporation) and infrastructure (e.g. Lower Thames Crossing). The foundations to build on are strong.

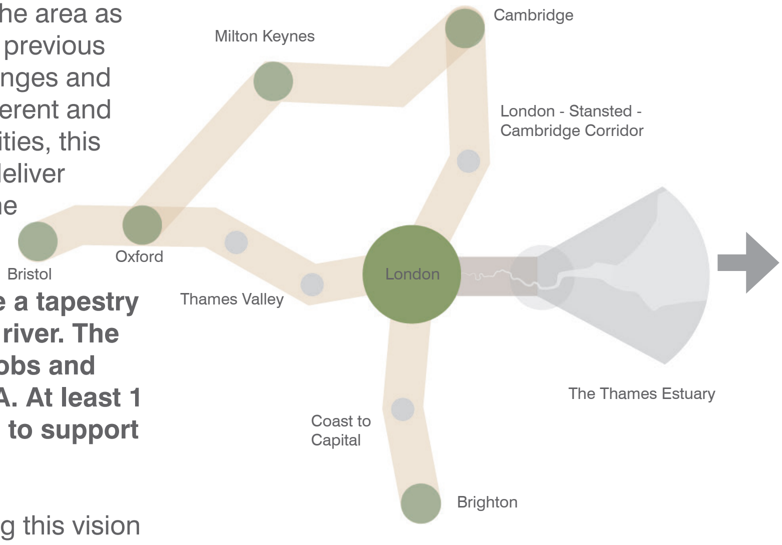
There is significant latent potential in the area as illustrated through the analysis on the previous pages. There are also common challenges and opportunities. However, without a coherent and integrated vision and associated priorities, this important part of the country will not deliver 'business as usual' outcomes, let alone more ambitious ones.

By 2050, the Thames Estuary will be a tapestry of productive places along a global river. The Estuary will create 1.3 million new jobs and generate £190 billion additional GVA. At least 1 million new homes will be delivered to support this growth.

The Commission believes that realising this vision requires a change in thinking. The evidence shows that the Thames Estuary will not be successful when considered as a single functional economic area, single place or single community. It is a tapestry of interconnected but different economies, places and people, performing well in parts, but underperforming in others.

The Commission therefore recommends a different structure: a structure of five 'productive places', which are based on existing areas and their assets; with a clear vision for each area, a tight focus on priorities and stronger, streamlined governance.

In 2050, this tapestry of 'productive places' in the Thames Estuary will form part of the series of productive and connected places that 'orbit' London. Like Cambridge and Oxford, the 'productive places' of the Thames Estuary will be higher performing places, retaining their own distinct character and economic function.



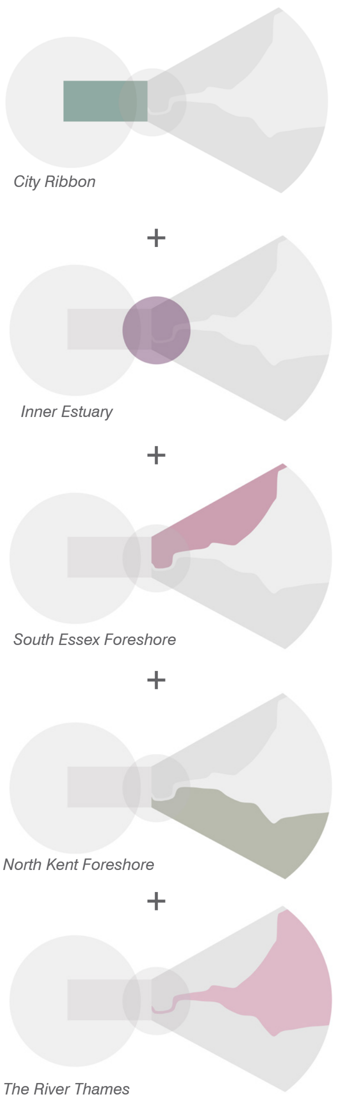
Thames Estuary today

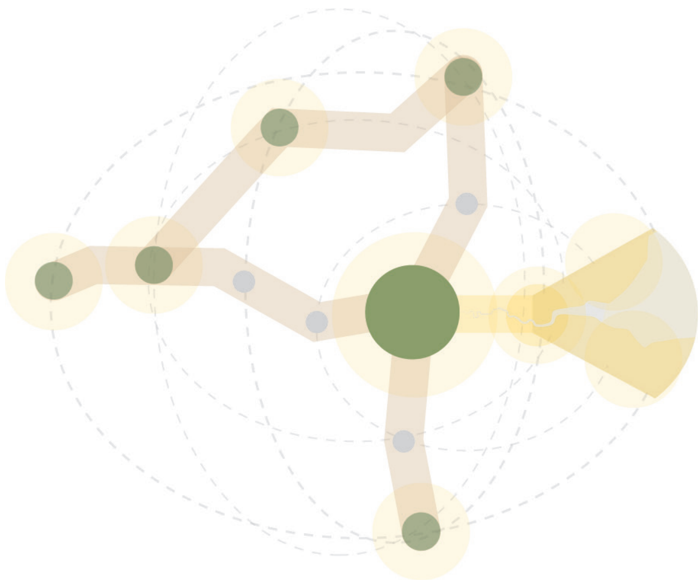
There is significant potential as an economic area, but there is not a clear economic or spatial framework to realise this potential in comparison to other successful corridors and cities around London like Cambridge, Oxford and Brighton. The current context is:

1.3 million jobs

£89 billion GVA

1.4 million homes





Five Productive Places

The different areas and characters of the Thames Estuary form into the proposition for five 'productive places'. Individually these places will be more productive and set up to deliver. Places will focus on the Commission's key priorities of:

Sectors

Connectivity and Communities

Delivery

Vision for Thames Estuary 2050

Each of the five places focuses on: developing strong and specific sectors, increasing skills, delivering homes and jobs at scale and pace, addressing the 'low wage economy', connecting to and enhancing natural assets and green infrastructure, and planning for long term and resilient development. This vision aims to deliver:

1.3 million new jobs

£190 billion* additional GVA

At least 1 million new homes

* assuming an annual average growth rate of 1.25% at current GVA per job

4.2 Objectives

The Vision is underpinned by six objectives. They provide further direction on how the Thames Estuary can boost productivity for UK plc and the UK economy leading to a series of positive outcomes by 2050.

Productive Places
The Thames Estuary is home to a range of large employers including Canary Wharf Group, Amazon, London Gateway Port, Port of Tilbury and London Southend Airport. There is also a strong entrepreneurial spirit which has created many micro and small enterprises. Following structural changes in the economy, the area is beginning to diversify its economic base with growth in traditional sectors such as freight, logistics, and construction, with emerging and growing sectors including the creative and cultural industries, health, education and tourism.

Whilst unemployment levels have reduced over recent years, the Thames Estuary has a higher level of unemployment than the England average. The Commission believes that efforts should be made to improve the prosperity of the Estuary's residents and workers by supporting the growth of higher value, higher wage sectors.

The productive places objective therefore seeks to achieve the following:

The places of the Thames Estuary will support the sustained growth of its high value, healthy wage sectors achieving up to 1.3 million new jobs by 2050. Existing sectors will be strengthened including freight, logistics and construction, maximising opportunities from existing assets such as the ports. Emerging sectors will be nurtured including: health, reflecting the supercentre in Kent; niche heritage and wildlife tourism in Kent and Essex; and the Thames Estuary Production Corridor - a ribbon of creative and cultural industries along the River Thames. In part and as a whole, the places will harness entrepreneurial spirit, strong educational institutions and unique natural assets to create a distinctive and productive network of economies.

Connected Places

The area is serviced by strategic rail and road corridors, which mainly run towards London. The railway corridors provide a well-used service, particularly for commuters into the Capital where the price-point for travel is overcome by the high wage jobs on offer. However, outside of Greater London there is a more limited availability and take-up of public transport for local and non-London journeys, which has the effect of increasing the number of cars on the road, and therefore congestion levels and journey times.

Despite the increased use of the River Thames for freight and passenger journeys, the limited number of river crossings and wider north-south connections also provide a constraint to free movement of vehicles. This extends to ‘pinch points’ at a number of key road junctions across the area as well as conflicts between people and goods movement on both road and rail. The Commission’s view is that both strategic and more localised transport upgrades are required to improve modal share, reduce the negative effects of transport infrastructure, and enable the area to become a more productive place.

Beyond transportation, there are parts of the Thames Estuary which are poorly serviced by broadband, which will likely hamper the attractiveness of the area to live and work. The Commission’s view is that this needs to change in order to provide the infrastructure necessary to support economic growth.

The connected places objective therefore seeks to achieve the following:

There will be improved connections between and within cities, towns, villages and industries be it for people or goods. This will support improved productivity through increased access to jobs and services. New and improved rail, bus, cycle and pedestrian links will reduce car dependency and increase the use of the area’s integrated public transport systems. Completing the Thames Path will also improve connections for recreation for cyclists and pedestrians. The area will benefit from the highest level of digital connectivity, adopting the latest technological innovation. New river crossings such as the Lower Thames Crossing and Silvertown Tunnel will strengthen local and national links. New railway infrastructure including the extension of Crossrail 1 to Ebbsfleet and the Thames East Line will connect into the country’s high speed network and complete the orbital railway around the Capital.

Thriving Places

The Thames Estuary is made up of a diverse set of communities contained within cities, towns and villages with their own identities. Over time, the centre of some of these places have become underutilised and unloved spaces. The heart of these places needs to be found and brought back to life. The Commission's view is that this is more than a good retail and leisure offer; and needs to focus on creating places that are distinct, meet local needs and well-used by the local community.

The Thames Estuary mainly comprises a low wage economy and therefore many of its urban areas contain neighbourhoods with high levels of deprivation. There are also pockets of rural deprivation. The reasons for this deprivation are varied but include lack of connectivity to and availability of jobs, the low wages offered by existing jobs and a mismatch between skills/educational attainment and the jobs available. Where skills and education are the cause, in some cases this issue is systemic with poor educational attainment starting from early years. The higher levels of adults without formal qualifications may mean the area is a less attractive location for employers, particularly those which rely on high or technical skills. In parts of the Thames Estuary, these issues around education and skills are matched by an increase in ageing populations and/or a decline in young people. The Commission believes that the Thames Estuary area should inspire younger generations, equip them with the skills necessary to access higher skilled jobs, and retains them within the area.

The thriving places objective therefore seeks to achieve the following:

The growing communities of the Thames Estuary, which will be home to 4.3 million people by 2035, will pride themselves on their rich cultural and economic activity. Through people-led projects - in part delivered through the Thames Estuary Fund - each distinctive city, town and village will be the well-loved heart of the community. They will demonstrate the importance of good design and creating attractive places that work for the community. Improved educational attainment and local skills will increase aspiration and show that new job opportunities are for them. These thriving places will be attractive to investors and will celebrate their individual sense of place by offering bespoke opportunities to live, work, visit and play within the Thames Estuary setting.

Affordable Places

Over the last couple of decades the population of the Thames Estuary has grown by nearly a quarter; it is expected to do the same again by 2035. The new and existing communities need somewhere to live; the current housing stock provides a more limited mix of homes than needed and may be deterring people (re-)locating to the area. The Commission recognises that delivery of high-quality homes and successful communities is key to the future of the Thames Estuary.

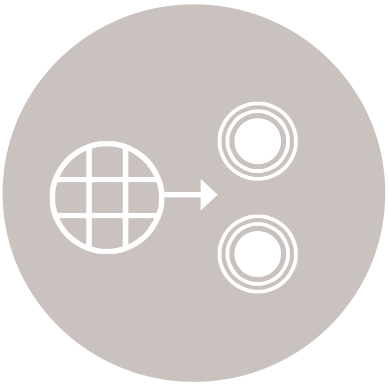
Although there is an increasing number of housing sites being identified and planning permissions being granted within the area, this is not being matched by delivery on the ground. This lag is due to a number of factors including the role of investment in unlocking planned development. Slow delivery is contributing to the unaffordability of homes in the area, which worsens closer to London. The Commission has therefore explored the mechanisms available to increase the scale and pace of development to ensure supply keeps pace with demand.

The Commission also wants to ensure that the focus on housing delivery extends to providing the social places and networks needed to create communities.

The affordable places objective therefore seeks to achieve the following:

A further 1 million high-quality homes, balanced to suit the affordable needs of the community, will be provided by 2050. They will offer a diversity of choice to all parts of the community, including ageing populations, and ensure that supply keeps pace with demand. The production of statutory Joint Spatial Plans will set out where these homes will be located and include tools, such as design review panels, to ensure high-quality development is delivered. Healthy lifestyles will be supported by the provision of new social places alongside integration with existing places and community networks. This will support resilient communities that respond to the needs of residents throughout their lives.

Adaptable Places
The Thames Estuary is characterised by a rich yet sensitive natural estuarine environment. There is a number of internationally and nationally designated sites, habitats and species which are of high ecological and biodiversity importance; this includes the Benfleet and Southend marshes, the Medway Estuary, the Swale, Stodmarsh, Thanet coast and Sandwich Bay, several areas of Ancient Woodland and Sites of Special Scientific Interest, and of course the River Thames itself. Many other non-designated areas also represent important natural assets. The Commission recognises the importance of these assets not only for their intrinsic value but also for the economic and social benefits that they offer. In places, these natural assets have been exploited, leaving a scarred post-industrial landscape. In others, it appears untouched, with low-lying islands, mud flats and marsh as far as the eye can see.



The Estuary's ecology is vulnerable – the twin pressures of sea level rise and human development are restricting the areas where the habitats and species can migrate. The increasing vulnerability of land to flood risk presents challenges to existing and future communities, with new and upgraded flood defences required. However, the Commission believes that this also provides opportunities to provide new and replacement habitats and enhance accessibility and the use of these spaces for recreation.

The adaptable places objective therefore seeks to achieve the following:

The many places and spaces in the Thames Estuary will adapt to the changing environment ensuring the people, economies and ecology of the area thrive. Infrastructure investment will be integrated and multi-functional, maximising the benefits to people, places, and ecology. This will assist in the creation of nearly 900 hectares of new habitat by 2100 to replace the 1,200 hectares lost to tidal flooding. Projects such as the completion of the Thames Path will provide improved access to the natural environment. The use of natural assets for recreation and economic activity will be balanced with their protection and enhancement.

Deliverable Places

The interest in the area by Government over the last few decades reflects the challenges but also the scale of opportunity. There have been a plethora of ideas, plans and proposals; some of which have been realised – others have been started but not completed. This contrasts with a history of innovation and experimentation – the Thames Estuary as a space to try something new. There is a long tradition in the Thames Estuary area of local and central government, businesses, educational institutions and other stakeholders working together to overcome challenges and deliver shared aims. The Commission believes this continued collaborative is key to realising the area's full potential.

The constraints on public expenditure and a need to diversify and increase the number and value of jobs as well as build new homes provides an opportunity to identify new ways to deliver aspirations. The Commission believes this means exploring new models of delivery – with the Thames Estuary potentially being a pilot for new ideas – as well as strong governance arrangements which enable more effective strategic planning and project prioritisation.

The deliverable places objective therefore seeks to achieve the following:

The Thames Estuary will complete what it has started; delivering the homes and the balanced jobs it has planned, at the required scale and pace, in order to create thriving and affordable places. This will be achieved through robust, locally-led governance structures, which build on existing partnerships and bring together, as needed, the 18 local authorities, plus the three upper tier authorities. The area will also be a space to try something - a place that supports innovative models of delivery be that through capitalising on Modern Methods of Construction (such as modular homes) or innovative models of public sector housing delivery. Across the many places of the Thames Estuary this will enable the significant aspirations to become meaningful realities.

4.3 City Ribbon

4.3.1 City Ribbon Commission Vision

The area ‘City Ribbon’ includes the east London boroughs of Tower Hamlets, Newham, Barking and Dagenham, Havering, Lewisham, Bexley and Greenwich and the London Legacy Development Corporation.

The core strengths of this ‘place’ include the **growing cultural and creative industries sector**, supported by the Mayor’s Production Corridor, and significant projected **population growth**, which is collectively one of the **youngest on average in London**. This is allied to major regeneration programmes in areas including Barking Riverside and Thamesmead.

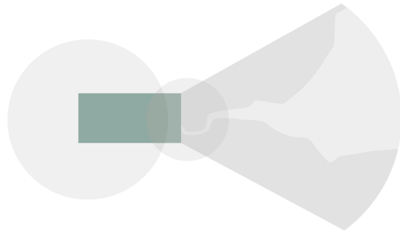
The challenges of the area include integrating and delivering **future connectivity** projects, including river crossings and the Crossrail 1 extension to Ebbsfleet, and ensuring this unlocks the delivery of **affordable housing**. The area suffers from some of the **highest levels of deprivation** within London with **high levels of unemployment** and in **skills**.

Within this context the Commission’s vision for City Ribbon is:

Places which celebrate the skills and creativity of the area

New and multiple means of crossing the River

City Ribbon will be a hub for production. Space will be created for start-ups and grow-on spaces for small and medium sized businesses. Communities will be connected by multiple public transport links and served by culturally rich town centres. Through the implementation of a multi-generational skills strategy, the area will connect the creative and cultural industries to a highly skilled workforce.



"Both banks of the Thames were rejuvenated. There are now large blocks of apartments where there were once derelict wharves. Shopping areas, apartments, public houses and walkways . . . The neighbourhood of the river is recovering its ancient exuberance and energy, and is reverting to its existence before the residents and houses were displaced by the building of the docks in the 19th century."

Peter Ackroyd, Sacred River

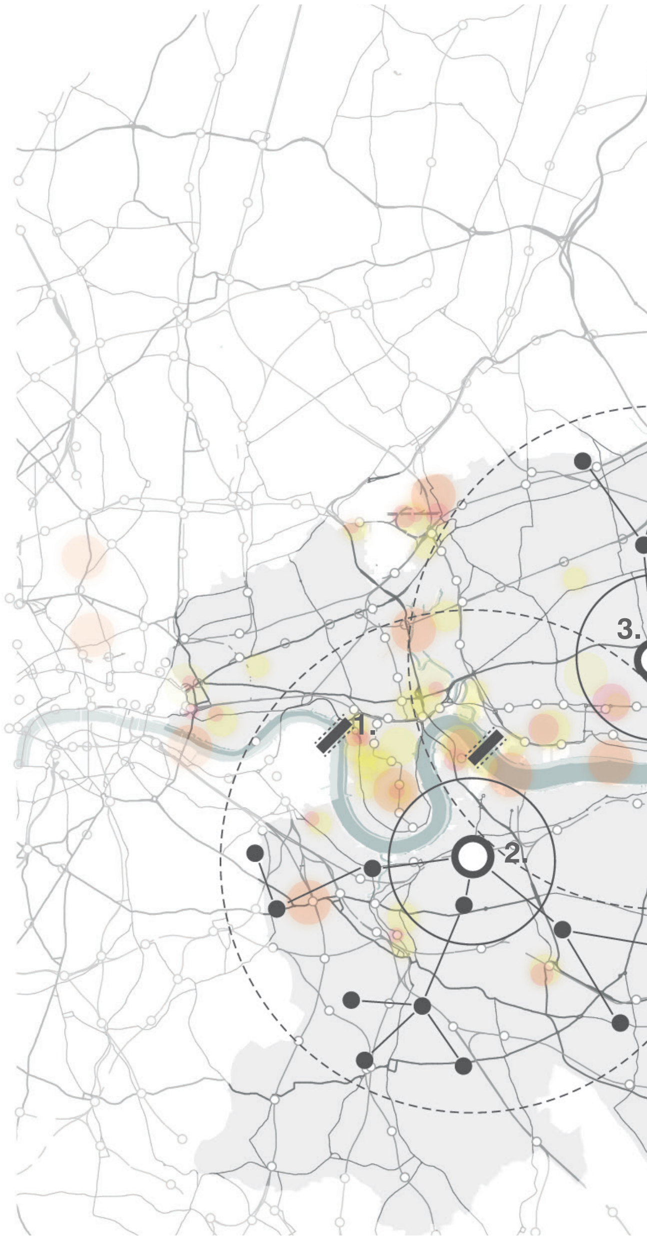
4.3.2 City Ribbon Commission Priorities

In order to provide more clarity on how the Commission's vision for City Ribbon could be achieved, it has identified priorities for each place. The priorities have been informed by a prioritisation process, which considered all existing and proposed projects, broadly split into two categories: known and proposed employment and residential developments; and infrastructure, skills and employment projects.

Within City Ribbon, 196 infrastructure, skills and employment projects were subject to the prioritisation review. Some 139 projects were sifted out where they were either: a duplicate entry; there was insufficient information available on the project to meaningfully assess it; or because it represented 'business as usual' where it was considered that the project would not make a significant contribution to meeting the Commission's vision for the area. Of the remaining 57 projects, 88% contributed to connected places, 82% towards adaptable places and 70% to productive places. Half contributed to affordable places.

In addition, 209 large scale known and proposed employment and residential developments were identified. All the developments were categorised as 'business as usual'.

There is much already happening in City Ribbon, with existing delivery structures in place. However, the Commission believes there are opportunities to make more of what is planned to realise the aspirations for the area. The Commission's priorities are set out opposite.



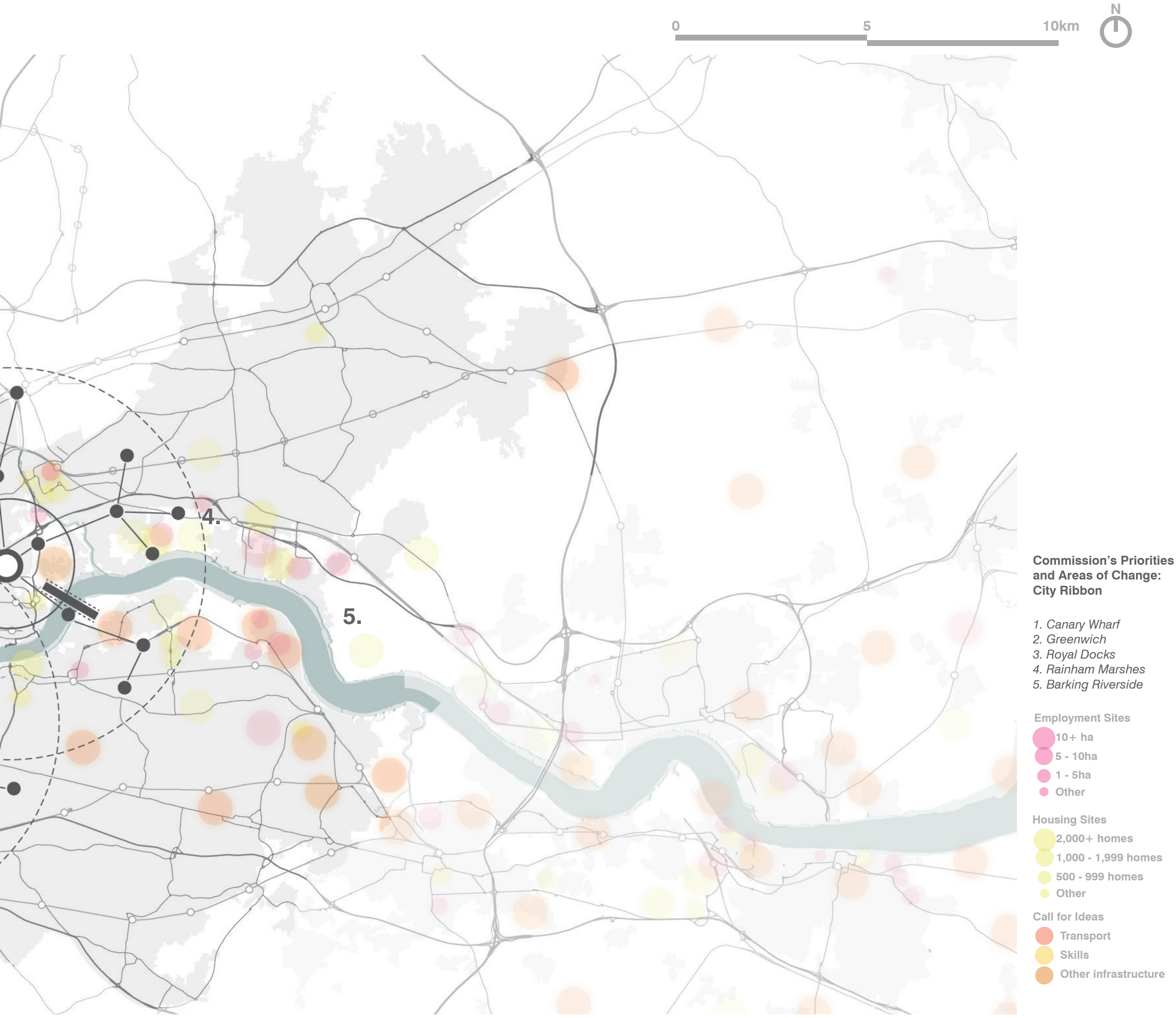
Accelerated Delivery Pilot

What: Trial new delivery models to accelerate the scale and pace of delivery of homes and jobs in the Opportunity Areas within City Ribbon to bring forward the development stated in the London Plan by 2035. This could be done through through housing delivery companies and the public sector acting as master developers.

Why: East London is a major focus for home and job growth. It should showcase how Government is delivering against the Industrial Strategy and need for new homes.

How: The Mayor of London, London boroughs and Homes England should work together to expedite delivery of jobs and homes. These organisations should make best use of existing powers, find solutions to current constraints such as borrowing caps and develop the skills and expertise to enable delivery.

When: Short term to bring forward stated delivery in 50% less time.



New Thames Crossings

What: Prioritise the planning and funding of river crossings. The Silvertown Tunnel and the DLR extension to Thamesmead should be operational by 2030. A third river crossing should be considered to facilitate homes and jobs.

Why: Poor accessibility limits the ability of the area to realise its full potential. New public transport and active travel crossings will unlock homes and jobs and contribute to place making.

How: The Mayor of London should deliver Silvertown Tunnel as quickly as possible. He should prioritise and bring forward the planning for public transport and active travel crossings.

When: Medium term delivery of the three crossings; short term priority planning.

An Integrated Skills Strategy

What: Implement a more targeted skills strategy that provides clear pathways to employment. It should support the area's existing and emerging economic sectors including the Production Corridor and the growing interest in the cultural and creative industries.

Why: Build on the success of the London Schools programme and be thought leaders for the Thames Estuary. The strategy should showcase how education and skills training can be used to address generational skills shortfalls and reduce levels of unemployment.

How: The Mayor of London should work with the boroughs, the Local Enterprise Partnership, employers and/or educational institutions to translate his Skills for Londoners strategy into a targeted plan for the area to ensure it meets current and future employer needs.

When: Quick win building off existing skills strategies including the Skills for Londoners Strategy and Place Making Institute.

4.3.3 City Ribbon Other Projects

Beyond the Commission's three priorities, there are other projects which the Commission believes are important to delivering its vision for City Ribbon. These are a combination of: existing projects which the Commission supports; existing or proposed projects where the Commission believes their delivery needs to be accelerated; and new projects which may not currently be planned but which would address existing challenges and/or help unlock growth. An overview of each project along with the rationale for its selection is provided below.

Creative Enterprise Zones
What: Introduce Creative Enterprise Zones to provide affordable workspace which meets the needs of local businesses and supports the growth of the area's creative and cultural industries.

Why: The City Ribbon has existing strengths in the creative and cultural industries sector. In order to grow, the sector needs appropriate employment space that is targeted to meet its needs. It will also help replace the loss of industrial floorspace (nearly 20% in East London between 2000 and 2012[1]) and help diversify away from the current dependence on 'traditional' manufacturing which is declining.

Royal Docks
What: Expedite delivery of the Mayor's proposals for the Royal Docks.

Why: The Royal Docks and Beckton Riverside Opportunity Area has the potential to provide 25,000 new homes and 60,000 new jobs; some 16,000 jobs and 19,000 homes could be located within the Royal Docks itself. By bringing forward jobs, homes and infrastructure investment together, with scale and pace, the proposals could transform the area and contribute over £3 billion GVA to the UK economy[2].

Strategic Transport Infrastructure Projects
What: Support the delivery of strategic transport infrastructure projects in the area. These include the Bakerloo Line Extension, Thameslink Enhancement Project, Rapid Bus Priority Scheme in Greenwich, and road and busway improvements in Bexley.

Why: These schemes will contribute to unlocking and accelerating growth in the number of jobs and homes. This package includes large scale transformational transport schemes as well as some local schemes capable of unlocking significant numbers of jobs and homes, whilst contributing to improved place making.

Integrated Flood Defence Schemes
What: Support delivery of flood defence schemes including at Charlton Riverside. The Commission believes these should form part of an integrated package of waterfront projects, which protect existing communities, improve place making and support economic growth.

Why: The Environment Agency's TE2100 report estimates that £200 billion of property, including over 500,000 homes, is at risk across the entirety of the tidal Thames floodplain[3]. Integrated, multi-functional packages provide the opportunity to bring additional benefits as well as sharing the capital and maintenance costs across multiple organisations.

City Airport
What: Support delivery of expansion plans at London City Airport.

Why: City Airport is a significant strategic asset within the City Ribbon and the wider Thames Estuary area, providing employment and international connectivity. Delivery of the Airport Masterplan will deliver up to 8 million passenger movements and support 2,000 new jobs in east London with a potential to add £1.5 billion to the UK economy by 2025[4].

Canary Wharf
What: Support continued growth at Canary Wharf. The Commission believes that such growth should be integrated with and supported by other Commission priorities including the Integrated Skills Strategy and support Strategic Transport Infrastructure Projects to ensure that job opportunities are accessible to all.

Why: Canary Wharf (and the Isle of Dogs) accounts for well over 125000 jobs[5], and hosts a large proportion of the Thames Estuary's most highly qualified workers. Its continued expansion is expected to deliver up to 80,000 new jobs[6]. The new district currently being delivered could provide over 3,300 new homes[7] as well as being expected to create more than 17,000 jobs in the construction phase with 3,500 earmarked for local residents[8].

Extension of Crossrail 1
What: Deliver an extension to Crossrail 1 from Abbey Wood to Ebbsfleet.

Why: The project could help to unlock 55,000 new homes and up to 50,000 new jobs by increasing rail capacity and creating new connections. This would need to go ahead in conjunction with upgrading supporting junctions. In Bexley alone, the extension to Crossrail 1 could help to accelerate delivery of 30,000 new homes[9], including directly unlocking some 16,000 homes.

Thamesmead Regeneration Programme
What: Delivery of the Thamesmead regeneration programme including the extension of the DLR.

Why: Thamesmead is Europe's largest regeneration programme, which will see an increase in population from around 50,000 to 100,000 with the construction of up to 20,000 new homes and creation of thousands of high value new jobs[10]. Delivery of the DLR extension is critical to realising these aspirations.

Broadband and Digital Connectivity
What: Deliver broadband and digital connectivity improvements including investment in digital and cabling technologies, providing business with access to superfast broadband and considering the need for new interventions such as Priority Improvement Zones to deliver superfast broadband to industrial and commercial areas.

Why: The What Works Centre for Local Economic Growth has concluded that extending broadband to an area can affect firm productivity, number of businesses, and local labour market outcomes (such as employment, income and wages)[11] – particularly in urban areas. Whilst the effects are not always large and may depend on complementary investment by businesses, broadband and digital connectivity can be an important part of delivering economic growth.

4.4 Inner Estuary

4.4.1 Inner Estuary Commission Vision

The area 'Inner Estuary' includes Thurrock, Dartford and Gravesham Councils, and Ebbsfleet Development Corporation. The area has approximately **22km of Thames waterfront**.

The core strengths of this 'place' are its **connectivity** (which supports a growing higher value logistics and freight sector, including the **£1 billion investment in the Port of Tilbury** and further investment in the London Gateway Port) and the planned growth of **new town centres** at Ebbsfleet, Bluewater and Lakeside. The place is also promoting innovation in construction through **Modern Methods of Construction** with a particular focus on modular housing construction.

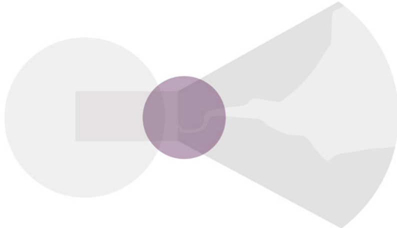
The challenges for the area include the unresolved **approach to the Swanscombe Peninsula**, **air quality** issues as a result of congested **river crossings**, the **slow pace of delivery** at Ebbsfleet Garden City (where delivery of 15,000 planned homes has slowed and there is a lack of job creation), **poor education and skills attainment**, and the need to maximise the homes and jobs that could be unlocked through **infrastructure investment** including the Lower Thames Crossing and Crossrail 1 extension to Ebbsfleet.

Within this context the Commission's vision for the Inner Estuary is:

High performing dock infrastructure which creates opportunities for a wide range of sectors based in the surrounding community

Innovations in mobility and public transport will connect communities to the adjacent landscapes and diverse employment opportunities

A thriving and higher value Port of Tilbury and London Gateway Port will create opportunities for an upskilled and aspirational population. Healthy town centres will be home to creative businesses and high achieving schools. The delivery of Ebbsfleet Garden City, including a new Medical Campus and integrated sustainable transport systems, will bring new homes and jobs to a unique river landscape.



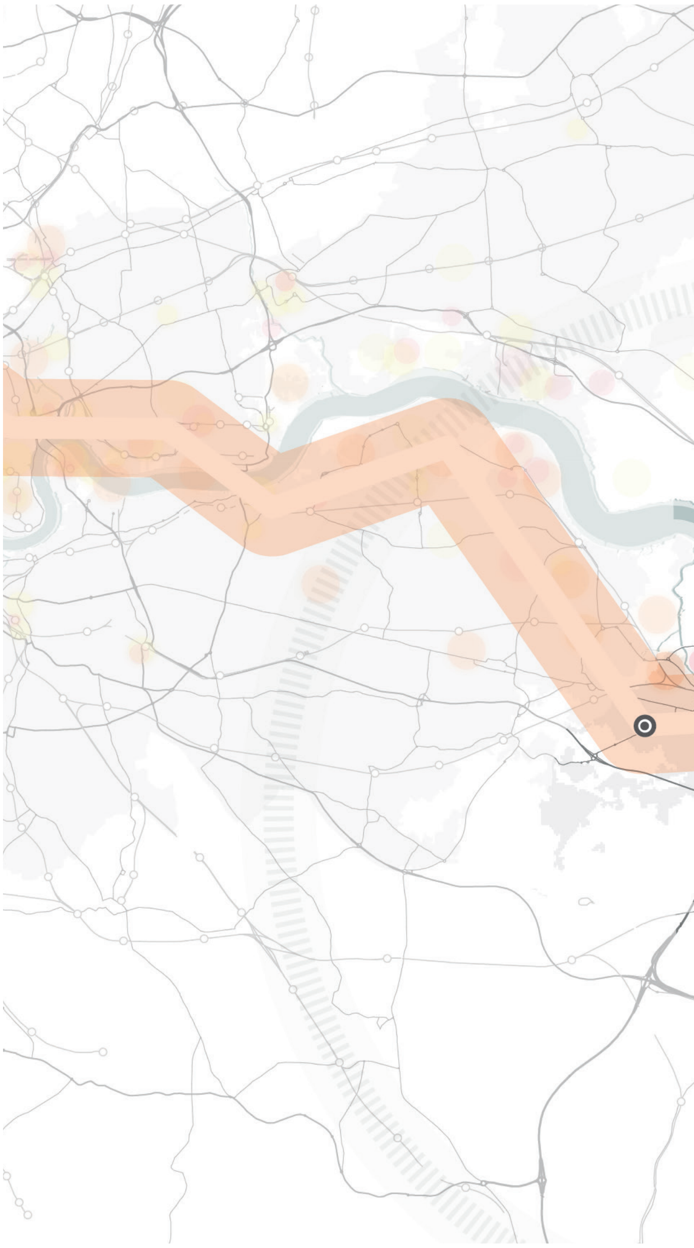
Public sector partnerships and businesses will deliver world leading technology

New skills focussed training will integrate with the work spaces to create thriving centres of medical excellence connected to open spaces that support healthy lifestyles

"A great future lies before Tilbury Docks... free of the trammels of the tide, easy of access, magnificent and desolate, they are already there, prepared to take and keep the biggest ships that float right upon the sea. They are worthy of the oldest river port in the world."

Joseph Conrad, The Mirror and the Sea

4.4.2 Inner Estuary Commission Priorities



In order to provide more clarity on how the Commission's vision for Inner Estuary could be achieved, it has identified priorities for each place. The priorities have been informed by a prioritisation process, which considered all existing and proposed projects, broadly split into two categories: known and proposed employment and residential developments; and infrastructure, skills and employment projects.

Within Inner Estuary, 109 infrastructure, skills and employment projects were subject to the prioritisation review. Some 73 projects were sifted out where they were either: a duplicate entry; there was insufficient information available on the project to meaningfully assess it; or because it represented 'business as usual' where it was considered that the project would not make a significant contribution to meeting the Commission's vision for the area. Of the remaining 369 projects, almost 64% contributed to productive places and 58% to connected places. Around a third of the projects contributed to each of the affordable, thriving and adaptable places.

In addition, 58 large scale known and proposed employment and residential developments were identified. All of the developments were categorised as 'business as usual'.

There is much already planned and underway within the Inner Estuary. However, the Commission believes there is the potential to increase the scale and pace of delivery through some transformative projects; these priorities are set out opposite.

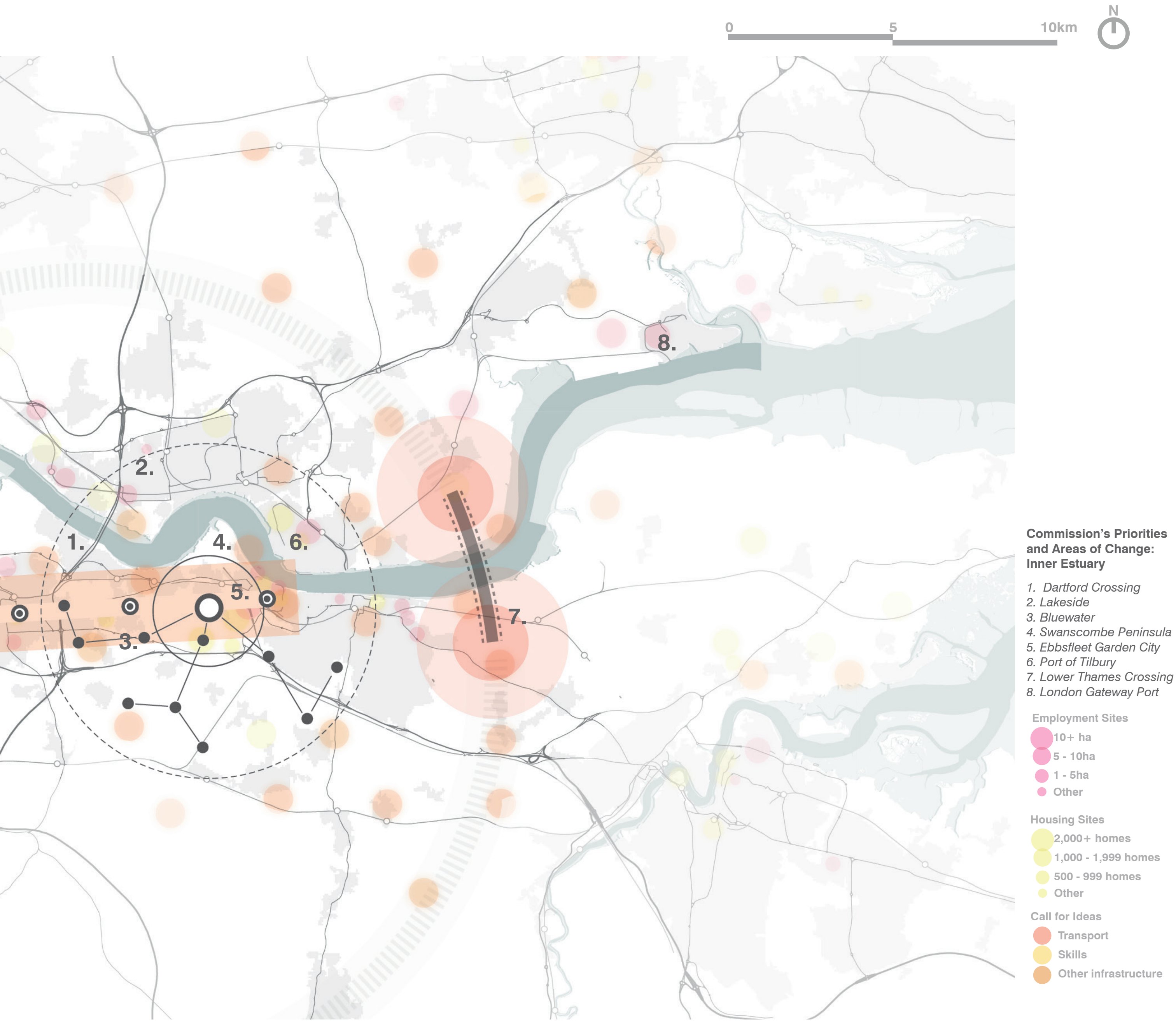
Extension of Crossrail 1

What: Deliver an extension to Crossrail 1 from Abbey Wood to Ebbsfleet.

Why: The project could help to unlock 55,000 new homes, up to 50,000 new jobs and uplift skills and education by increasing rail capacity and creating new connections between economic hubs. This would need to go ahead in conjunction with upgrading supporting junctions. Key growth areas include Dartford town centre, Ebbsfleet Garden City and Swanscombe Peninsula.

How: Government should provide funding for the expected £20m cost of the next phase of project development. This would enable the detailed engineering, design, land and financial modelling and legal framework to be progressed.

When: Medium term delivery of the railway (by 2029); quick win to provide funding for the next phase of project development.



Transport Innovation Zone

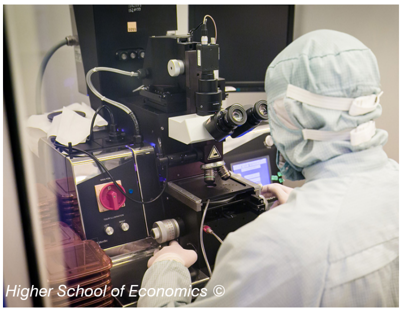
What: Create a Transport Innovation Zone which promotes clean technology in transportation, logistics and data systems and unlocks housing opportunities with new means of public transport.

Why: The area forms part of the national road network for freight movements, and has a high density of tech and digital logistic usage. Also, due to the volume of traffic using its crossings and associated congestion, it suffers from significant air quality issues.

How: Government should incentivise research and development into sustainable travel and related digital technologies where it supports 'clean' movement.

When: Quick win to establish the governance arrangements and associated incentives for the Zone.

Medical Campus

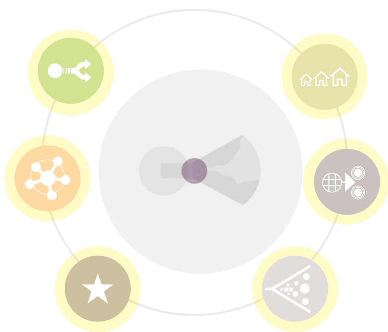


What: Expedite the delivery of the Medical Campus at Ebbsfleet.

Why: Delivery of jobs at Ebbsfleet Garden City has been slower than planned. To make the area more attractive to the market, the delivery of the Medical Campus will provide an anchor employment institution.

How: Government should work with Kings College London to deliver the Medical Campus.

When: Short term (delivery by 2022).



4.4.3 Inner Estuary Other Projects

Beyond the Commission's three priorities, there are other projects which the Commission believes are important to delivering its vision for Inner Estuary. These are a combination of: existing projects which the Commission supports; existing or proposed projects where the Commission believes their delivery needs to be accelerated; and new projects which may not currently be planned but which would address existing challenges and/or help unlock growth. An overview of each project along with the rationale for its selection is provided below.

Swanscombe Peninsula
What: The Commission encourages the promoters of the London Resort to submit a Development Consent Order application for the proposal as soon as possible. Should an application not be submitted by the end of 2018, the Government should consider all the options for resolving the uncertainty this scheme is creating for the delivery of the wider Ebbsfleet Garden City.

Why: The London Resort proposals have the potential to deliver 30,000 jobs as both a direct and indirect results of its activity[12]. In addition, the lack of certainty is holding back the delivery of parts of the Ebbsfleet Garden City which overall will deliver 15,000 homes and a potential of 30,000 new jobs[13].

Thames Enterprise Park
What: Support delivery of Thames Enterprise Park at the former Coryton Oil Refinery.

Why: The Thames Enterprise Park offers the potential for growth and investment in environmental technology and sustainable energy companies. This will help diversify the employment base in this part of the area and provide the employment accommodation needed to support this emerging sector. It could also deliver up to 5,000 new jobs[14].

Lower Thames Crossing
What: The Commission is supportive of the proposals for the Lower Thames Crossing. However, in order to future-proof the proposed crossing, the Commission believes that the design should, as a minimum, not preclude the future delivery of infrastructure to support rail transport links and/or autonomous vehicles. Highways England should also work with the relevant local authorities to ensure that the design and location of the crossing and connector roads minimise impact on traffic flows, unlock jobs and homes growth in the surrounding area.

Why: The places and economies of the Thames Estuary are not well integrated particularly between the north and the south of the River Thames. The lack of crossings is also causing increased delays in journeys. The Lower Thames Crossing will assist in improving integration and connectivity (increasing road capacity by 70%[15]) and could unlock substantial housing and economic growth.

Port of Tilbury
What: Support expansion of the Port of Tilbury including the new port terminal at 'Tilbury2'.

Why: The Port of Tilbury is a significant employment area and a vital part of the national flow of goods into and out of the UK. As volumes of trade continue to grow and the scale of ships increase, additional capacity will be required. Plans for the expansion of Tilbury should be supported in order to grow the existing facility, support new jobs (itself creating several hundred new jobs[16]) and enable the Port to adapt to future demands.

Inner Estuary Fund
What: Create a fund which local authorities and local communities can bid for. Projects should support town centre regeneration and/or community development.

Why: Give local communities and organisations the opportunity to direct investment where it is most needed to support local aspirations and town centre regeneration.

Homes and Jobs Delivery
What: Support delivery of homes and jobs at increased scale and pace including at Ebbsfleet Garden City, Purfleet and Grays Regeneration areas.

Why: Ebbsfleet Garden City presents an opportunity to delivery 15,000 homes and around 30,000 jobs, whilst Purfleet, Grays and other locations also represent significant opportunities. Delivery in these locations would make a significant contribution towards the targets for an additional 1 million homes and 1.3 million jobs across the Thames Estuary area by 2050.

Strategic Transport Infrastructure Projects
What: Supports the delivery of strategic transport infrastructure projects in the area. These include new rail connections between Swanley and Ebbsfleet International (to support the London Resort development), Purfleet railway station remodelling, and increased road capacity at locations such as Gravesend to facilitate development at multiple sites.

Why: These schemes will contribute to unlocking and accelerating growth in jobs and homes. This package includes large scale transformational transport schemes as well as some local schemes capable of unlocking significant numbers of jobs and homes, whilst contributing to improved place making.

Integrated Flood Defence Schemes
What: Support delivery of flood defence schemes including at Thurrock Riverside and Purfleet. The Commission believes these should form part of an integrated package of waterfront projects, which protect existing communities, improve place making and support economic growth.

Why: The Environment Agency's TE2100 report estimates that £200 billion of property, including over 500,000 homes, is at risk across the entirety of the tidal Thames floodplain[17]. Integrated, multi-functional packages provide the opportunity to bring additional benefits as well as sharing the capital and maintenance costs across multiple organisations.

Broadband and Digital Connectivity
What: Deliver broadband and digital connectivity improvements including investment in digital and cabling technologies, providing business with access to superfast broadband and considering the need for new interventions such as Priority Improvement Zones to deliver superfast broadband to industrial and commercial areas.

Why: The What Works Centre for Local Economic Growth has concluded that extending broadband to an area can affect firm productivity, number of businesses, and local labour market outcomes (such as employment, income and wages)[18] – particularly in urban areas. Whilst the effects are not always large and may depend on complementary investment by businesses, broadband and digital connectivity can be an important part of delivering economic growth.

4.5 South Essex Foreshore

4.5.1 South Essex Foreshore Commission Vision

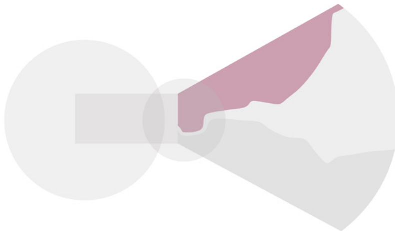
Local Investment in the public realm of High Streets including child friendly spaces

The area 'South Essex Foreshore' includes Basildon, Castle Point, Southend-on-Sea and Rochford Councils. Southend-on-Sea and Basildon are the major centres of a string of towns to the north of Canvey Island and the marshes around Hadleigh Ray and Holehaven Creek.

The core strengths of this 'place' include the established and coordinated voice of **Opportunity South Essex**, the **unique wetland habitats** of the river edge and the emerging **cultural sectors** and medical and aviation related **advanced manufacturing in Southend-on-Sea**.
The challenges of the area include **poorly performing town centres**, **slow speeds of delivery** linked to limited clarity on priorities across the area, and a **skills and jobs mismatch** between the primary employers and the majority of the workforce. In the future, the threat from **sea level rise** will require major investment in integrated flood defences.

Within this context the Commission's vision for South Essex Foreshore is:

The rich patchwork of places which form the South Essex Foreshore will be celebrated. Empowered by a statutory Joint Spatial Plan the area will go beyond 'business as usual'. Locally driven town centre transformation will help create lively places that people choose to work, live, learn and play in. These policies and local initiatives will see development unlocked, post-industrial landscapes restored, and the filling of empty business spaces to create a thriving and creative economy.



Innovative delivery models for affordable housing and workspace in town centre environments

Continued support for distinctive 'Essex' architecture in housing design

Strong connections to Southend Airport to add value / skills to local centres

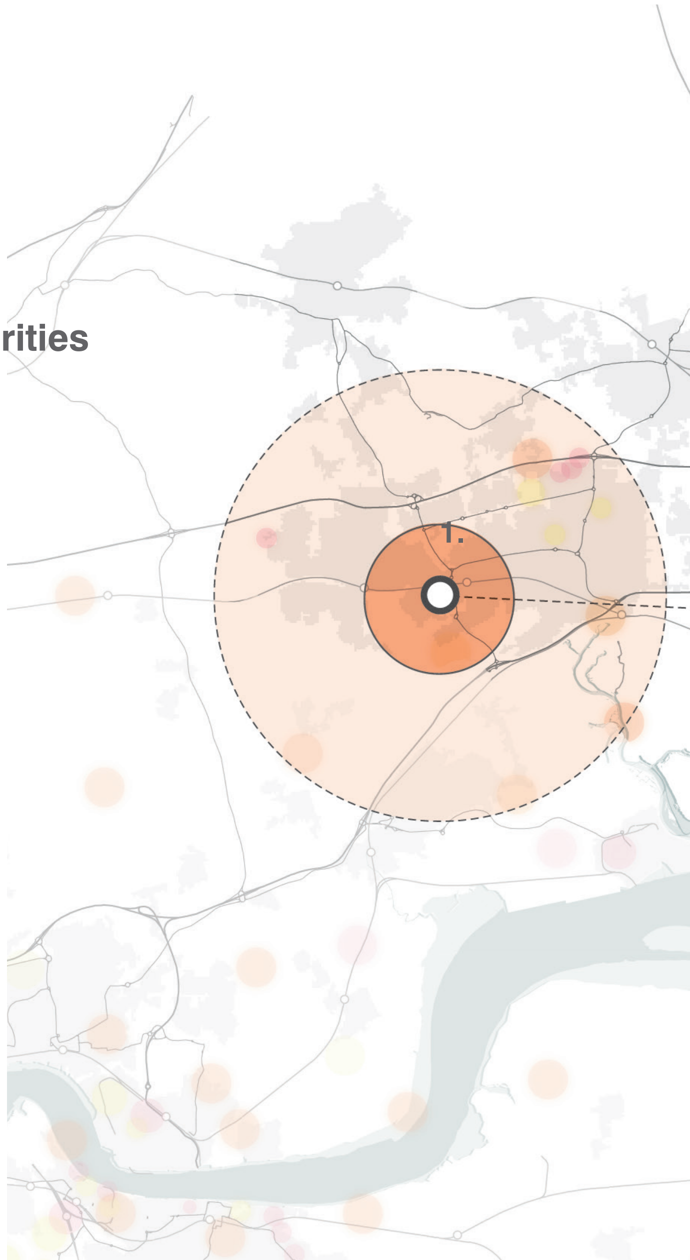
Protection of, and increased access to, unique foreshore landscapes through partnership

Continued support for local culture and creative enterprises

"What we've seen over the past 10 years is this huge burgeoning of the artistic scene in Southend... You've got a lot of creative people coming out of London and looking for new, affordable spots. Southend has such an opportunity to be a thriving place for the creative industries, but you need that underlying structure to support it. This is only the starting point."

Joe Hill, Focal Point Gallery

4.5.2 South Essex Foreshore Commission Priorities



In order to provide more clarity on how the Commission's vision for South Essex Foreshore could be achieved, it has identified priorities for each place. The priorities have been informed by a prioritisation process, which considered all existing and proposed projects, broadly split into two categories: known and proposed employment and residential developments; and infrastructure, skills and employment projects.

Within the South Essex Foreshore area, 119 infrastructure, skills and employment projects were subject to the prioritisation review. Some 56 projects were sifted out where they were either: a duplicate entry; there was insufficient information available on the project to meaningfully assess it; or because it represented 'business as usual' where it was considered that the project would not make a significant contribution to meeting the Commission's vision for the area. Of the remaining 63 projects, around 71% contributed to productive places, with 49% contributing to connected places and 46% contributing to affordable places.

In addition, 35 large scale known and proposed employment and residential developments were identified. All of the developments were categorised as 'business as usual'.

The Commission has identified three priorities set out opposite.

SE Foreshore Fund

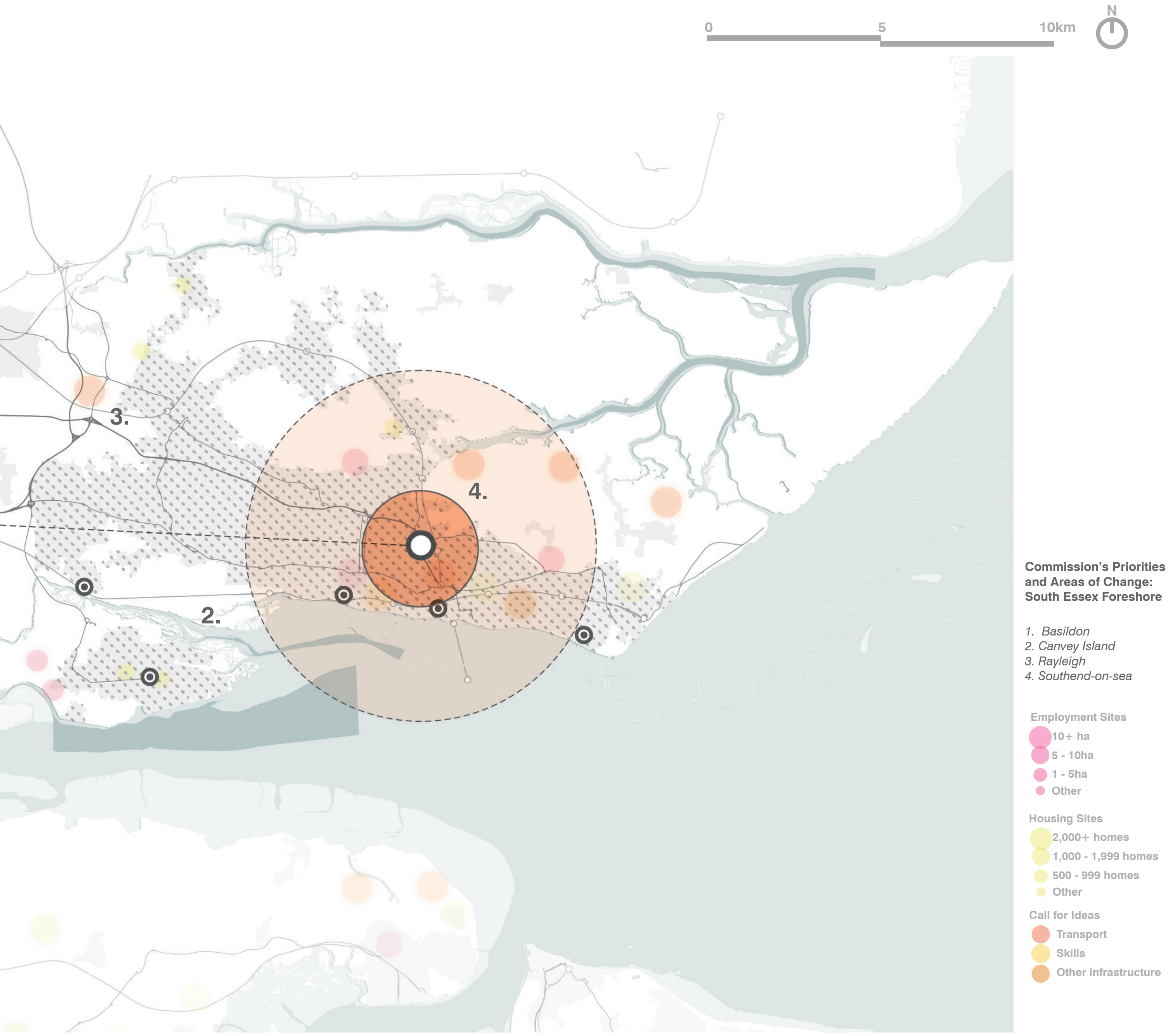
Rose Street Market ©

What: Create a fund which local authorities and local communities can bid for. Projects should support town centre regeneration and/or community development.

Why: Give local communities and organisations the opportunity to direct investment where it is most needed to support local aspirations and town centre regeneration.

How: Government to make available a £20 million fund and provide support to the four local authorities and local communities in their funding bids.

When: Quick win for first raft of funding in 2019.



SEC Relocation


South Essex College ©

What: Expedite the relocation of the South Essex College's Nethermayne campus to Basildon town centre.

Why: This site is central to the Council's aspirations for redevelopment of Basildon town centre. It provides the opportunity to introduce new courses which align with the needs of local employers and sectors and address lower education and skills levels in the area across multiple generations.

How: Basildon Council and Essex County Council should work with South Essex College to deliver the re-location.

When: Short term (delivery by 2022).

Institute for Resilient Infrastructure

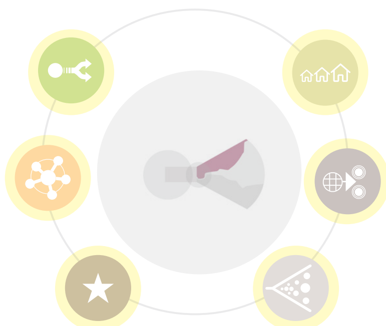

Purdue University ©

What: Establish a centre for the research, design and funding and financing of integrated infrastructure to address contemporary and future city challenges.

Why: The Institute needs to be up and running to ensure the Thames Estuary has the skills and knowledge needed to design and deliver key infrastructure such as the second Thames Barrier. It will also identify delivery and governance models that can enable strategic infrastructure to be funded by the private sector.

How: Government to approach existing institutions to identify interest. If possible, Government should explore the potential for collaboration with private sector education and technology leaders to provide teaching and skills development training space.

When: Short term delivery (by 2024); Quick win to approach existing institutions.



4.5.3 South Essex Foreshore Other Projects

There is a large number of identified local and strategic projects throughout South Essex Foreshore. The Commission believes that these projects can be better coordinated and prioritised to maximise their impact. The Commission therefore supports the work already being undertaken by local authorities on a Joint Spatial Plan and believes it should have a statutory footing. In completing the Plan, the local authorities should continue to work with other authorities within the Housing Market Area/ neighbouring areas, Essex County Council and Opportunity South Essex to produce an integrated strategy for delivering and funding high-quality homes, employment, transport and other infrastructure. The Plan should also be ambitious - going above the minimum housing numbers set by Government - to attract substantial infrastructure investment from Government.

Beyond the Commission's three priorities and the Joint Spatial Plan there are other projects which the Commission believes are important to delivering its vision for South Essex Foreshore. These are a combination of: existing projects which the Commission supports; existing or proposed projects where the Commission believes their delivery needs to be accelerated; and new projects which may not currently be planned but which would address existing challenges and/or help unlock growth. An overview of each project along with the rationale for its selection is provided below.

Strategic Transport Infrastructure Projects
What: Support the delivery of strategic transport infrastructure projects in the area. These include delivering congestion improvements to strategic routes such as the A13 and A127, and capacity improvements to the railway network including around Southend-on-Sea/London Southend Airport. These should be supported by local connections between towns and to unlock new developments including in East Ashington, Hockley and West Rochford.

Why: These schemes will contribute to unlocking and accelerating growth in jobs and homes. This package includes large scale transformational transport schemes as well as some local schemes capable of unlocking significant numbers of jobs and homes, whilst contributing to improved place making.

London Southend Airport
What: Supporting the growth and expansion of London Southend Airport as set out in the London Southend Airport & Environs Joint Area Action Plan.

Why: London Southend Airport is a significant local employer and provides international connections for business and the residents of the Thames Estuary. The plans see increased passenger capacity (up to 2 million passengers per annum)[19]. The second phase of the Southend Airport Business Park will deliver an innovation centre with potential to accommodate 4,000 gross jobs, and a GVA impact of £560 million[20] providing employment floorspace to meet local needs.

Integrated Skills Package
What: Deliver an integrated skills package including mainstreaming the pilot programmes of the Essex's Employment & Skills Board (ESB), and supporting the delivery of the Essex Skills Strategy and ESB Skills programmes. This package should provide clear pathways to employment that support the area's existing and growing economic sectors.

Why: This area faces particular challenges with regards to education and skill levels; for example, almost 30% of the population of Castle Point has no qualifications[21]. Ensuring that skills and training provision meets the needs of growing and emerging sectors will be critical to maximising employment and growth outcomes in the area.

Coordinated Approach to Freight
What: Support for a long term coordinated approach to freight. Road and rail authorities should work together (with local authorities where relevant) to minimise conflict between goods and people with the aim of increasing road capacity/ number of services on existing railway lines. This could be achieved through a comprehensive infrastructure plan including specific improvements such as the A127 east-west strategic transport and freight corridor improvements and upgrades for London Gateway Port.

Why: The Thames Estuary contains a number of nationally significant ports and an important distribution network for freight and logistics. Freight and logistics is a sector the Commission believes can continue to grow. However, this should not be at the detriment to the growth of other economic sectors, delivery of homes or the ability of people to travel within the area.

Small Business Support
What: Explore ways to provide start-up and grow-on space for new and existing micro and small businesses as well as more targeted business support. Any support should meet the needs of existing and emerging sectors including med-tech and low carbon.

Why: In terms of business composition, over 95% of businesses in South East Essex are micro or small businesses[22] (fewer than 50 employees). In order to grow, the sector needs appropriate support and employment space that is targeted to meet its needs. This will help to diversify the sectoral mix and respond to the decline in 'traditional' manufacturing.

Homes and Jobs Delivery
What: Support delivery of homes and jobs at increased scale and pace in sustainable locations including Basildon, Crayland and Canvey Town Centre. This should be aligned to a new Joint Spatial Plan.

Why: These locations also represent significant development opportunities. Delivery in these locations would make a significant contribution towards the targets for an additional 1 million homes and 1.3 million jobs across the Thames Estuary area by 2050.

Broadband and Digital Connectivity
What: Deliver broadband and digital connectivity improvements including investment in digital and cabling technologies, providing business with access to superfast broadband and considering the need for new interventions such as Priority Improvement Zones to deliver superfast broadband to industrial and commercial areas.

Why: The What Works Centre for Local Economic Growth has concluded that extending broadband to an area can affect firm productivity, number of businesses, and local labour market outcomes (such as employment, income and wages)[23]. Whilst the effects are not always large and may depend on complementary investment by businesses, broadband and digital connectivity can be an important part of delivering economic growth.

4.6 North Kent Foreshore

4.6.1 North Kent Foreshore Commission Vision

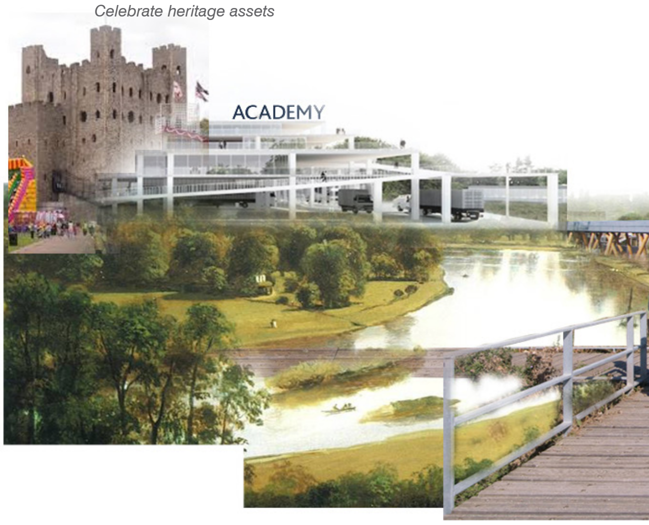
The area 'North Kent Foreshore' includes Medway, Swale, Canterbury and Thanet Councils. It is a rich and diverse area formed by the **ancient Medway Towns**, and the settlements that stretch along the Roman **'Wattling Way'** between Sittingbourne, Canterbury and the arc of distinctive coastal places between Whitstable and Ramsgate.

The strengths of this 'place' include its **universities** which together form an emerging **medical research corridor** connecting the Francis Crick Institute through Chatham to Canterbury. The historic assets of the area's cities are matched by **productive agricultural landscapes** which spread out between them, both of which provide opportunities for continued growth of niche tourism.

The challenges of the area include the connection between the **skills** needs of employers and the education and skills training available to the community. The area also has a high level of **'digital deprivation'** which is seen to stymie start-up and SME growth in the digital industries.

Within this context the Commission's vision for North Kent Foreshore is:

Celebrate heritage assets



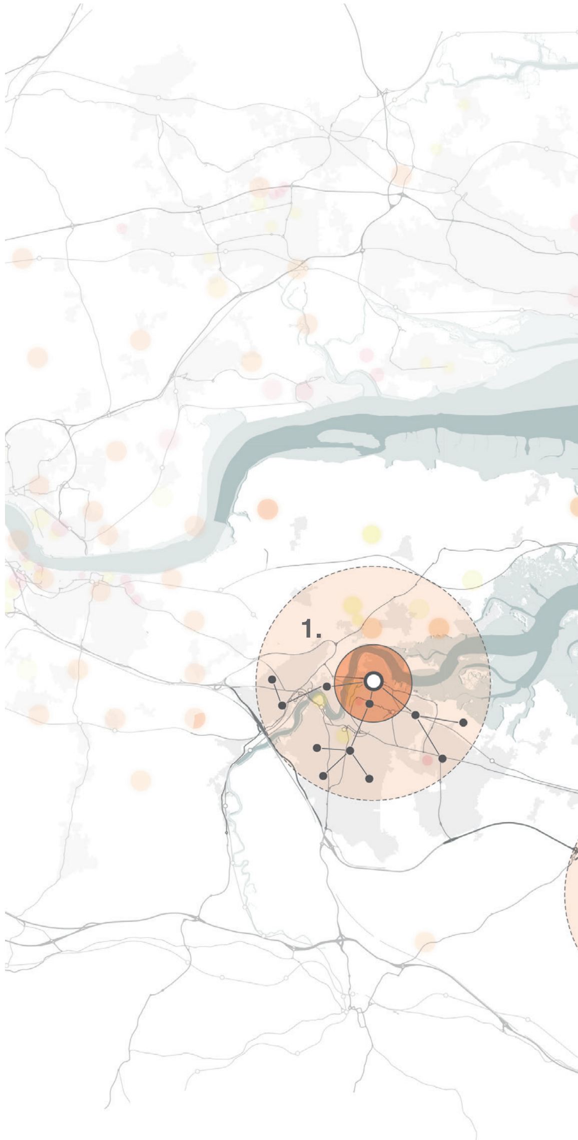
Improved and managed access to unique wetland landscapes

At the heart of a new medical research corridor, North Kent Foreshore will be home to a supercentre of health and wellbeing. Through a statutory Joint Spatial Plan, and strong connections between local government and business, the area will balance delivering the growth in the health sector with new jobs, new homes, a renewed focus on skills, and high-quality town centres set around world-class heritage and natural assets.

"The Thames Estuary is an edgeland - not quite river, not quite the open sea. It is an in-between place, a place of transition, a welcoming gateway, a corridor of trade, the front line for the defence of the realm and a gradual opening into the rest of the world."

Colette Bailey, Artist Director of Metal

4.6.2 North Kent Foreshore Commission Priorities



In order to provide more clarity on how the Commission's vision for North Kent Foreshore could be achieved, it has identified priorities for each place. The priorities have been informed by a prioritisation process, which considered all existing and proposed projects, broadly split into two categories: known and proposed employment and residential developments; and infrastructure, skills and employment projects.

Within the North Kent Foreshore area, 152 infrastructure, skills and employment projects were subject to the prioritisation review. Some 67 projects were sifted out where they were either: a duplicate entry; there was insufficient information available on the project to meaningfully assess it; or because it represented 'business as usual' where it was considered that the project would not make a significant contribution to meeting the Commission's vision for the area. Of the remaining 85 projects around 80% contributed to productive places, 75% to connected places and 42% to affordable places.

In addition, 54 large scale known and proposed employment and residential developments were identified. All of the developments were categorised 'business as usual'.

The Commission has identified three priorities set out opposite.

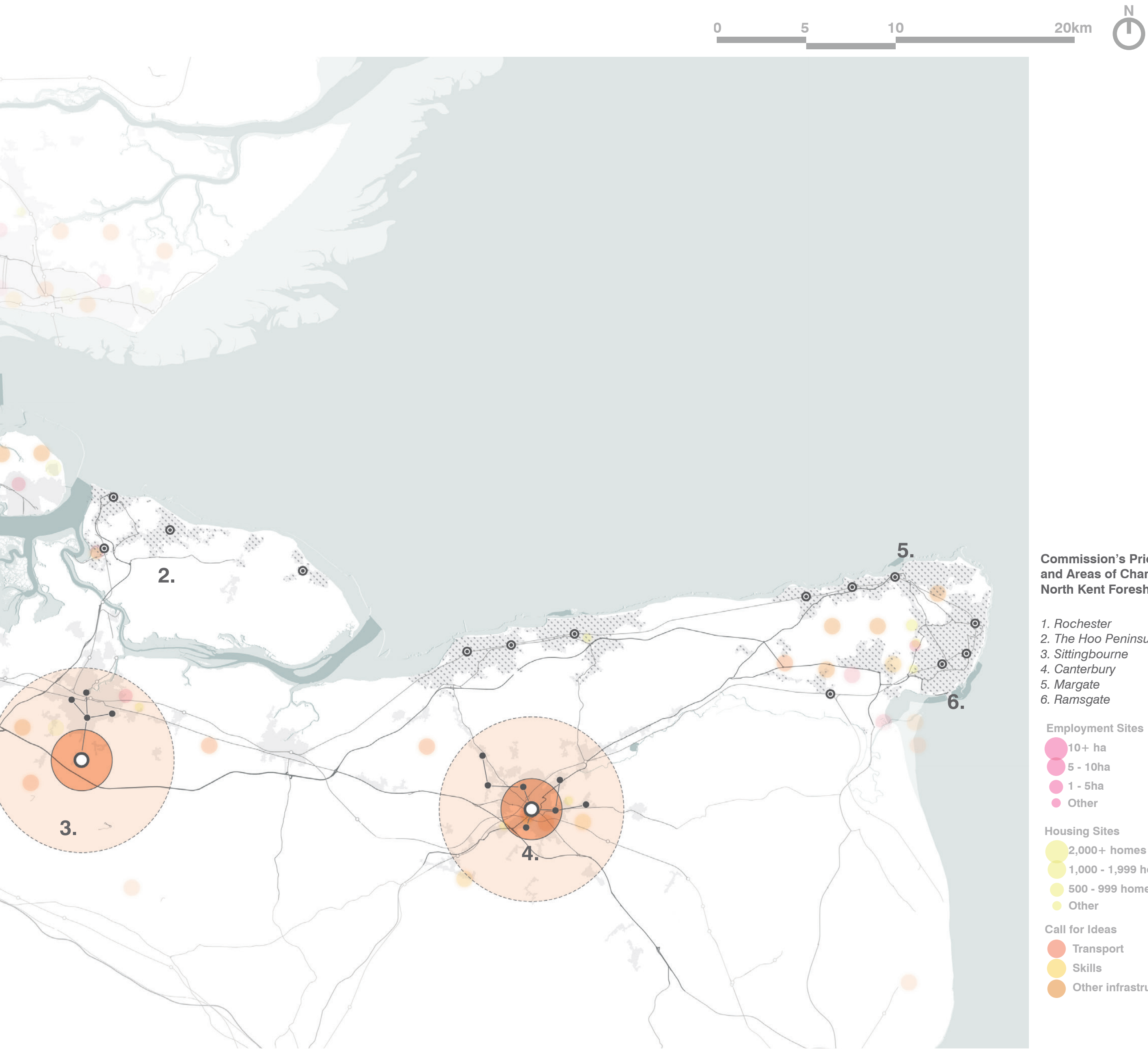
NK Foreshore Fund

What: Create a fund which local authorities and local communities can bid for. Projects should support town centre regeneration and/or community development.

Why: Give local communities and organisations the opportunity to direct investment where it is most needed to support local aspirations and town centre regeneration.

How: Government to make available a £20 million fund and provide support to the four local authorities and local communities in their funding bids.

When: Quick win for first raft of funding in 2019.



Commission's Priorities and Areas of Change: North Kent Foreshore

1. Rochester
2. The Hoo Peninsula
3. Sittingbourne
4. Canterbury
5. Margate
6. Ramsgate

Employment Sites
10+ ha
5 - 10ha
1 - 5ha
Other

Housing Sites
2,000+ homes
1,000 - 1,999 homes
500 - 999 homes
Other

Call for Ideas
Transport
Skills
Other infrastructure

Education and Skills


Ensinger Plastics ©

What: Implement a more targeted skills strategy with employers and educational institutions that provides clear pathways to employment that support the area's existing and growing economic sectors.

Why: The 30 year vision allows this project to address generational skills shortfalls. It will improve educational attainment and skills in the area, across multiple age groups, therefore reducing levels of unemployment.

How: Kent County Council should work with the local authorities, the Local Enterprise Partnership, employers and/or educational institutions to develop a targeted plan for the area, which meets current and future employer needs.

When: Quick win building off existing skills strategies in place.

Health Supercentre

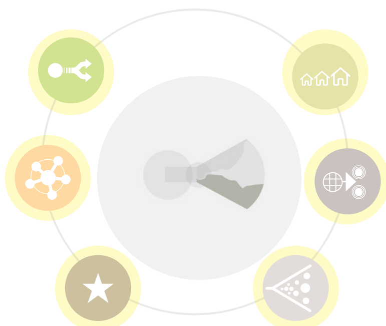

Herzog and de Meuron ©

What: Develop the new health and medical facilities at Canterbury to provide the eastern anchor to the supercentre.

Why: This project will act as a catalyst to the health supercentre building on the emerging health sector, cluster of academic institutions and transport connections in the area to increase productivity and jobs in the area.

How: Universities should be supported by Government and work closely with local communities to deliver promised facilities, to boost medical research and services while supporting workforce retention.

When: Short term delivery of facilities (by 2023).



4.6.3 North Kent Foreshore Other Projects

There are significant opportunities for growth and development in North Kent Foreshore. The Commission believes that further work is needed to coordinate initiatives already underway and to propose new initiatives to optimise the potential outcomes. This should be achieved through a statutory Joint Spatial Plan led by the local authorities, with the participation of other authorities within the Housing Market Area/ neighbouring areas, Kent County Council and Thames Gateway Kent Partnership to produce an integrated strategy for delivering and funding high-quality homes, employment, transport and other infrastructure. The Plan should also be ambitious - going above the minimum housing numbers set by Government - to attract substantial infrastructure investment from Government.

Beyond the Commission's three priorities and the Joint Spatial Plan there are other projects which the Commission believes are important to delivering its vision for North Kent Foreshore. These are a combination of: existing projects which the Commission supports; existing or proposed projects where the Commission believes their delivery needs to be accelerated; and new projects which may not currently be planned but which would address existing challenges and/or help unlock growth. An overview of each project along with the rationale for its selection is provided opposite.

Strategic Transport Infrastructure Projects
What: Support the delivery of strategic transport infrastructure projects in the area. These include new and enhanced rail connections to improve connectivity between towns and to increase resilience, for example improvements at Canterbury and between Gillingham and Rochester, alongside strategic road and junction capacity improvements including upgrades to the A2/M2 corridor.

Why: These schemes will contribute to unlocking and accelerating growth in jobs and homes. This package includes large scale transformational transport schemes as well as some local schemes capable of unlocking significant numbers of jobs and homes, whilst contributing to improved connections between settlements and place making.

Medway-Swale Advanced Manufacturing Arc
What: Support for the Medway-Swale advanced manufacturing arc including proposals at Rochester Airport, Kent Science Park, Port of Sheerness and Thamesport International.

Why: Advanced manufacturing is an existing sector which has the potential to continue to grow. The sites which make up the arc have the capacity, including 647,000 sqm of development-ready sites[24], to accommodate new investment and support new and growing industries including offshore renewable engineering, environmental technologies, digital design and life sciences.

Small Business Support
What: Explore ways to provide start-up and grow-on space for new and existing micro and small businesses as well as more targeted business support. Any support should meet the needs of existing and emerging sectors including in health care, biotechnology, and other university spin-outs.

Why: Across North Kent, around 99% of existing employers are micro and small businesses (fewer than 50 employees)[25]. In order to grow, the sector needs appropriate support and employment space that is targeted to meet its needs. This will help to diversify the sectoral mix and support the Commission's aspiration for the area to become a supercentre for health and wellbeing.

Homes and Jobs Delivery
What: Support delivery of homes and jobs at increased scale and pace in sustainable locations. This should be informed by a Joint Spatial Plan which will consider development opportunities in the context of the wider North Kent area and key connectivity issues.

Why: These locations also represent significant development opportunities. Delivery in these locations would make a significant contribution towards the targets for an additional 1 million homes and 1.3 million jobs across the Thames Estuary area by 2050.

Coordinated Approach to Freight
What: Support for a long term coordinated approach to freight. Road and rail authorities should work together (with local authorities where relevant) to minimise conflict between goods and people with the aim of increasing road capacity/number of services on existing railway lines. This should provide the capacity necessary to support the continued growth of the area's ports and freight from Dover, address the reputational impacts of freight on the area and support housing and economic growth.

Why: The Thames Estuary contains a number of nationally significant ports and an important distribution network for freight and logistics. Freight and logistics is a sector the Commission believes can continue to grow. However, this should not be at the detriment to the growth of other economic sectors, delivery of homes or ability of people to travel within the area.

Broadband and Digital Connectivity
What: Deliver broadband and digital connectivity improvements including investment in digital and cabling technologies, providing business with access to superfast broadband and considering the need for new interventions such as Priority Improvement Zones to deliver superfast broadband to industrial and commercial areas.

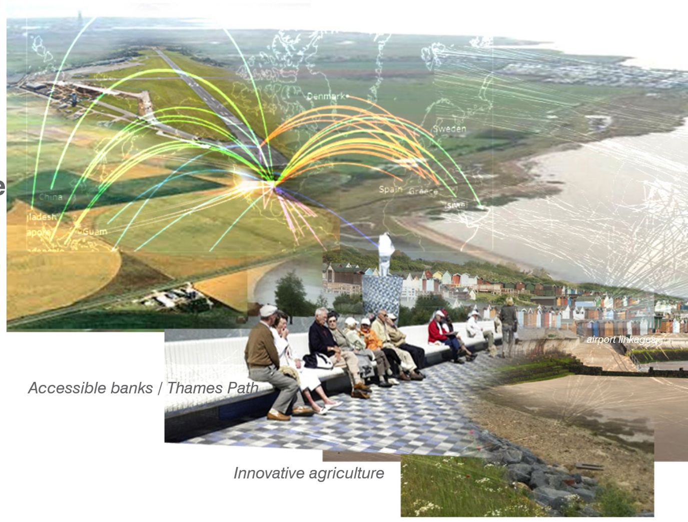
Why: The What Works Centre for Local Economic Growth has concluded that extending broadband to an area can affect firm productivity, number of businesses, and local labour market outcomes (such as employment, income and wages)[26]. Whilst the effects are not always large and may depend on complementary investment by businesses, broadband and digital connectivity can be an important part of delivering economic growth.

4.7 The River Thames

4.7.1 The River Thames Commission Vision

The River Thames is the **ancient heart** of the places of the Thames Estuary. It is a **global river** - connecting the Capital and five of the UK's largest ports to the rest of the world.

The strengths of the river remain its **strategic role** as a gateway to UK trade and industry and a vital and **flexible** component of the national infrastructure strategy. This is **balanced** by its **unique natural qualities** of ecology, habitat and landscape, which have long inspired the area's cultural and creative industries. The River Thames defines the quality of place of the cities, settlements and deep 'foreshores' which line it.



Accessible banks / Thames Path

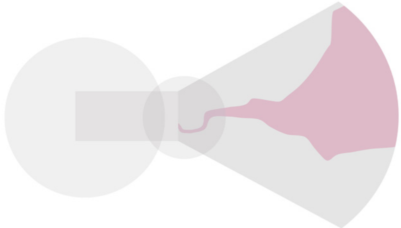
Innovative agriculture

A continuous Thames Path - celebrating the diversity of the River along its length

One of the challenges to the River Thames supporting the growth of the area is its **fragmented governance.** The multiple agencies (including the Environment Agency, Natural England, Port of London Authority, Marine Management Organisation) and private agendas prevent integrated solutions to some of the river's key challenges. **New crossings** will require careful integration, and the mitigation of sea level rise with **multi-functional defences**, which protect people and infrastructure from flooding will require new and innovative ways of working. Improving **water quality** and increased use of the river for **aquaculture** and **leisure** will enable the river to play a key role in the area's sustained growth.

Within this context the Commission's vision for the River Thames is:

The river's ebb and flow will continue to connect the Foreshores, Inner Estuary and City Ribbon. Its multi-functionality will continue to evolve, from freight to fishing and from beach to boardroom - constantly emphasising the value of the river to its surrounding places and ensuring that the current level of flood protection is maintained. Its vital contribution to economic and social prosperity will place it at the heart of Thames Estuary 2050.



Centre for future logistics - connecting the assets of the river to local skills and local jobs

Continued investment in culture and programming of the River and its connected communities

"The River Thames is ancient; older than England, older than humanity, even older than the British Isles themselves. Its life cycle operates on a geological timescale. The river is almost a living being, writhing sinuously across its flood plain, eroding its banks and altering its channel, constantly changing."

Andrew Sargent, The Story of the Thames

4.7.2 The River Thames Commission Priorities

In order to provide more clarity on how the Commission's vision for the River Thames could be achieved, it has identified priorities for each place. The priorities have been informed by a prioritisation process, which considered all existing and proposed projects, broadly split into two categories: known and proposed employment and residential developments; and infrastructure, skills and employment projects.

Within the River Thames, 25 infrastructure, skills and employment projects were subject to the prioritisation review. Some 15 projects were sifted out where they were either: a duplicate entry; there was insufficient information available on the project to meaningfully assess it; or because it represented 'business as usual' where it was considered that the project would not make a significant contribution to meeting the Commission's vision for the area. Of the remaining 10 projects, 80% contributed to adaptable places and 70% contributed to connected places.
This reflects that the projects largely focus on environmental improvements associated with flood defences and increasing access to the river.

No large scale known and proposed employment and residential developments were identified.

The Commission believes the River Thames can be a catalyst for growth and change in the four other 'productive places'. In order to do so it must be well used and well-loved. Three priorities have been identified to achieve this.

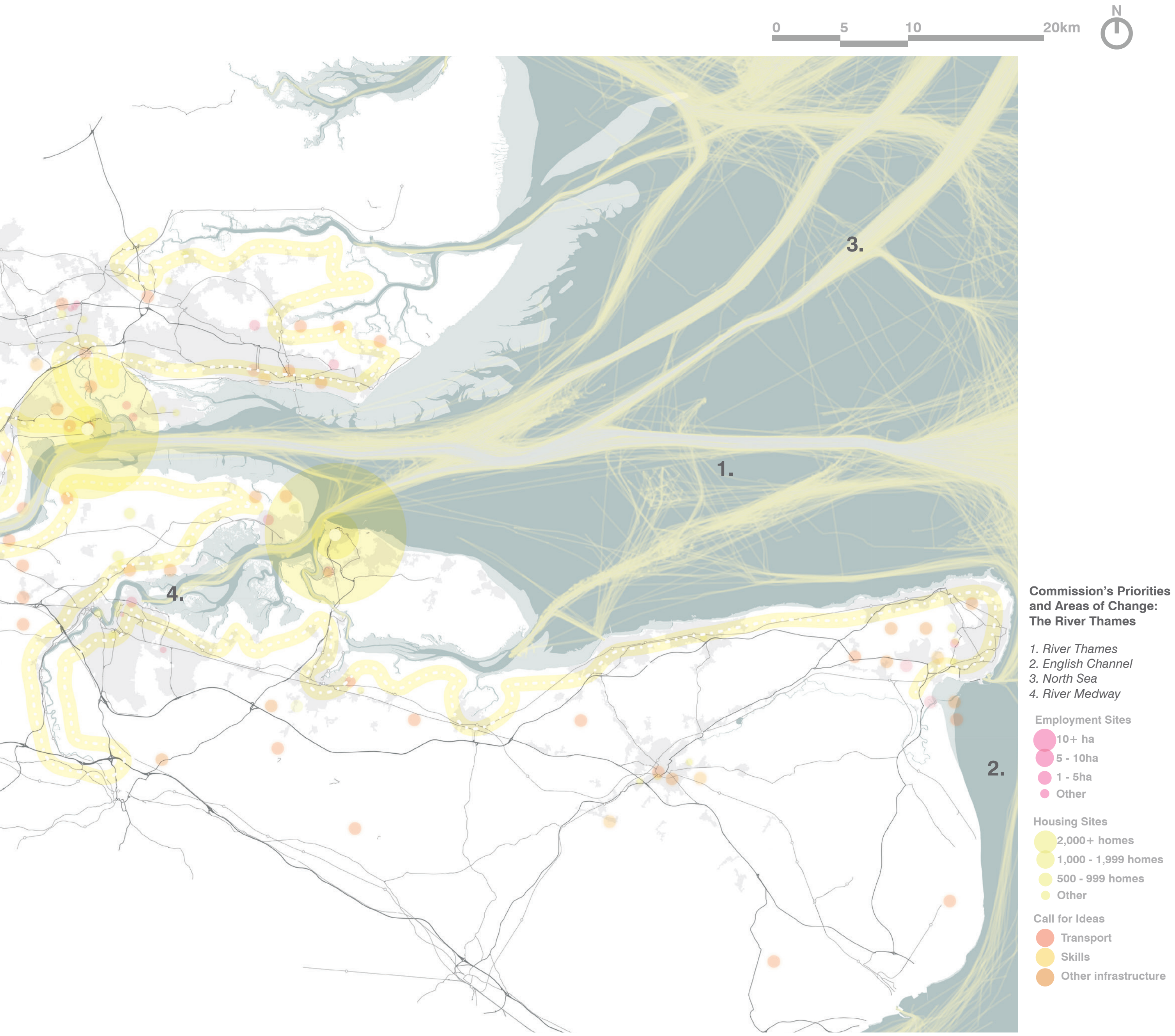
Great Thames Park

What: Establish the Great Thames Park to celebrate and maximise the value of the area's natural assets. This should include improving access to and use of the River Thames for pedestrians and cyclists.

Why: It will create a 'brand' which attracts inward investment as well as residents and visitors to the area and improves connections between places.

How: Local authorities, environmental bodies and river regulators should prioritise investment in the Thames Path and associated projects. Government to consider the governance arrangements required to support the Great Thames Park.

When: Medium term with measures in the short term to put governance strategies in place. Quick win to deliver first new section of the Thames Path by 2020.



Thames East Line

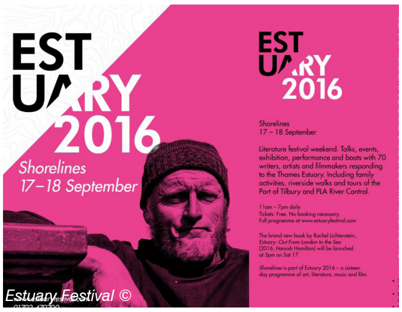
What: Delivery of new multi-modal (including rail) crossing east of the Lower Thames Crossing combined with the second Thames Barrier. Potential interchange points could be Basildon and the Medway Towns.

Why: To maximise the benefits arising from a second Thames Barrier (which will provide world-class standard of flood protection) including improved north-south connectivity, enhanced linkages with other high productivity corridors around London, agglomeration opportunities at interchanges and improved access to England's high speed railway network.

How: Government should consider a multi-modal crossing as part of its planning for the next Thames Barrier. This includes the financing models, which could be used to deliver the project by 2050.

When: Long term delivery with measures in the short and medium term to commence project planning.

Celebrate the Thames

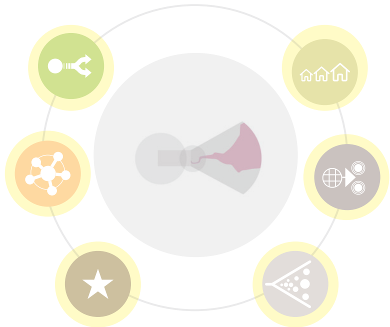


What: Build on the success of the existing Thames Festival and the Port of London Authority's Thames Vision to create a programme of festivals, events and promotional activities.

Why: To celebrate the River Thames, its creative and cultural industries and to attract inward investment and visitors to the area.

How: A programme of events should be developed and led by the Thames Gateway Strategic Group working with local businesses and community groups.

When: Quick win to ensure additional funding and support for Estuary Festival 2019.



Chapter 5: Governance and Delivery

The Commission has an ambitious vision for the Thames Estuary, which it believes has the potential to deliver 1.3 million new jobs and £190 billion additional GVA by 2050. At least 1 million new homes will need to be delivered to support this growth, but the Commission believes there is scope for the Thames Estuary to be even more ambitious in responding to London's ever growing housing need. Realising this ambition will require a coordinated delivery plan, which will in turn be dependent on strong, streamlined governance.

The resounding message from the consultation that the Commission has undertaken is that there is ambition in the Thames Estuary to deliver high-quality development and the best economic outcomes for people. However, the Commission believes that a 'business as usual' approach will not deliver growth at scale and pace; governance reform and new delivery models are needed.

The Commission believes that Government should work closely with local partners to determine the governance reform required to drive growth in the Thames Estuary. In the first instance, the Commission recommends that a **robust, locally-led review of governance arrangements be undertaken, to be concluded within six months**. This review should bring forward proposals for strong, streamlined governance arrangements to drive growth - particularly in Kent and Essex - but encompassing the whole area. In undertaking the review, local partners should draw on lessons learned from places that have secured City, Devolution and Growth Deals, attracted major private sector investment, and delivered significant change.

It is right that local partners should, in the first instance, define the governance reform needed to drive growth in the Thames Estuary. However, if robust proposals to reform governance and drive delivery are not forthcoming from local partners within six months, a more top-down approach will be required.

The Commission has undertaken extensive engagement over the past two years and carefully considered the case for the role of governance reform in driving growth in the area. The Commission believes that the optimal governance arrangements should include the following:

A single voice for the Thames Estuary through a strengthened and streamlined Thames Gateway Strategic Group (TGSG): The TGSG as presently constituted is ill-equipped to articulate a shared vision and strategy for the area. Local authorities should strengthen it by providing capacity funding and streamlining membership, so that it may speak to Government with a single voice on key strategic, Estuary-wide issues. Government should endorse the Chair of the TGSG, who would act as a single 'champion' for the Thames Estuary to spearhead collaboration and help make the case for inward investment.

The development of statutory Joint Spatial Plans in Kent and Essex: The Commission believes that, to enable the continued prioritisation of investment, statutory Joint Spatial Plans should be produced in Kent and Essex. The precise geography should be defined by local partners in the first instance as part of the locally-led governance review, building on existing collaborations and administrative boundaries. On this basis, there is a clear case for focusing a Joint Spatial Plan on south Essex, where work is already underway. The optimal geography for a Joint Spatial Plan in north Kent is less clear, and local authorities should work toward agreeing a preferred geography within the next six months. The Plans should build consensus around areas of focus, continue to strengthen the growth narrative for the area, and package and prioritise key projects. This will enable more effective delivery and provide a stronger focus for attracting private sector investment. If these Plans demonstrate sufficient growth ambition - going above the minimum threshold set out by Government for local housing need; and given statutory status – **Government should reward this ambition with substantial infrastructure investment and freedoms and flexibilities.** This could take the form of a 'roof tax', or other incentive to accelerate housing delivery and support growth.

A revision of the geographical boundaries of South East Local Enterprise Partnership (LEP): Analysis undertaken by the Commission suggests that the Thames Estuary is a tapestry of productive places, requiring tailored growth strategies. Through the locally-led governance review, local partners should bring forward proposals to revise the geographical boundaries of South East LEP. South East LEP is one of the biggest LEPs in the country, second only to London in terms of population and number of local authorities. The Commission suggests that local partners consider the formation of two new LEPs within the Thames Estuary, one for Essex, Southend-on-Sea and Thurrock, and another for Kent and Medway. Aside from geography, the Government review into strengthening LEPs should consider the best organisational structure for LEPs, and whether they are adequately resourced to drive growth.

Development corporation(s) with planning, and compulsory purchase powers to drive the delivery of homes and jobs aligned to major infrastructure investment: Whether these are locally-led should be dependent on the scale of the development. In addition, local partners should consider whether Homes England's full resources and powers, including plan-making and development control powers, should be deployed to maximise the local growth benefits of major infrastructure investments like the Lower Thames Crossing. The Commission believes that development corporations, backed by substantial investment, planning powers and freedoms and flexibilities from Government, and coordinated by a strengthened and streamlined TGSG would be an effective way to drive growth in the Thames Estuary in key opportunity areas across the Thames Estuary.

Strengthened governance arrangements for the River Thames itself: The creation of a co-ordination office or lead organisation could be more effective in maximising the potential of the River Thames.

In return for strengthened and streamlined governance arrangements, the Commission would like to see **revenue raising powers and tax (or other) incentives granted to the Thames Estuary** to drive delivery of infrastructure, housing and jobs.

Endnotes

Chapter 1: Introduction

1. The Environment Agency, TE2100 Plan: Managing flood risk through London and the Thames estuary (2012)

Chapter 2: The Case for Investment

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Glossary

Glossary

Term	Definition
Accessibility	The ability of people and goods to reach or enter a specific place. This term is multi-scalar and in the context of this report it generally refers to the connections between different places via different modes of transportation.
Advanced manufacturing	The use of innovative technology in the process of making goods and materials. This is generally related to high technology sectors, such as computing, communications, medicine, robotics, energy and others.
Agglomeration	A collection of organisations with similar or related business activities located in close proximity to one another. This form of grouping is viewed to have positive benefits for the organisations involved from shared services, knowledge and workforce.
Ancient Woodland	A designation that identifies areas of woodland cover that have been relatively undisturbed by human activity for centuries. Such habitats support biodiverse ecosystems and are viewed as environmental, historical and archaeological assets.
Area of Outstanding Natural Beauty	A designation of land for conservation due to the aesthetic value of the landscape. These designations are seen to be nationally significant.
Automation	The use of automatic equipment or software to carry out processes and procedures without human input.
Brexit	The United Kingdom's withdrawal from the European Union based on a referendum decision on 23rd June 2016.
Bus Rapid Transit (BRT)	A bus-based public transport system with greater capacity and efficiency than traditional bus systems. The system generally incorporates dedicated busways and gives priority to buses at intersections. An emphasis is placed on reducing travel times and increasing flexibility while maintaining low costs.
Channel Tunnel	A 50.45 km rail tunnel, which connects Folkestone in Kent (UK), to Coquelles, Pas-de-Calais (France). The tunnel is submerged beneath the English Channel to a maximum depth of 75m below the sea bed and 115m below sea level. The Channel Tunnel connects with High Speed 1, which is a high-speed rail line to St Pancras International with stops at Ashford International, Ebbsfleet International and Stratford International.
Coastal flood	An event where sea water overruns normally dry, low-lying land. There is a number of causes of coastal flooding including, but not limited to: storms, surges and tsunamis. While this is largely a natural event, it can be exacerbated by human influences.
Community Infrastructure Levy (CIL)	A planning charge, introduced under the Planning Act 2008 for Local Authorities in England and Wales to help deliver infrastructure which may support the wider development of their area.
Combined Sewer Overflow (CSO) discharge	Combined sewers collect domestic and industrial waste water as well as surface runoff water. During points of high sewer flow (e.g. caused by storms) the combined sewage overflows into an adjacent water body. This discharge will contain a range of waste water products and, as such, can result in hazardous water safety and hygiene conditions.

Term	Definition
Dartford Crossing	A major road connection between Dartford and Thurrock, formed of two bored tunnels and a cable stayed bridge, known as the Queen Elizabeth II Bridge. This is the only fixed crossing of the River Thames, east of Greater London.
Deprivation	The lack of, or denial of something considered to be a necessity. This can relate to a range of different amenities, materials and services. In general, within this report, the term is associated with poor economic wellbeing. This is typically measured using the Indices of Multiple Deprivation.
Development Corporation	An organisation set up by the UK Government, charged with guiding urban development and growth within a specific geographic location.
Digital Inclusion Charter	A cross-sector partnership established in 2014 to progress the accessibility to the World Wide Web and digital services in the UK. The charter committed to reduce the number of people who are offline by 2016 with a long term goal for 2020 that everyone who can be digitally capable will be.
Economic Development Plan	A document produced by a local authority, providing a comprehensive overview of its economy and setting out a policy direction for economic growth. The plan may identify specific interventions, strategies and programmes to progress the economic goals set out.
Economic resilience	The ability for an economy to recover from, or adjust to negative impacts, such as a shock event.
Economically inactive	Persons aged 16-64 who are not in employment, have not been seeking employment in the last four weeks and/or are unable to start work within the next two weeks. There are a wide range of reasons for economic inactivity, including retirement, studying, looking after home/family and being long term sick/disabled.
Employment density	The concentration of jobs and opportunities for employment within a given geographic location.
Environment Agency	An executive non-departmental public body, sponsored by the Department for Environment, Food & Rural Affairs. The organisations primary aim is to protect and improve the natural environment.
Fluvial flood	An event where river water overruns normally dry, low-lying land. This is generally caused by excessive rainfall or rainfall over an extended period of time, which causes a river to exceed its capacity.
Freight	Goods transported in bulk via road, rail, sea or air. These goods are generally connected to commercial activities rather than individuals.
Garden City	A strategic mixed use development based on a set of principles, which aim to create sustainable, self-contained communities surrounded by areas of green space. The idea was founded by Ebenezer Howard in 1898 and has had a resurgence in Government agenda in recent years.

Term	Definition
Globalisation	A continual process of increasing interconnectivity across the world. This term is strongly tied to trade, industry and the economy.
Governance	All processes of governing a state or organisation. This is largely concerned with decision-making at a strategic level.
Greater London Authority (GLA)	An administrative body for Greater London, which acts as a strategic regional authority with powers over transport, policing, economic development, fire and emergency planning. The GLA has responsibilities for strategic planning, with planning policies outlined in the London Plan.
Gross Value Added (GVA)	The measure of the value of goods and services produced in an area, industry or sector of an economy.
Growth and Infrastructure Frameworks	A strategic document aimed at unlocking growth potential in a given area (usually County level) based on investment in appropriate infrastructure.
Heavy Goods Vehicle (HGV)	A large road vehicle intended for the transportation of goods and cargo. HGVs are those with a gross vehicle weight of over 3.5 tonnes.
Households	A social unit comprised of people living together in the same dwelling. In many instances, this is a family or couple.
Housing vacancy rate	The number of dwellings within an area that have been unoccupied for more than six months.
Indices of Multiple Deprivation	A measure of the relative deprivation of small areas in England from 1 (most deprived) to 32,844 (least deprived). The score is made up of seven separate domains of deprivation: income, employment, education, health, crime, housing and services, and living environment.
Infrastructure	Physical and organisational structures, facilities and systems required for the operation of a society or enterprise. This term most commonly refers to physical, technical structures such as roads, bridges, sewers, telecommunications, etc. However, it can also refer to social infrastructure (schools, hospitals etc.) and less tangible structures such as those relating to information technology and digital services.
Infrastructure Delivery Plan (IDP)	A document to identify necessary infrastructure to support the planned growth and development of a given area, based on its Local Plan.
Jobseeker's Allowance (JSA)	An unemployment benefit that can be claimed while a person is unemployed and actively looking for work in the UK. JSA is administered through the Department for Work and Pensions and is available to persons over 18 years and below the State Pension Age.
Joint Spatial Plan	A document developed by a group of neighbouring authorities to guide development and growth at a strategic level, considering their shared issues and strengths.
Kent Downs	An Area of Outstanding Natural Beauty (AONB) in Kent, which stretches from Dover and Folkestone to the Surrey border.
Liveability	The degree to which a dwelling or area is suitable for living within. In this context, it refers to how different urban factors interact to create an environment that is effective, accessible and comfortable to be within.

Term	Definition
Local Authority	An administrative body forming part of local government in the UK, which is responsible for the public services and facilities within a given area. Most parts of England have a two-tier local government structure with County, District, Borough or City councils operating above the Unitary authority or Parish, Community or Town Council.
Local Enterprise Partnership (LEP)	Voluntary partnerships between Local Authorities and businesses set up in 2011 by the Department for Business, Innovation and Skills. Each aims to determine coordinated economic priorities at a local level and guide economic growth and job creation.
Local Industrial Strategy	A strategic document prepared at the local scale to identify existing industrial activities, both in terms of strengths and weaknesses, and future opportunities. A central aim of the strategy should be to drive prosperity and tackle regional and local economic inequalities.
Local Plan	A document setting out a vision and framework for the future development of an area, prepared by the local planning authority. This will also include a series of Site Allocations for specific development sites. Local Plans are a central to the planning system as a tool for guiding decisions on development proposals and approval of applications.
Location Quotient (LQ)	A method of identifying the concentration of a specific industry, occupation, demographic group, etc. within a given region as compared to the national average.
London Borough	A local authority district in Greater London, acting as a form of local government. The London boroughs form 32 of the 33 London districts. They represent a one-tier system of local government that provides all local services.
London-Stansted corridor	The area from the Royal Docks in London through to Cambridge via Stansted, in which a consortium has been set up to further economic growth. A Growth Commission has also been set up for one year to develop a vision and future direction for the corridor.
Long term unemployment	A term used to describe persons who have been unemployed for more than 27 weeks.
Low carbon	Processes or products causing or resulting in only a relatively small net release of carbon dioxide into the atmosphere.
Major development proposals	For the purpose of this report, major development proposals are identified as those providing over 500 new homes, or 1 ha (or 10,000 sqm) of employment.
Mayoral Housing Zone	An area outlined by the Mayor of London for housing development. A total of 30 Housing Zones have been identified with the potential to provide a total of 75,000 new homes. The zones will be supported by a total of £600m funding between 2017 and 2027.
Med-tech	Medical technology industry, which includes industry associated with medical devices which simplify the prevention, diagnosis and treatment of diseases and illnesses.
Metropolitan Green Belt	A statutory designation of land surrounding London, in which development is restricted in order to control urban growth and prevent sprawl. There are other Green Belt areas in the UK, such as the West Midlands, Greater Manchester & Merseyside, Bristol & Bath, Oxford and Cambridge.
Ministry for Housing Communities and Local Government (MHCLG)	A ministerial department supported by 12 agencies and public bodies. The key responsibilities of MHCLG involve driving housing supply, increasing home ownership, devolving powers and budget to boost local growth and supporting communities and their public services.

Term	Definition
Modern Methods of Construction (MMC)	Construction methods which differ from traditional methods of construction embracing a number of approaches involving off-site manufacture or assembly.
National Nature Reserves	Areas designated by Natural England to protect important habitats, species and geology.
Nationally Significant Infrastructure Project	A project of a type and scale defined under the Planning Act 2008 and by order of the Secretary of State relating to energy, transport, water, waste water and waste generally.
North Kent	North Kent includes Dartford, Gravesham, Medway, Swale, Canterbury and Thanet local authorities.
Objectively Assessed Housing Need (OAHN)	An objective assessment of a local authority's market and affordable housing requirement based on up to date and publicly available data.
Planning permissions	A formal permission from a local authority that must be obtained before development or change of use can take place on land or buildings.
Planning pipeline	Developments which have been granted permission through the planning application process or allocated through local authority Development Plans, but are yet to be built out or completed.
Ramsar site	A site designated under the Ramsar Convention on Wetlands, an intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources. The Ramsar designation identifies the site as a Wetland of International Importance and requires steps to manage it effectively to maintain its ecological character.
Regeneration	Utilising redevelopment to reverse a decline in an area by improving the physical structure and the economy.
Science Technology Engineering Maths (STEM)	A grouping of the Science, Technology, Engineering and Mathematics academic disciplines.
Site allocations	A site that has been identified by the local planning authority in a Local Plan or Development Management Document for development of a specific purpose.
Sites of Special Scientific Interest	Sites designated under the Wildlife and Countryside Act 1981 to provide statutory protection for the best examples of the UK's flora, fauna, or geological features.
Skilled Trade	Jobs in an occupation that requires specific vocational training (usually including on-the-job training) such as a carpenter, a tile setter or an electrician.
Small and Medium Enterprise (SME)	An entity engaged in an economic activity which employs fewer than 250 persons and which has an annual turnover of not exceeding £40 million and/or an annual balance sheet total not exceeding £34 million.
South Essex	South Essex includes Thurrock, Rochford, Castle Point, Southend-on-Sea and Basildon.
Spatial planning	The critical thinking about space and places as the basis for action or intervention, going beyond traditional land use planning to bring together and integrate policies for the development and use of land with other policies and programmes that influence the nature of places and how they function.
Special Area of Conservation	This designation provides strict protection to one or more special habitats or species under the EC Habitats Directive.

Term	Definition
Special Protection Area	A designation under Article 4 of the Directive 2009/147/EC on the conservation of wild birds. They are classified for rare and vulnerable birds and regularly occurring migratory species.
Strategic Economic Plans	Strategic Economic Plans represent the commitment from Local Enterprise Partnerships to the Growth Deals negotiated with the Government. The Government assesses the Plans in terms of economic growth, their likely effectiveness and value for money.
Strategic road network	The Strategic Road Network is made up of the nation's motorways and major A roads and is operated, maintained and enhanced by Highways England. Roads outside of the SRN are managed by local authorities.
Superfast broadband connectivity	Superfast broadband is defined by the European Union as speeds of 24 Mbps or above.
Thames Barrier	The Thames Barrier spans 520 metres across the River Thames near Woolwich, and it protects 125 square kms of central London from flooding caused by tidal surges.
Thames Estuary	The area stretching 40 miles (64 km) from East London to Southend-on-Sea in Essex and Thanet in Kent. It comprises 18 local authorities, and includes portions of two counties – Essex and Kent, as well as parts of Greater London. The spatial extent is shown on Map 1 in this report.
Unemployment rate	The level and rate of UK unemployment measured using a definition of employment specified by the International Labour Organisation. Unemployed people are defined as those without a job who have been actively seeking work in the past 4 weeks and are available to start work in the next 2 weeks. It also includes those who are out of work but have found a job and are waiting to start in the next 2 weeks.
Unitary Authority	An administrative division of local government established in place of the two-tier system of local councils. They represent a one-tier system of local government that provides all local services.
Urban infill	New development that is sited on vacant or undeveloped land within an existing urban area which is enclosed by other types of development.
Working households	Households where all members aged 16 or over are employed.
Workless households	Households where no-one aged 16 or over is in employment. These members may be unemployed or inactive. Inactive members may be unavailable to work because of family commitments, retirement or study or unable to work through sickness or disability. (ONS definition)
World Heritage Site	A site or landmark selected by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) as having cultural, historical, scientific or other form of significance. Such sites are legally protected by international treaties.

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