TRANSPORT FOR THE South East

# South West Radial Area Study

## Evidence Base Report

Version 1.0

July 2021

# Contents

TRANSPORT FOR THE South East

# Introduction

# Structure of this Report

This report sets out the findings, insights and conclusions from Stage B of Transport for the South East's (TfSE) South West Radial Area Study. The work undertaken in Stage B is aligned with the first four steps of Department for Transport's Transport Appraisal Guidance (TAG). It presents an understanding of the current and future situation in the area, identifies the key issues and opportunities set out the vision and objectives for the study. This report has four parts:

**Part 1 summarises the current evidence base underpinning this area study. It is aligned with the requirements of TAG Step 1: Understanding the Current Situation.**

It presents research and analysis sourced from policy documents, data, scheme promoters, and insights from stakeholders. It is presented in six parts:

- **Part 1a** summarises the national, regional, and local policies relevant to this study (more detail is provided in the Appendix).
- **Part 1b** describes demographic and economic trends.
- **Part 1c** describes social trends, including deprivation, accidents, and air quality.
- **Part 1d** describes environmental characteristics, including protected areas, heritage, flood risk, and landscape.
- **Part 1e** describes the area's road, railway, and international gateway networks.
- **Part 1f** presents analysis of the accessibility and connectivity of the public transport networks serving the area.
- **Part 1g** summarises our analysis of Travel To Work patterns in the area.

**Part 2 summarises evidence that shows how the future of the area may evolve. It is aligned with the requirements of TAG Step 2: Understanding the Future Situation.**

It is presented in four parts:

- **Part 2a** summarises the demographic projections based on Local Plan development data provided by Local Planning Authorities.
- **Part 2b** describes the results of the South East Economic and Land Use Model (SEELUM) which estimates the impact of a "Preferred Scenario" of the future (developed by TfSE and its stakeholders in 2018/19) on socioeconomic and transport outcomes in the South West Radial area.
- **Part 2c** lists the key railway, highway, international gateway, and local transport schemes under development in the area.
- **Part 2d** explores the impact of the COVID-19 pandemic on the South East's economy and transport demand.

**Part 3 presents our articulation of the need for intervention in the South West Radial area. It is aligned with the requirements of TAG Step 3: Establishing the Need for Intervention.**

It is presented in two parts:

- **Part 3a** presents the results of our SWOC (Strengths, Weaknesses, Opportunities and Challenges).
- **Part 3b** sets out a number of problem statements identified from a review of the evidence base and collation of stakeholder priorities.

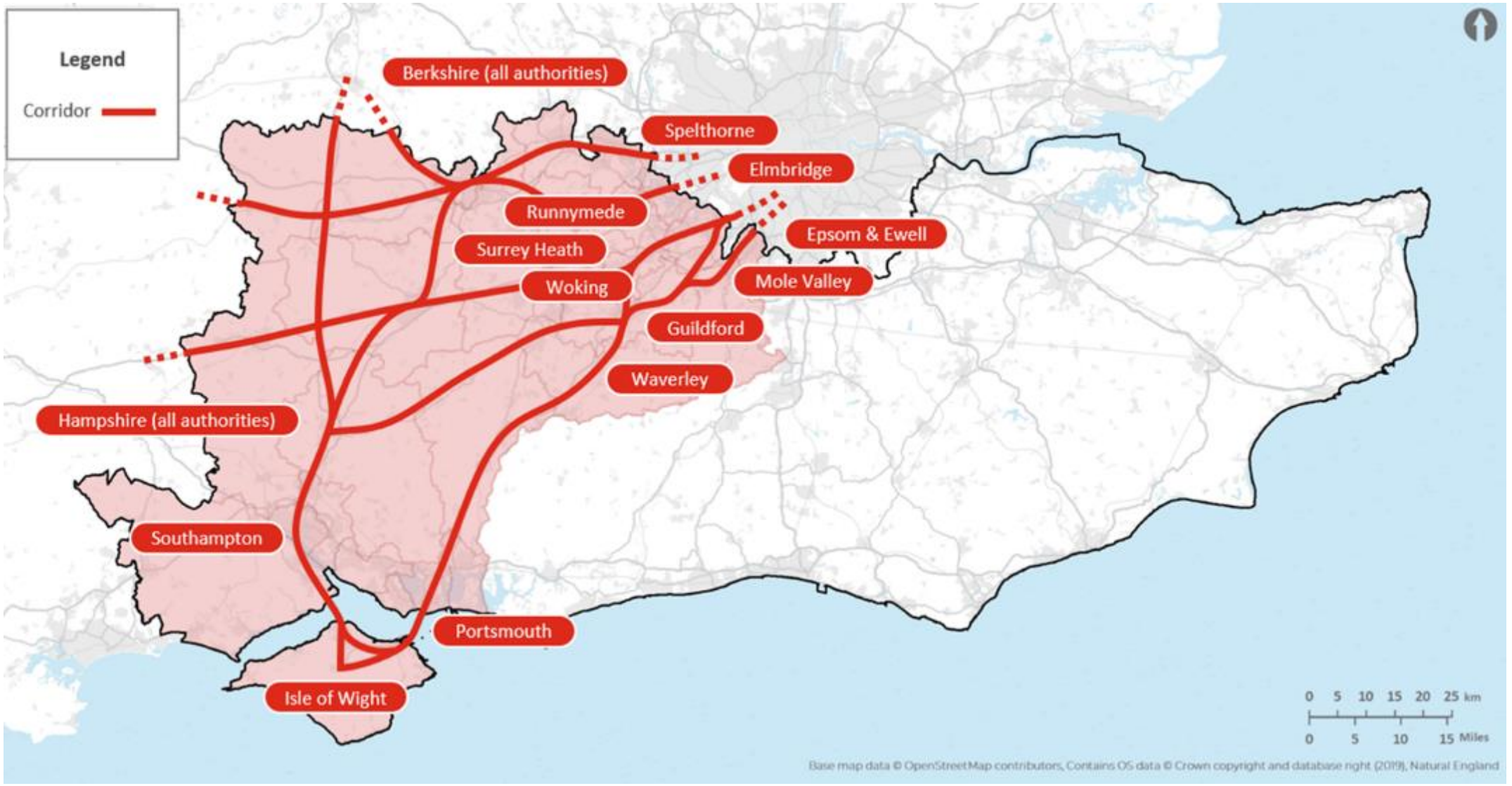
**Part 4 sets a vision and objectives for the South West Radial area study. . It is aligned with the requirements of TAG Step 4a: Identifying Objectives**

It is presented in three (short) parts:

- **Part 4a** describes the Vision Statement for the South West Radial Area study.
- **Part 4b** lists the objectives of the South West Radial Area study.
- **Part 4c** summarises the next steps of the South West Radial Area study.

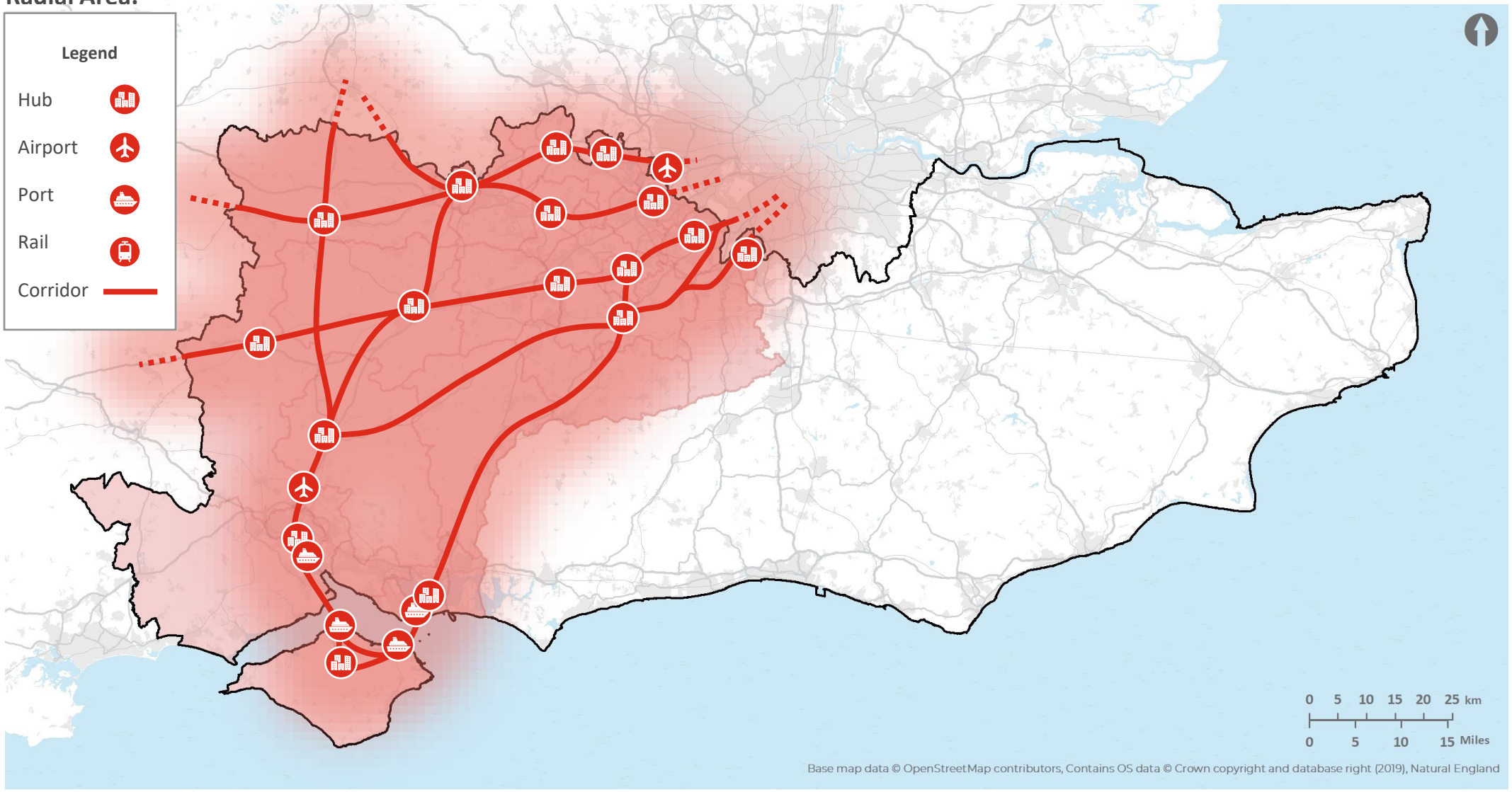
# Definition of the South West Radial Area

**The South West Radial Area Study encompasses the strategic radial corridors between South West and West London and the western and south wester boundaries of the TfSE area. The Local Planning Authorities that are included in this area are labelled on the map below.**

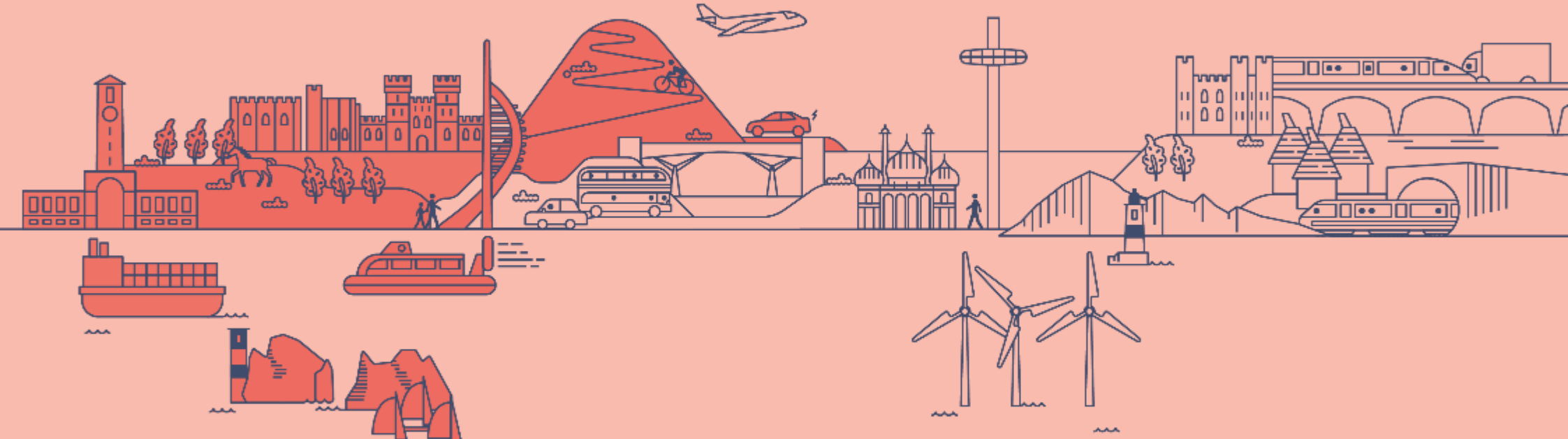


# Major Economic Hubs and International Gateways

**The South West Radial Area encompasses major economic hubs on the Greater London boundary and on the South Coast as well other major economic hubs within Berkshire, Surrey and Hampshire. The area is home to a number of gateways with Southampton Port and Airport, the Port of Portsmouth and the ferry ports on the Isle of Wight. Heathrow and Gatwick are also just outside the South West Radial Area.**



TRANSPORT FOR THE South East



# Part 1

## Current Context

# Part 1a

## Policy Context

# National and International Policy Context

National and international policies set a framework for the future of planning, climate change and digital technology. They aspire to deliver transport networks that work better for the people, the economy, and the environment. A complete list of the policies reviewed for this South West Radial Area study is provided in **Appendix A**. Key themes are discussed below:

## Climate Change/Decarbonisation Policies

The declaration of a UK climate emergency and associated legally binding Net Zero targets (by 2050) has led to an increased focus on the importance of decarbonisation across all sectors, but particularly in transport.

**Decarbonising Transport, A Better, Greener Britain (2021),** sets out the political agenda for decarbonising all forms of transport and the UK's path to net zero transport. It comes in the wake of several other critical national (e.g. the **Clean Growth Strategy**). Highways England have set out their **Road Map to Net Zero** (2050) with Network Rail setting out its goal for Net Zero by 2050 in their **Environmental Sustainability Strategy**.

Understanding of how these changes will be delivered is provided in policies such as **Gear Change**, which aims to deliver significant improvements to cycling infrastructure, and **Bus Back Better**, which sets out the government's vision for bus services. We also expect to see wider adoption of placemaking policies such as "15-minute neighbourhoods" as a response to the climate change challenge.

## Planning Reform

Planning in England is governed at a national level by a **National Planning Policy Framework**, which promotes the importance of sustainable development and has several clear environmental themes. This planning framework guides the development of **Local Plans** and sets policy for the development of national and international transport networks.

The government has indicated an ambition to reform the planning system and has laid out its plans in the White Paper: **Planning for the Future (2020)**. Planning reforms are expected to focus on simplifying the planning system and making better use of data and digitalisation to help make the planning system work better.

Planning policy is increasingly emphasising the importance of building more new homes and making them more affordable and readily available to those living across the country. This closely follows the policy outlined in the **Housing White Paper 2017** and delivered (in part) by the **Housing Infrastructure Fund**.

## Emerging Technology Policies

Technology will be critical for helping the transport network to continue developing over forthcoming years. Many believe recent trends in the adoption and penetration of emerging technologies have been accelerated by the advent of COVID-19.

Government policy is also evolving fast. In **Road to Growth** and the latest **Road Investment Strategy**, Highways England have emphasised the importance of using new technology across our highway network.

The DfT's policy document **Future of Mobility: Urban Strategy** (released in 2019) focuses how artificial intelligence and electrification will shape the transport network and deliver widespread benefits.

It is anticipated that the **Future of Mobility: Rural Strategy,** which is expected to be released imminently, and the encompassing **Net Zero Strategy**, due later this year, will further encourage greater uptake of low-emissions vehicles, in line with the long-term Transport Decarbonisation plan of banning the sale of petrol and diesel vehicles by 2030.

# Regional and Local Policy Context

Regional and local policies recognise the strength of the South East's natural assets and understand the importance of balancing future growth with social and environmental needs. The recently adopted Transport Strategy for the South East provides a framework for the implementation of national and regional priorities at a local level.

## Economic Strengths

The region's economic strengths are a key theme which run through several documents. The **Economic Connectivity Review,** undertaken by TfSE, showed that the area had the highest economic productivity outside London.

The importance of international gateways is noted in several policy documents, for example, the Highways England **Route Strategies,** and the **several Local Transport Plans** in the area**.**

The region's proximity to London is also a key driver of economic growth. However, the area's reliance on London is seen as a risk, as identified by Network Rail in their published **London South East Market** study and the **West Sussex Connectivity Modular Strategic Study.**

Many stakeholders in the South East wish to see their own major economic hubs, which include some of the largest conurbations in England, establish themselves as self-contained, high-performing Major Economic Hubs that can thrive in their own right. This can be supported by improving connectivity within and between these conurbations to enable them to function (i.e. agglomerate) cohesively and efficiently.

## Planning for People and Places

At a local level, the importance of places and placemaking is emphasised in several policy documents. While this is cited in all Local Transport Plans and many Local Plans in the area, it is a particular focus for the urban authorities in the South West Radial Area.

This is a key theme of the recently developed **TfSE Transport Strategy** for **the South East**, which aims to shift transport planning away from "planning for vehicles" towards "planning for people" and "planning for places", and net-zero carbon emissions by 2050 at the latest.

**Planning for vehicles** acknowledges that some highway schemes may be needed to support immediate housing needs and congestion hotspots in the South West Radial Area.

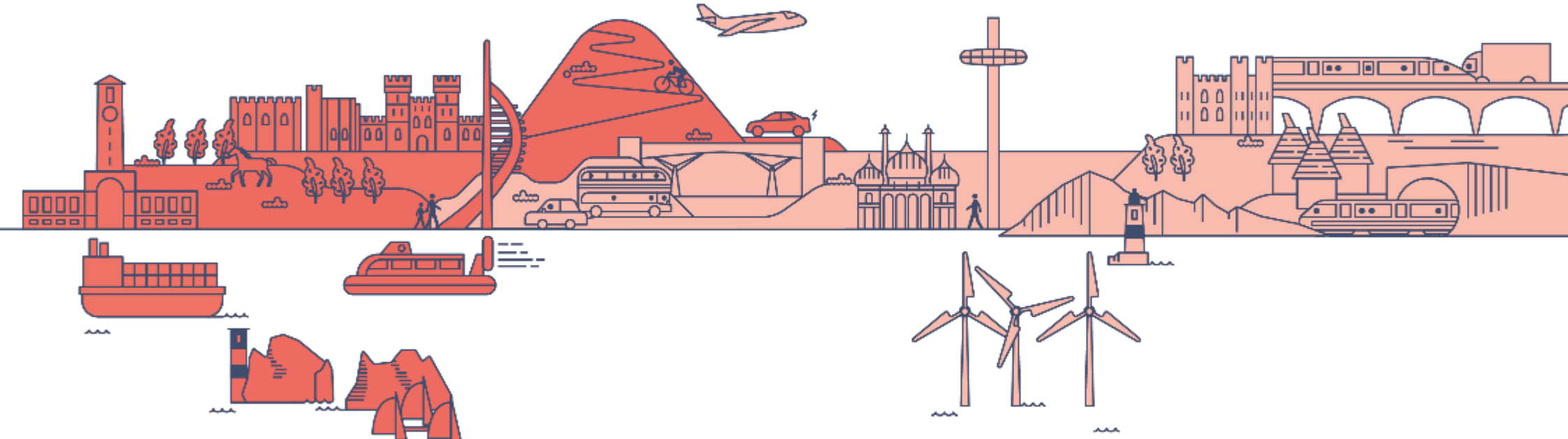
However, the focus also needs to consider **planning for people** (as a means of considering all modes of transport, especially active travel and public transport) and **planning for places** (which required much better integrated spatial, transport, services, and other infrastructure planning at a regional and local level.

## Local Response to COVID-19

The COVID-19 pandemic has caused a significant rise in uncertainty around local planning. Local budgets are coming under increased pressure, and behavioral changes mean that traditional planning approaches are poorly suited to the current context.

In several areas, Local Industrial Strategies have been delayed as a result of the pandemic, and increased levels of uncertainty. Several Local Enterprise Partnerships have released COVID-19 statements on their websites, and the South East LEP has released a formal **COVID-19 Statement** document. The government has outlined its steps for recovery in the Our Plan to Rebuild document released in Spring 2021, and additional funds have been released through the Levelling Up Fund and the Towns Fund.

Overall, however, it must be recognised that many local planning documents may quickly become obsolete as a result of the COVID-19 pandemic and the consequent economic outfall.



# Part 1b

## Demographic and Economic Context

# Population

**The population of the South West Radial Area was just under 3.9 million in 2019.**

**Figure 1.1** indicates that the area experienced a slower population growth than other regions in the South East, experiencing a 7.0% growth in the past decade, compared to the regional average of 8.0%.

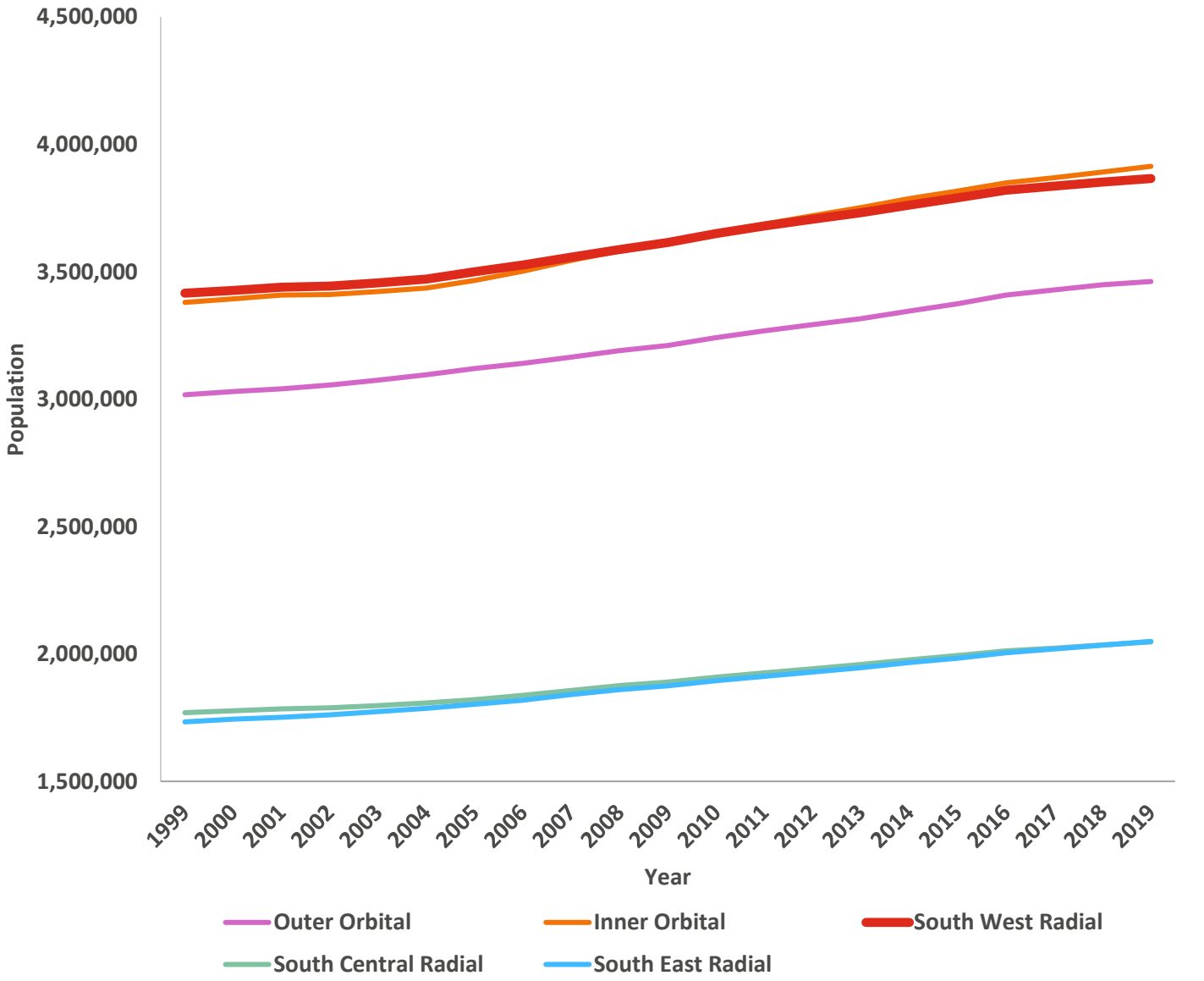
**Figure 1.2** shows the population density in the South West Radial Area. This shows that the largest population centres are focussed towards the northern part of the area in Berkshire, Surrey and North Hampshire; and the southern part with the around the Solent on the South Cost. It is important to note the extent of rural area in between these conurbations.

The fastest growing areas along this corridor in the past decade include Runnymede (12.7%), Guildford (11.5%) and Wokingham (11.0%). In contrast, the slowest growing areas include Rushmoor (2.2%), the Isle of Wight (2.5%) and New Forest (2.7%).

Modelling undertaken by Steer suggests the population in the South West Radial Area will continue to increase to around 4.6 million residents by 2050 (see page 73).

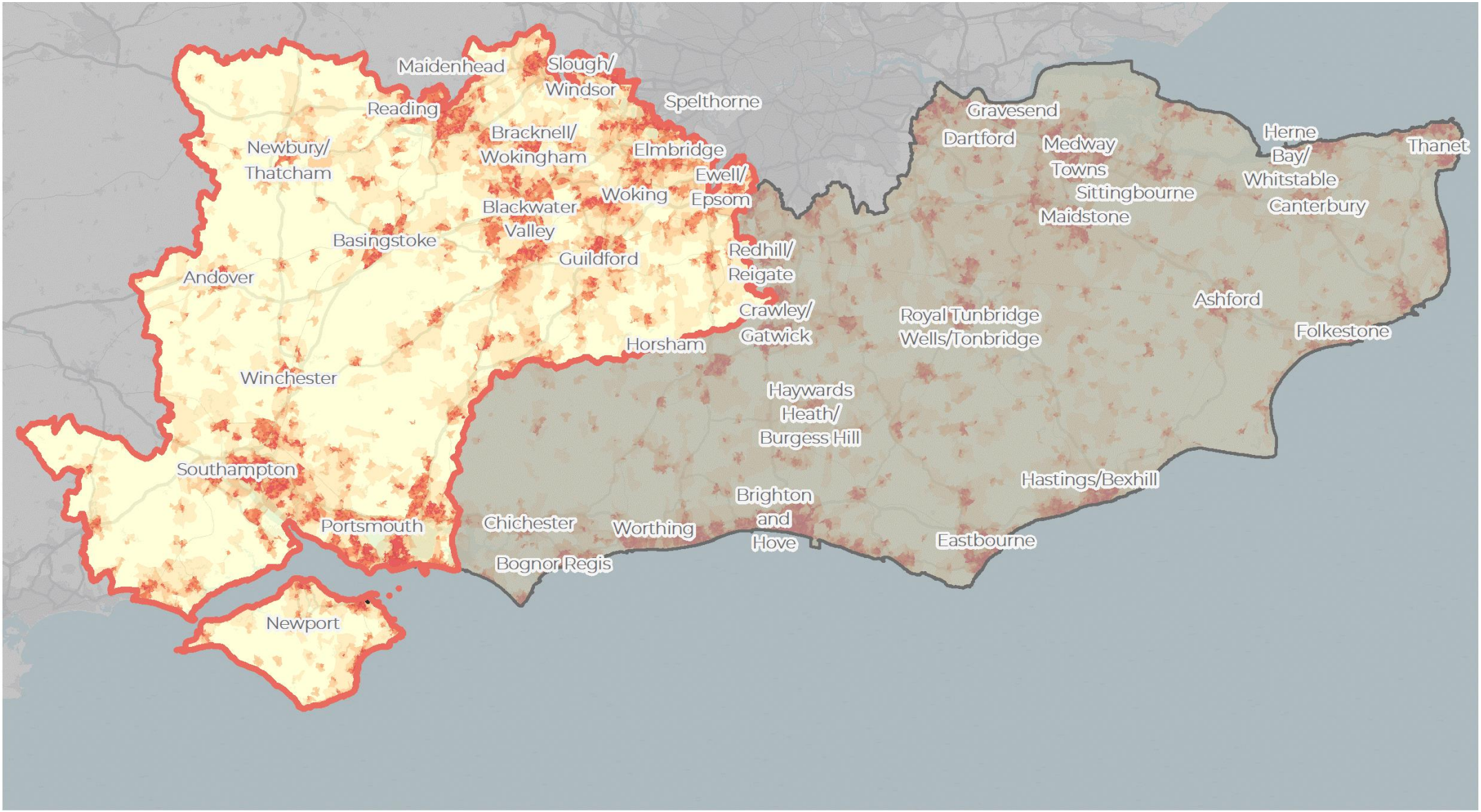
Appropriate housing and infrastructure is required to this support and accommodate this growth, being mindful of potential changes in government forecasts.

**Figure 1.1:** Population growth over time in the South East




Source: NOMIS Official Labour Market Statistics, Population Estimates (2019)

**Figure 1.2:** Population Density

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# Employment

**In 2019, 80% of the eligible workforce in the South West Radial Area was in employment. This is higher than the South East (79%) and national (76%) average.**

**Figure 1.3** shows employment trends for each of the five areas. In 2017, 1,829,625 jobs were available in the South West Radial Area, 55% of all jobs in the wider South East.

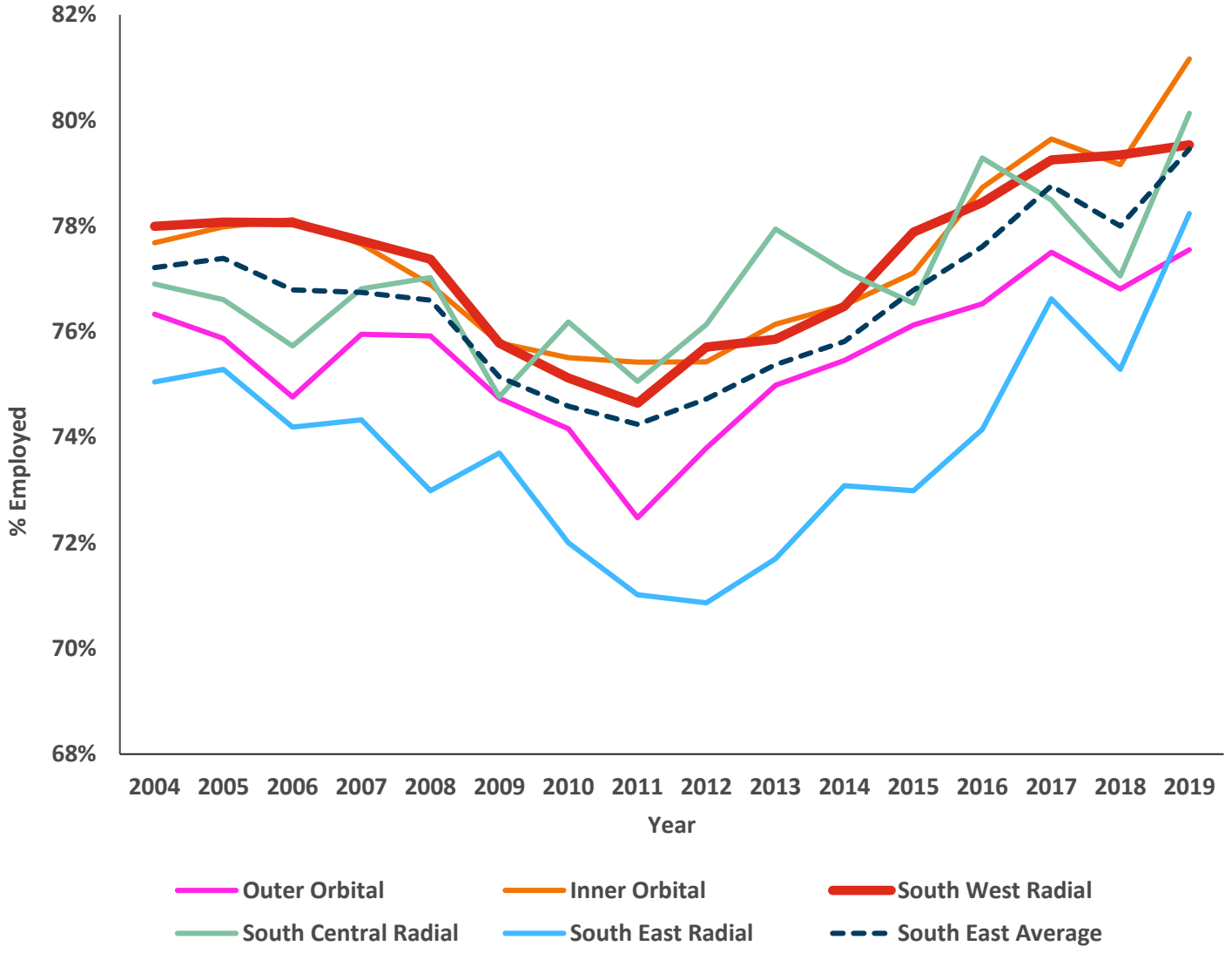
Historically, the employment rate in the South West Radial Area has been higher than the South East average for many years, and experienced a trend in line with the rest of the South East. The South West radial area is notably the only area not to experience a fall in employment in 2017-18. Once data is available it is expected that unemployment will be seen to have risen in 2020 and 2021 due to the economic fallout driven by the COVID-19 pandemic.

In 2019, 80% of the eligible workforce in the South West Radial area was employed. This figure is high in most areas in Berkshire, Surrey and the Blackwater Valley. In contrast, areas in South Hampshire have a lower level of employment such as Portsmouth with 71% in employment.

Guildford has experienced the highest increase in the number of persons employed in the past decade, rising by 28%. In contrast Rushmoor, Havant and Gosport which have experienced a decrease in the number of persons employed.

Modelling undertaken by Steer suggests the number of jobs in the South West Radial Area will grow to 2 million jobs by 2050 (see page 73).

**Figure 1.3:** Percentage of the eligible working population employed in the South East




Source: NOMIS Official Labour Market Statistics, Employed Workforce (2019)

# Priority Industrial Sectors

**In 2017, 13.4% of all jobs available in the South West Radial Area were priority industrial sector jobs.**

This is higher than the wider South East area, where 13% of all jobs are in priority sectors. In 2018, TfSE identified industrial sectors that were deemed to be high value, high growth industries. Employment by each key sector in the South West Radial Area is listed in **Table 1.1.**

The South West Radial Area is particularly strong in the following priority industrial sectors:

- **Computer programming**, the IT sector is primarily clustered in Reading, Wokingham and Bracknell.
- **Public administration and defence,** predominantly centred around Southampton, Portsmouth and Guildford.
- **Management, consultancy and other professional services**, with the most prominent and high value roles being in Berkshire and Surrey which are home to a number of HQs.
- **Transportation**, this is predominantly related to activity generated by Southampton Port, and the distribution of imported and exported goods between the port and the rest of the UK.
- **Manufacturing**, including computing and electrical products, transport equipment and machinery.

**Table 1.1:** Priority sector jobs in the South West Radial Area

| Priority industrial sector | Number of jobs | % of South East* |
|---|---|---|
| Computer programming | 83,900 | 80% |
| Public administration and defence | 42,250 | 80% |
| Management, consultancy and professional services | 29,900 | 80% |
| Transportation | 25,230 | 30% |
| Manufacturing | 23,960 | 50% |
| Engineering and Architectural Activities | 12,695 | 80% |

* Number of jobs in the South West Radial Area as a proportion of all jobs in the given priority industrial sector in the South East area. e.g. the South West Radial Area provides 28% of all transportation roles in the South East area. Source: BRES data (2018). The percentages above have been calculated as estimates.

| Transport sub-sector | Number of jobs | % of South East* |
|---|---|---|
| Land transport and transport via pipelines | 8,475 | 34% |
| Water transport | 2,970 | 73% |
| Air transport | 790 | 8% |
| Postal and courier activities | - | - |
| Warehousing/transportation support | 12,995 | 31% |

# Earnings

**In 2019, the average resident in the South West Radial Area earned £34,212.**

This is above the South East average, where a resident earns £33,110, and far higher than the UK average of £30,350 per annum.

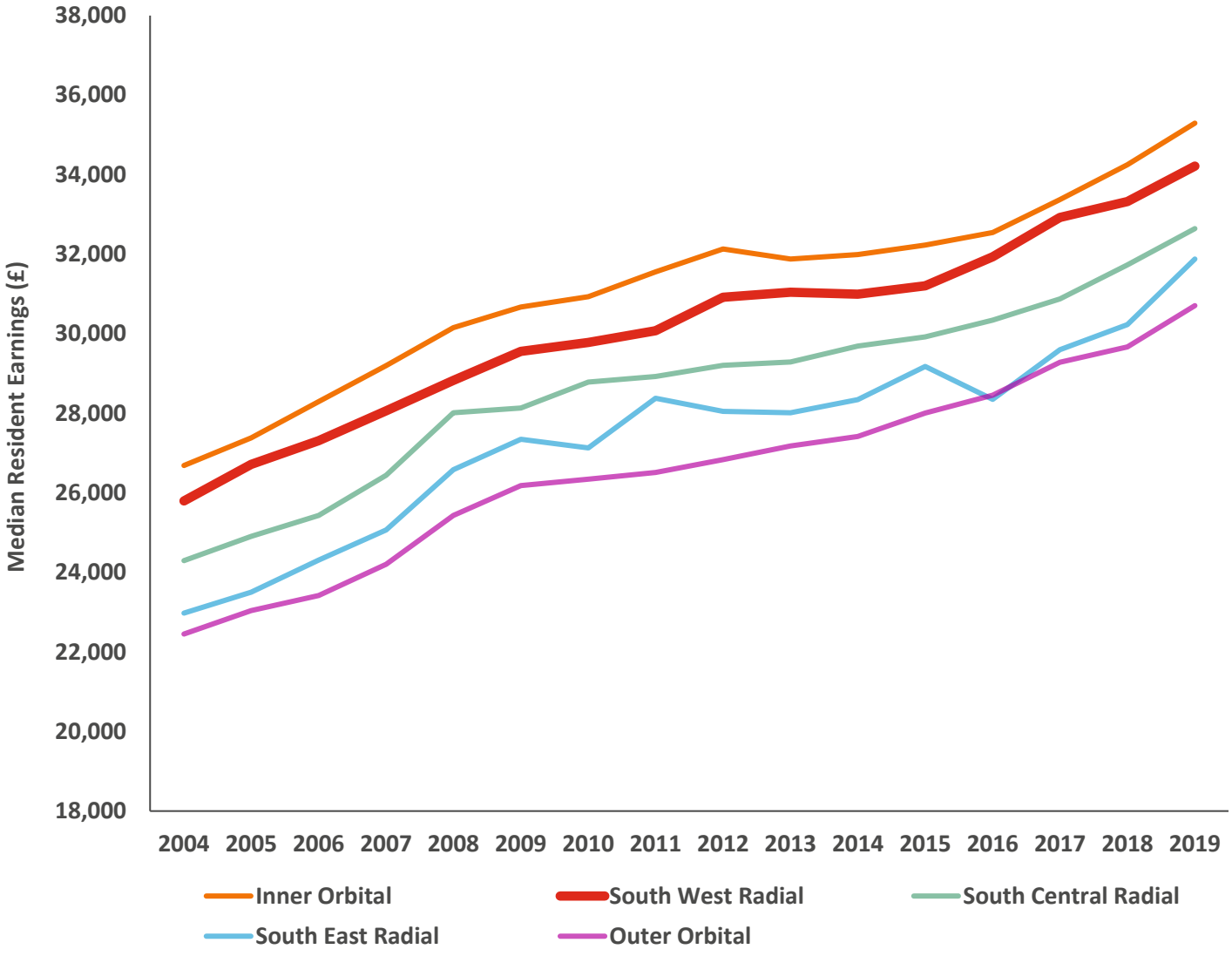
**Figure 1.4** shows the average earnings for residents from 2004 to 2019. Earnings growth in the South West Radial Area is in line with the other areas in the South East Region. That being said, there are significant variations in earnings and earnings growth between the local authorities in the South West Radial Area.

Areas closer to London tend to have higher resident earnings, with the average resident in Elmbridge earning over £42,000 in 2019. In contrast, residents living along the South Coast in areas such as Southampton, Portsmouth, Gosport and the Isle of Wight are amongst the lowest earners, earning less than £29,000.

The fastest growth in resident earnings have occurred in Basingstoke, Woking and Southampton, with the average resident nominally earning 28% more in 2019 than 2009.

In contrast, other areas have experienced little growth in earnings the last 10 years. The average resident in Mole Valley has only experienced a 1% increase in earnings. This is a common trend in areas which have been historically home to high earners, and includes many of the areas closer to London.

**Figure 1.4:** Average resident earnings over time in the South East Region




Source: NOMIS Official Labour Market Statistics, Resident Earnings (2019)

# Housing Affordability

**In 2019, the average home in the South West Radial Area cost almost ten times the average income in this area. This is higher than the South East average, where housing is 9.4 times as high as the average income.**

**Figure 1.5** shows the affordability ratio for each area in the South East from 2002 to 2019.

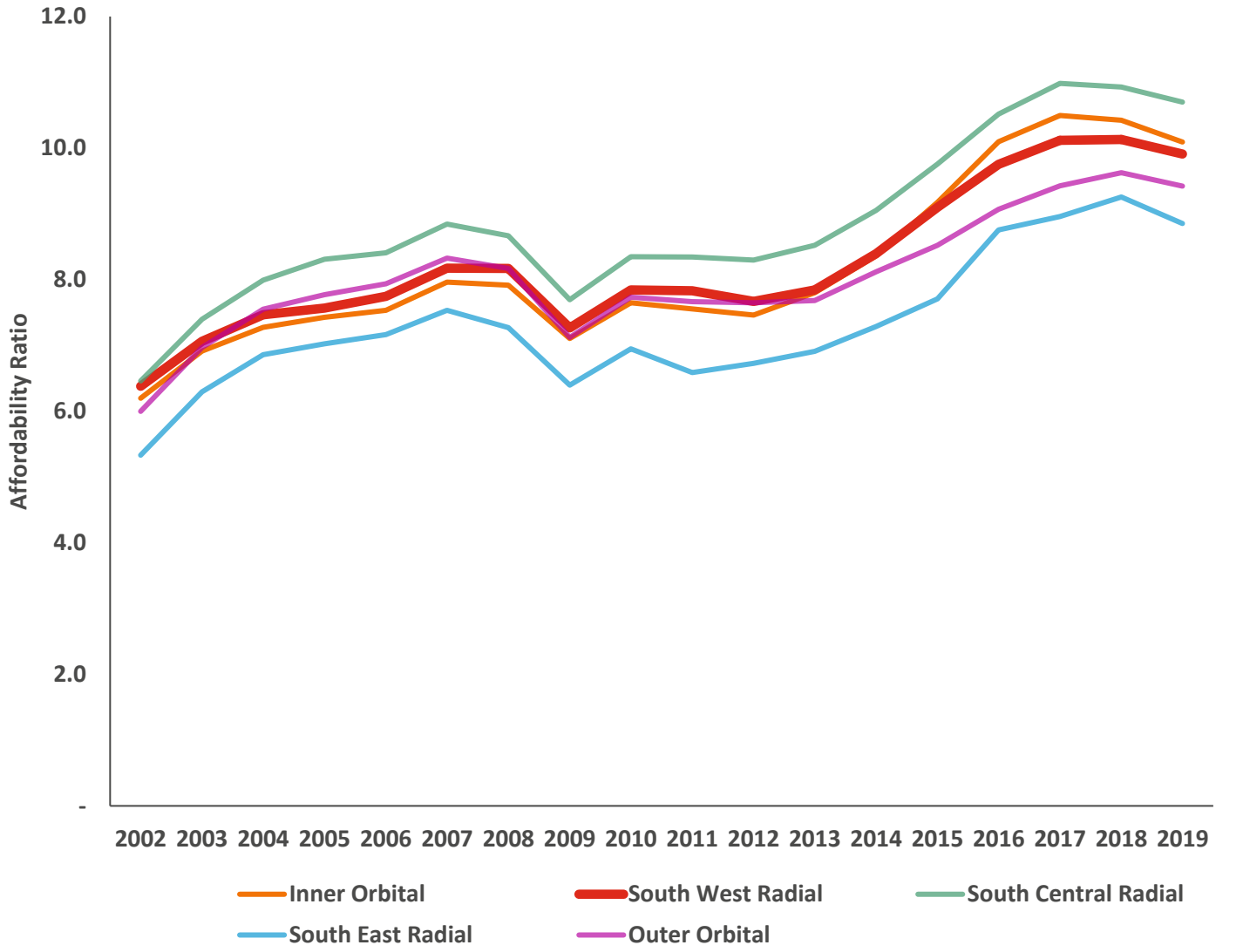
The affordability ratio is calculated using the median house price divided by the median resident earnings. This ratio has been growing for all corridors in the past decade, indicating that housing is becoming more unaffordable.

This increase is predominantly driven by the supply of housing not meeting demand. This has subsequently led to house prices increasing almost twice as fast when compared with resident earnings.

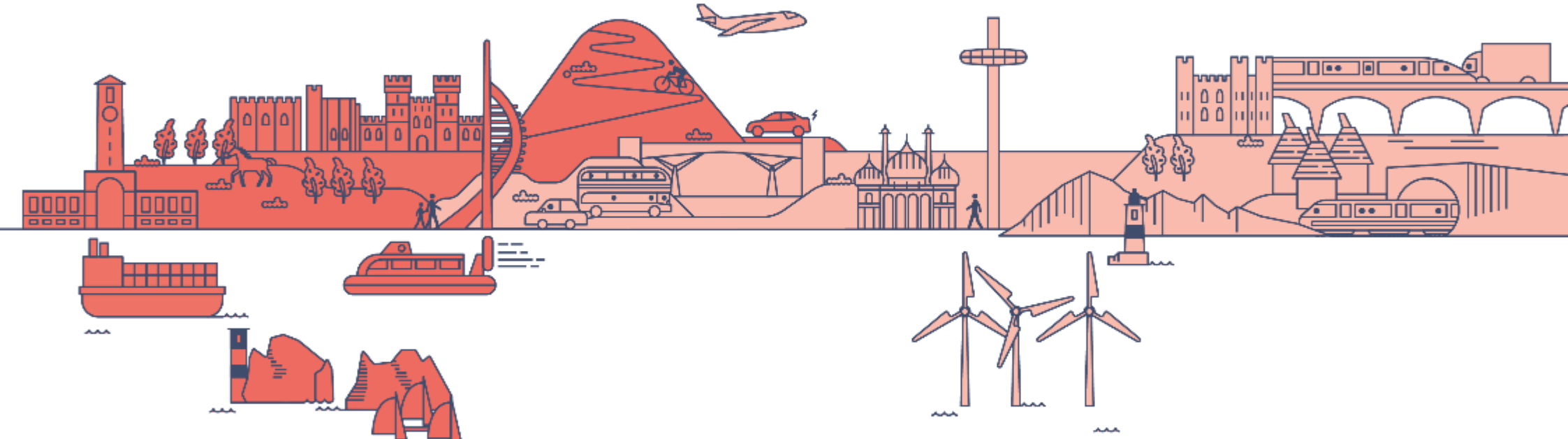
In 2019, the least affordable housing in relation to earnings were in the areas closest to London, with the ratio in Mole Valley being in excess of 15:1, Elmbridge in excess of 14:1 and Epsom and Ewell being in excess of 12:1.

In contrast, the most affordable housing is along the south coast,, with Southampton, Portsmouth and Gosport all having a ratio of under 8:1. However, prices here have still significantly increased over the past two decades, relative to earnings.

**Figure 1.5:** Housing Affordability ratio over time in the South East Region




Source: ONS House Price Existing Dwellings to Residence Based Earnings Ratio (2019)



# Part 1c

## Social Context

# Social Context

## Deprivation

**This area has generally low levels of deprivation, although there are pockets of deprivation in urban areas on the coast.**

**Figure 1.6** highlights the most deprived areas of the South West Radial Area. While deprivation is relatively low in this area. there are some highly concentrated areas of significant deprivation in urban areas on the South Coast (and some areas in Reading and the Isle of Wight).

However, it is important to recognise that, these figures might not capture the full extent of deprivation in the area. For example, there are small pockets of deprivation on the Isle of Wight, but due to the majority of its population living in the urban areas such as Newport, this may actually cover a high proportion of the population.

Poor transport connectivity can be a factor which significantly limits an area's prosperity, acting as a barrier to employment opportunities and services. It is therefore important that these areas are prioritised for transport investment. However, it is acknowledged that transport investment, on its own, is rarely enough to address long standing socioeconomic problems. That the majority of these deprived 'pockets' are in urban areas means that there are additional drivers of deprivation.

## Air Quality

**There are significant air quality challenges in the South West Radial Area, particularly in urban areas.**

**Figure 1.7** shows the location of Air Quality Management Areas (AQMAs) in the South West Radial Area.

There are multiple AQMAs in this area, particularly around the urban areas along the coast (notably Southampton and Portsmouth) and around the northern end of the area (Slough and Elmbridge). These are two of the most heavily urbanised areas of the corridor, and therefore have the highest densities of housing, transport and industry.

High levels of motorized travel, particularly diesel engine vehicles, are one of the highest contributors to poor air quality, and many of the poorest air quality is found where large interurban corridors and strategic roads pass through urban areas, where particulate matters cannot readily dissipate.

That said, in general, the South West Radial Area has relatively good air quality. This is thanks to the large number of rural and/or designated protected areas that are present in this area.

## Safety

**Highway collisions are a significant problem in some parts of the South West Radial Area, especially around the largest urban areas.**

**Figure 1.8** shows the location of collision hotspots in the South West Radial Area**.** There are several hotspots distributed along the corridor, particularly in and around urban areas.

There are a significant number of hotspots in Southampton and Portsmouth as well as Reading, Guilford and Epsom and Ewell.

This relatively high concentration of accidents around urban areas is likely reflective of the fact that there are more junctions and intersections, and therefore more opportunities for collision around these urban areas. There are also high concentrations of traffic in these areas, which means that the probability of collisions is higher.

Infrastructure interventions to improve road safety, appropriate speed limits, and lower car usage, is likely to improve the rates of accidents around these urban areas.

**Figure 1.6:** Indicators of Multiple Deprivation

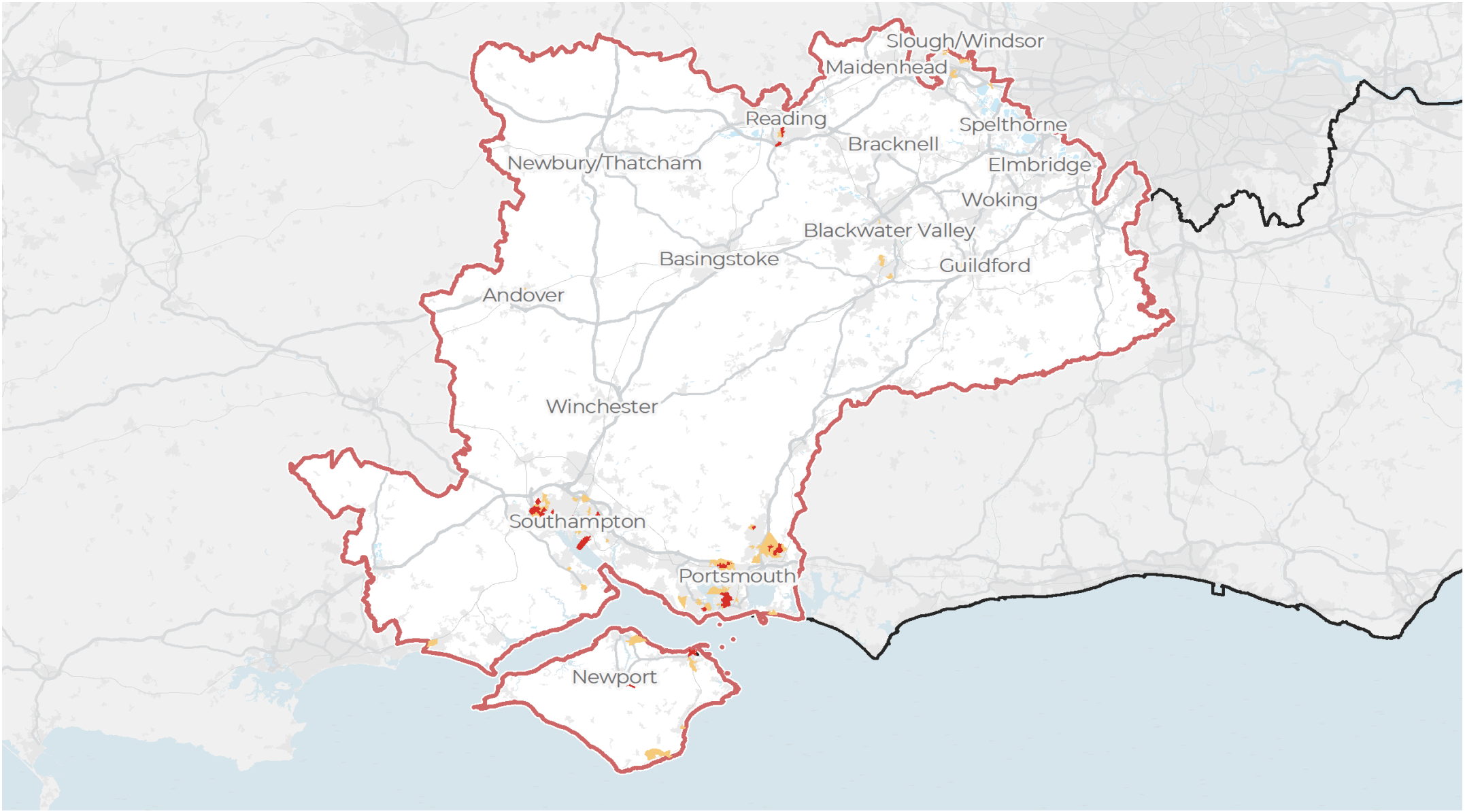



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**Figure 1.7:** Air Quality Management Areas

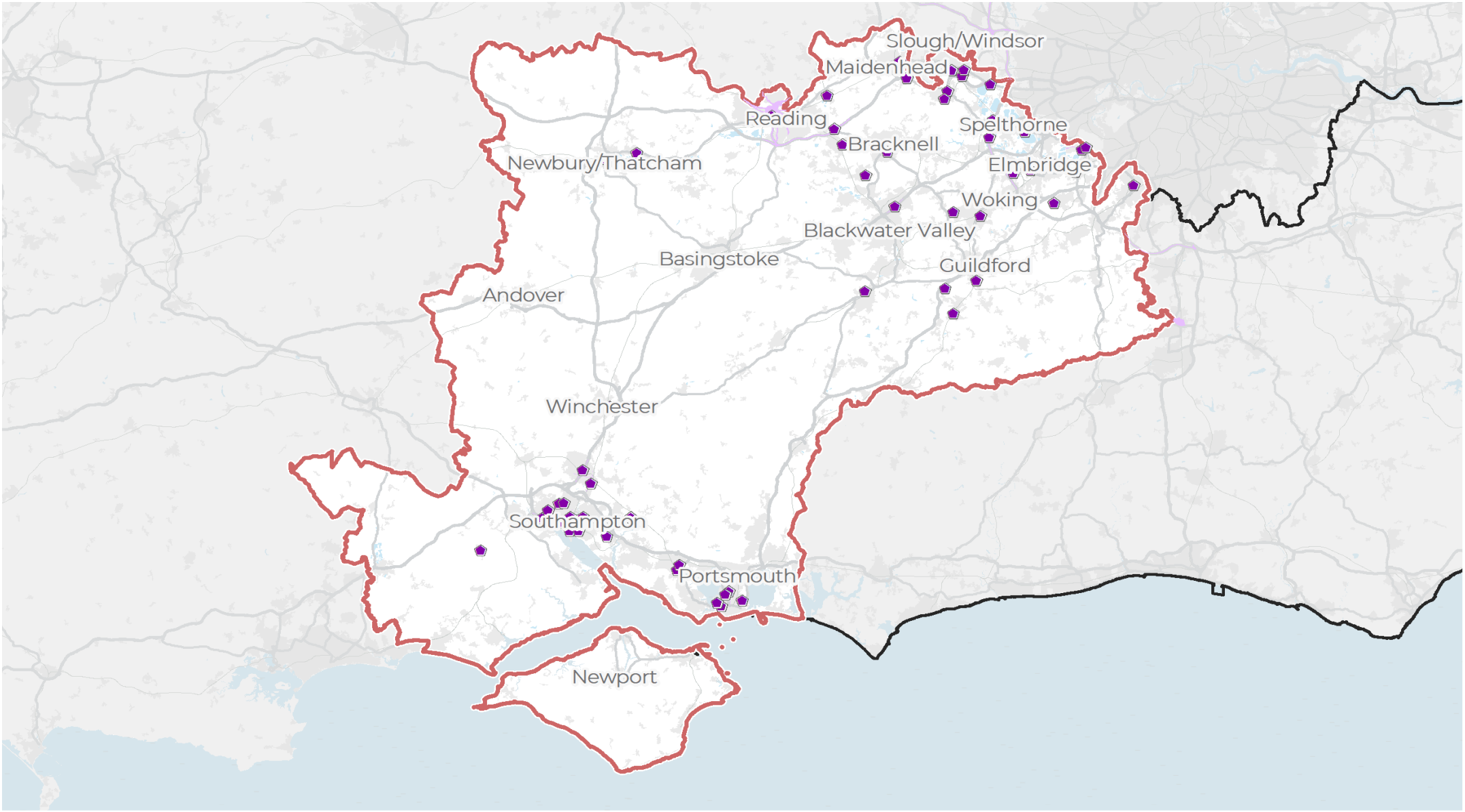


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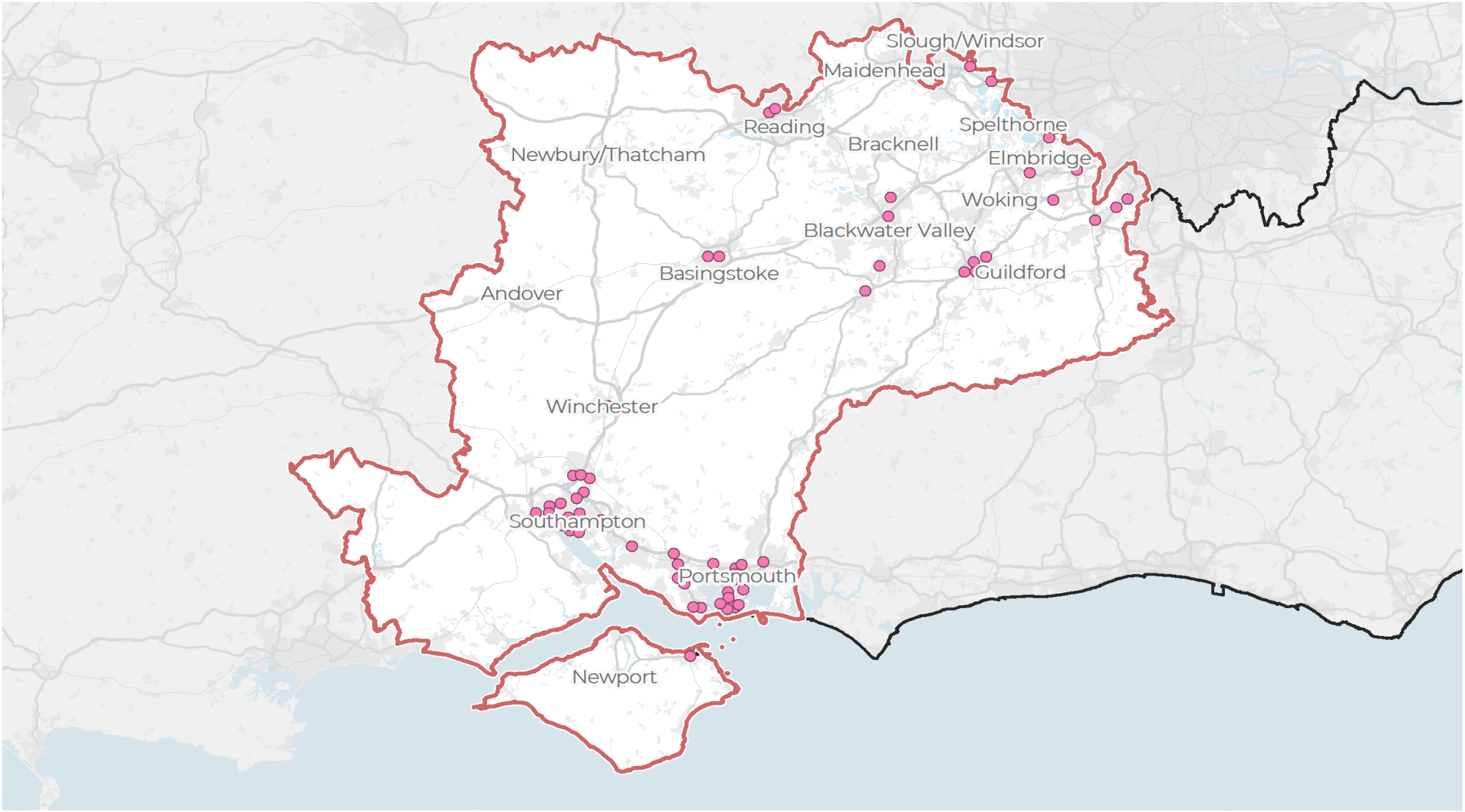
**Figure 1.8:** Collision hotspots

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# Part 1d

## Environmental Context

# Environmental Context

## Protected Areas, Landscapes, Ecology

**The South West Radial Area has a rich natural environment that is cherished by local residents and visitors.**

**Figure 1.9** shows Protected Areas and **Figure 1.10** shows Landscape Character Areas of the area. Key features of this area include:

- 2 National Parks;
- 5 Marine Conservation Areas;
- 6 Areas of Outstanding Natural Beauty;
- 7 Ramsar sites;
- 176 Special Protection Areas;
- 41 National Nature Reserves;
- 199 Special Areas of Conservation;
- 681 Sites of Special Scientific Interest; and,
- 8,776 Ancient woodland sites.

The South East (as a whole) has more than 60% of the nation's vegetated shingle resource; more than 15% of its coastal and floodplain grazing marsh; 16% of coastal lagoons; and over 10% of England's intertidal mudflats.

## Heritage

**The area has a very rich natural and historical heritage.**

As **Figure 1.11** shows, the area has a rich cultural heritage. The area is home to:

- 2 registered battlefields; Battle of Cheriton, 1644; Battle of Newbury, 1643.
- 2 Heritage Coast area (Sussex Coastline);
- 151 registered parks and gardens;
- 199 special areas of conservation;
- 1050 scheduled monuments; and,
- 23,572 listed buildings.

The area is also home to:

- The Isle of Wight steam railway, Royal Victoria Railway in Southampton and the Exbury Gardens Railway; and
- Internationally renowned festivals such as Cowes Week, the Isle of Wight Festival, and Boomtown.

Providing access to and from these areas and events is fundamental for the region's development and wellbeing of citizens.

## Flood Plains

**There are major flood risks on large sections of the corridor.**

As illustrated by **Figure 1.12**, in addition to the flood risks along the coast, the corridor is home to numerous rivers, contributing to several areas at high risk of flooding.

This is particularly true of the river Thames near Maidenhead, the River Test, and areas around Portsmouth and Chichester harbors.

There is a consensus in the scientific community that incidents of extreme weather will only increase as the impact climate change starts to materialise globally, meaning that there is an increasing likelihood of severe flooding in the area.

**Figure 1.9:** Protected Areas

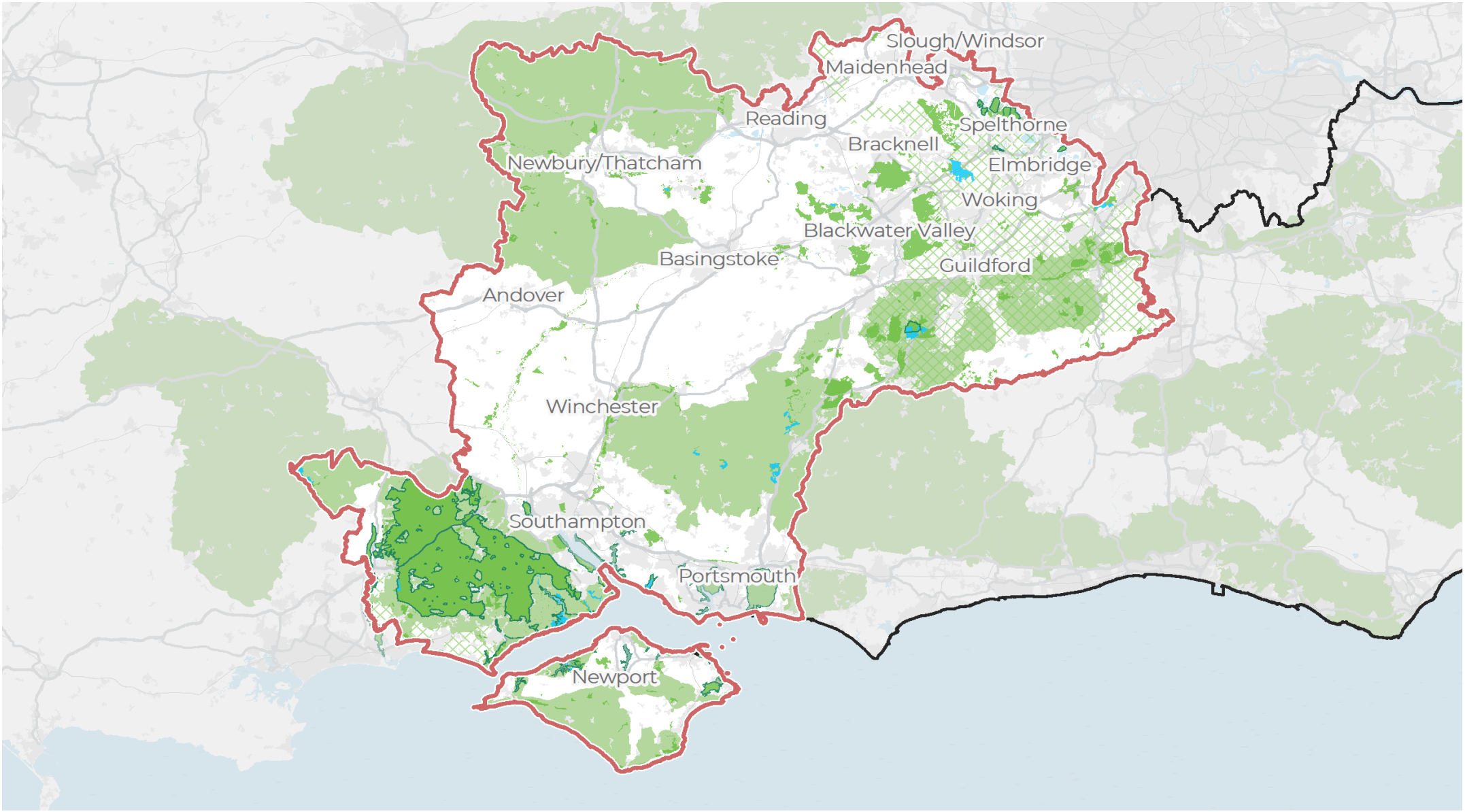


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**Figure 1.10:** Landscape Character Areas

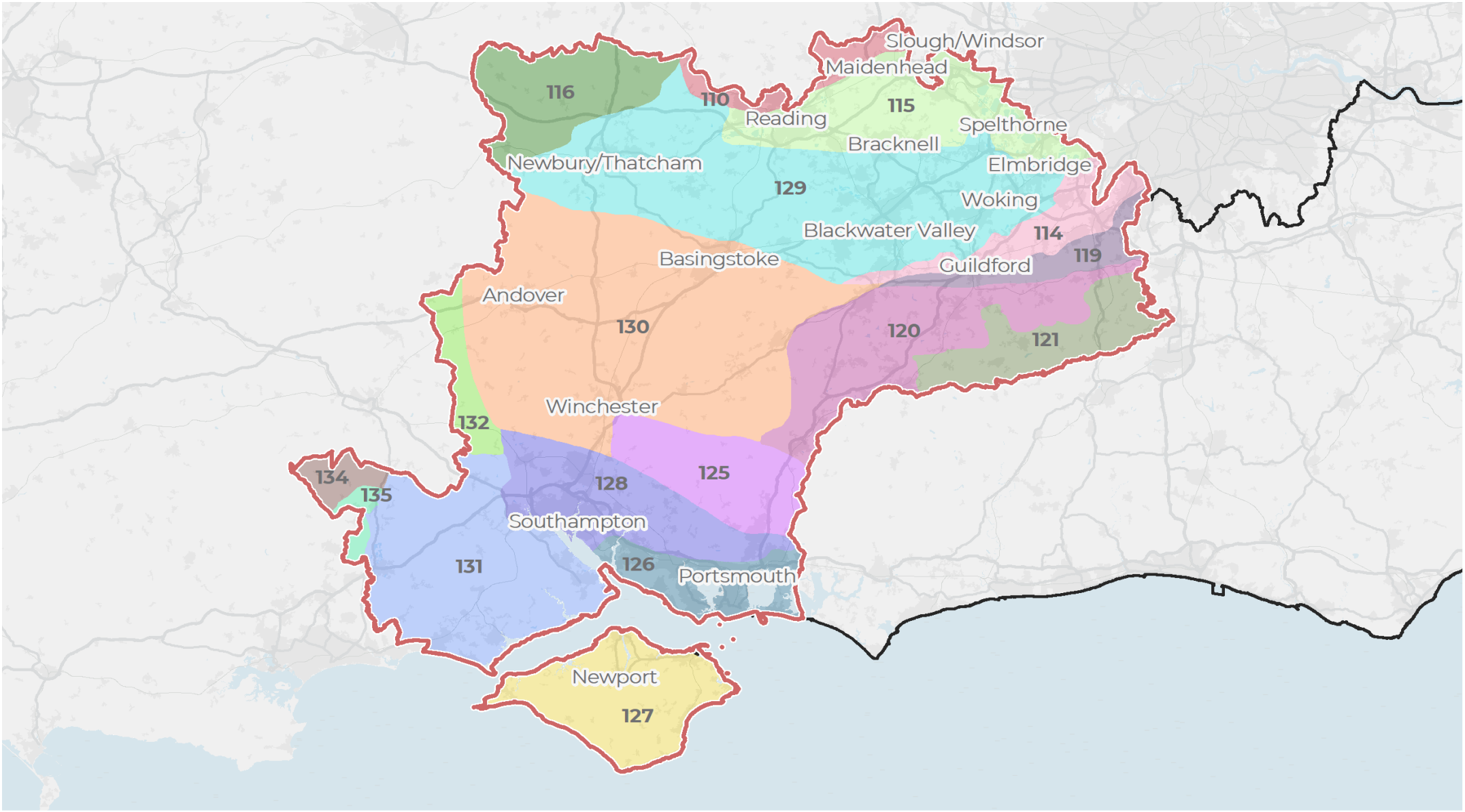

**Figure 1.11:** Heritage

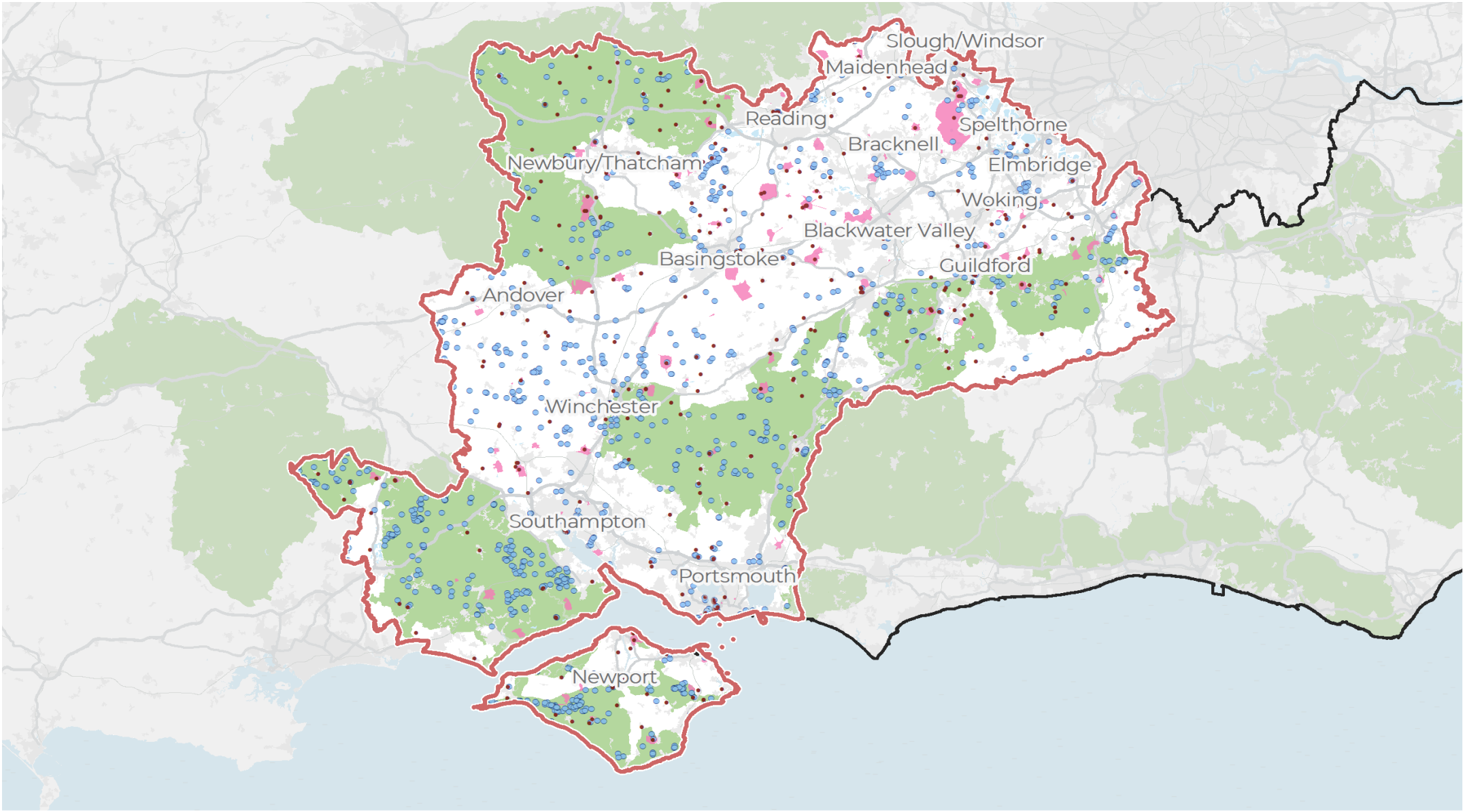


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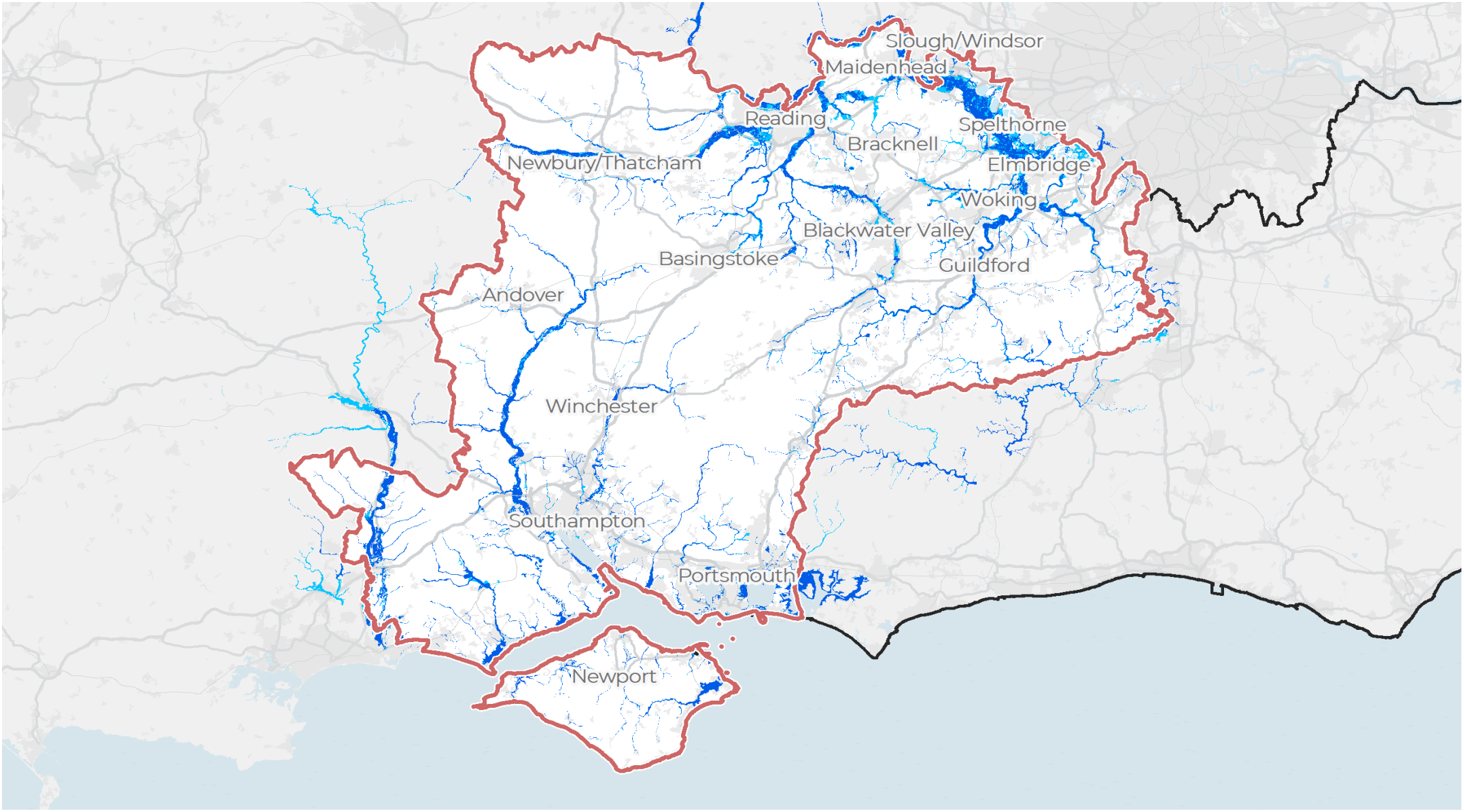
**Figure 1.12:** Flood Risk Areas




TfSE area
South West Radial area
Flood zone 3
Flood zone 2

Zone 2 - 0.1 - 1% chance of flooding each year
Zone 3 - > 1% chance of flooding each year from rivers, or >0.5% chance of flooding each year from sea

0 5 10 15 20 25 km
0 5 10 15 Miles

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# The Carbon Challenge

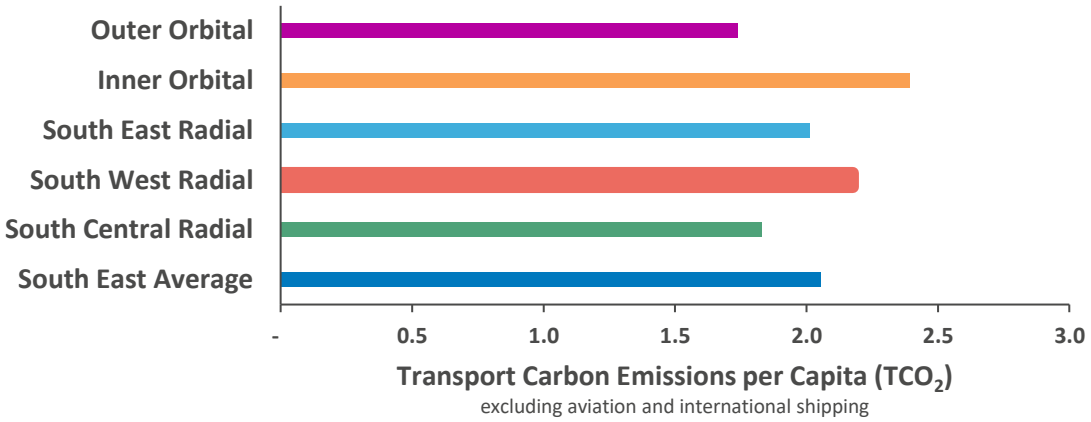
## Current Carbon Emissions

**In 2018, the South West Radial Area's transport network emitted more carbon per capita than the South East overall.**

8,414$TCO_2$ were emitted by transport in 2018 in the South West Radial Area, making up 47% of total carbon emissions. This is in line with other sub-regions in the South East. **Figure 1.13** provides a breakdown of transport carbon emissions per capita for each area of the South East.

61% of transport emissions are classed as minor road carbon emissions in the South West Radial Area. This is higher than the South East average (58%), indicating high coverage of major roads across the corridor, and different/lower levels of transport demand along these roads.

**Figure 1.13:** Transport Carbon Emissions South East Area




Source: BEIS (2018)

## Current Carbon Trajectory

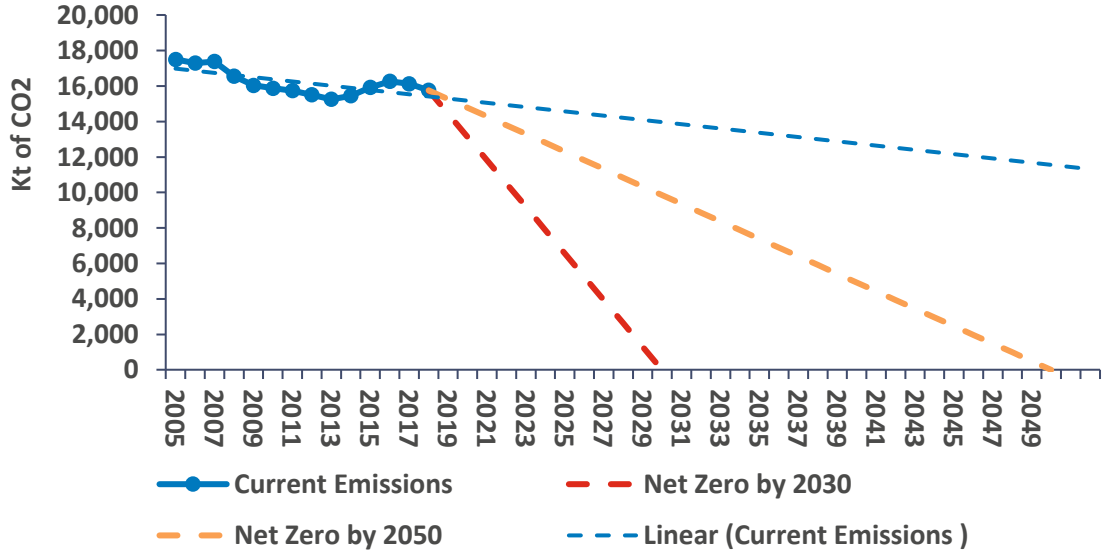
**As Figure 1.14 shows, reaching a net zero carbon transport network by 2050 (yet alone 2030) will be very challenging.**

Carbon emissions from transport in the South East are declining, but not at a rate fast enough to reach net zero by 2050 or 2030.

Economic growth and carbon emissions have become decoupled at both a national and regional scale (since 1990 the UK Economy has grown 72% while the country's carbon emissions have dropped by 42%) meaning that decarbonisation should be seen as an economic opportunity, rather than a burden.

At the time of writing in July 2021, all of the local authorities in the South West Radial Area have declared Climate Emergencies and set targets to reach net-zero carbon emissions by 2050 (in some cases, much earlier).

**Figure 1.14:** Carbon Emissions Trajectory for the South East Area




Source: BEIS/DEFRA (2019)

# Part 1e

## Transport Networks

# Transport Networks

## Highways

**The South West Radial Area is heavily dependent on the M3, A3 and the A34.**

**Figure 1.15** shows the key highways in the South West Radial Area and highlights several congestion hotspots on strategic/major roads.

The M3 connects London and the M25 with Woking, Blackwater Valley Basingstoke, Winchester, and Southampton.

The A3 connects London to Portsmouth via Guildford. The A3 provides relatively high capacity along its route with Guildford being a particular pinch point where the 3 lane dualled road goes down to a 2 lane dualled road. Additionally, the A3 is used by local traffic to navigate Guildford as well as through traffic on the A3 often causing congestion.

The M4 connects London with Slough/Windsor, Maidenhead, Reading and Newbury/Thatcham and the A34 connect Oxford to Newbury, Winchester and Southampton.

The A33 and the A339 highways connect the M3 to the M4 further north. They also serve fast growing towns such as Newbury and Reading.

## Railways

**The South West Mainline forms the railway spine of the South West Radial Area.**

The South West Main line supports fast and local services between London with Southampton with routes also serving Winchester, Basingstoke and Woking. Services continue along the coats passed Southampton to Bournemouth and Weymouth. The Portsmouth Direct Line branches from the South West Main line and provides a link from Woking to Portsmouth. The Great Western Mainline links London to Reading and Newbury and onto the West Country.

**Figure 1.16** presents the average speed of rail journeys along rail corridors in the South West Radial Area and highlights the disparity in speeds between the South West Main line and the Portsmouth Direct line in particular. **Figure 1.17** presents a map of the rail network and station usage in 2019/20. In this year the busiest passenger stations were:

- Reading (16.8m);
- Woking (7.3m);
- Guildford (6.9m);
- Southampton (6.3m);
- Basingstoke (5.7m);
- Slough (5.5m); and
- Winchester (4.8m).

## International Gateways

**The South West Radial Area is home to the ports of Southampton and Portsmouth, two of the busiest ports in the UK.**

**Figure 1.18** shows the international gateways in the area. Southampton and Portsmouth are the busiest freight and passenger gateways in the South West Radial Area. Southampton handles the highest tonnage of freight in the South East, with 34.5 million tonnes in 2018 and served 1.9 million cruise passengers in 2018. Portsmouth handles 3.5 million tonnes of freight in 2018 and 1.8 million passengers in 2018.

Southampton is generally well served by the transport network. It is directly served by the M3 motorway, and the South Western Line railway, which connects the port to London, several major stations in the South East, and several destinations to the north of London. The A34 and rail routes are heavily used as freight routes up the midlands from the port of Southampton. Portsmouth is served by the A3 and is connected to London via the Portsmouth Direst Line.

The corridor is home to Southampton airport which carried just under 2 million passengers in 2018. The area is also home to Farnborough airport, and ferry ports on the Isle of Wight at Ryde, Fishbourne, East Cowes, Cowes and Yarmouth.

**Figure 1.15:** Highway Network and Congestion

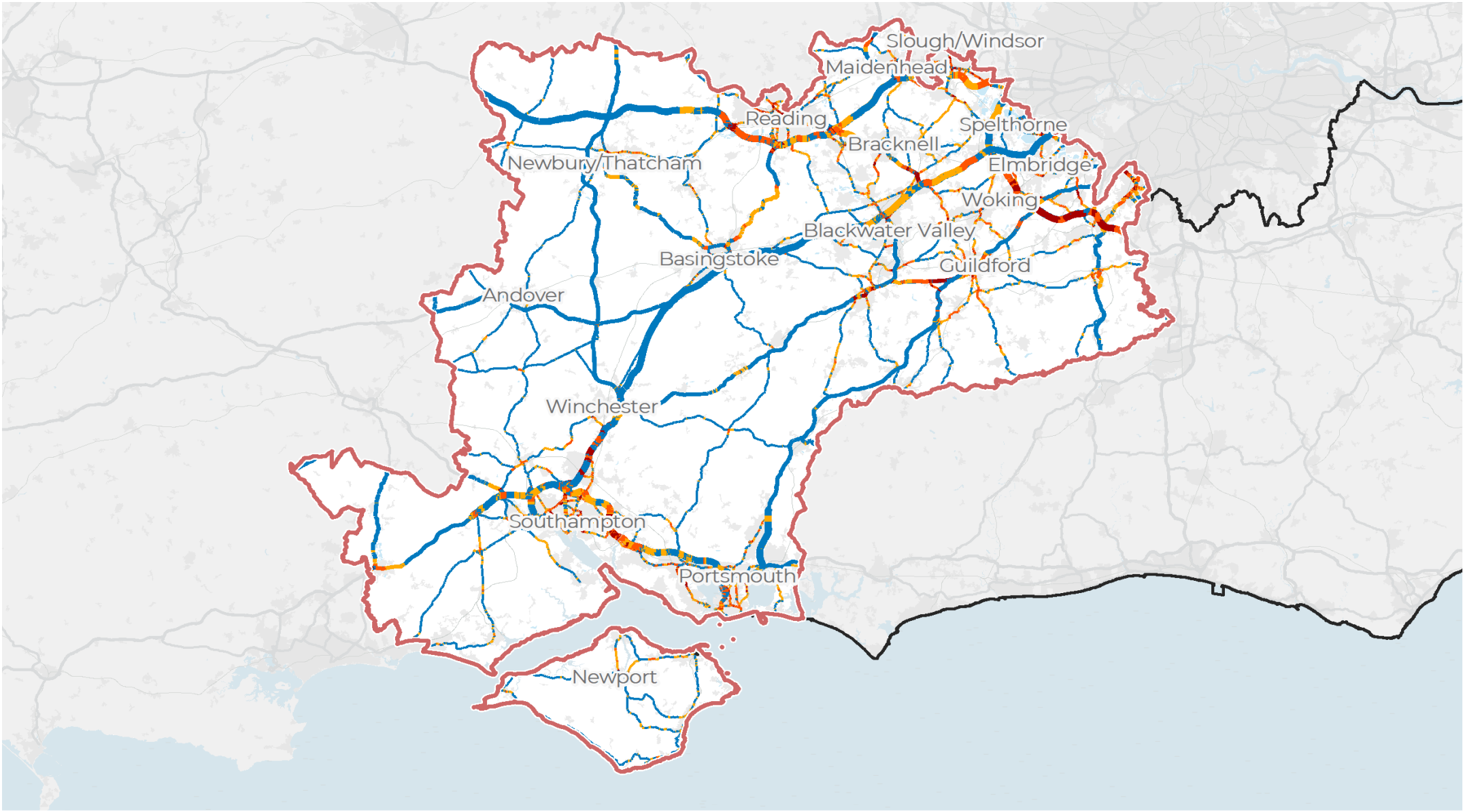



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**Figure 1.16:** Average speed of rail journeys along rail corridors in the South West Radial Area

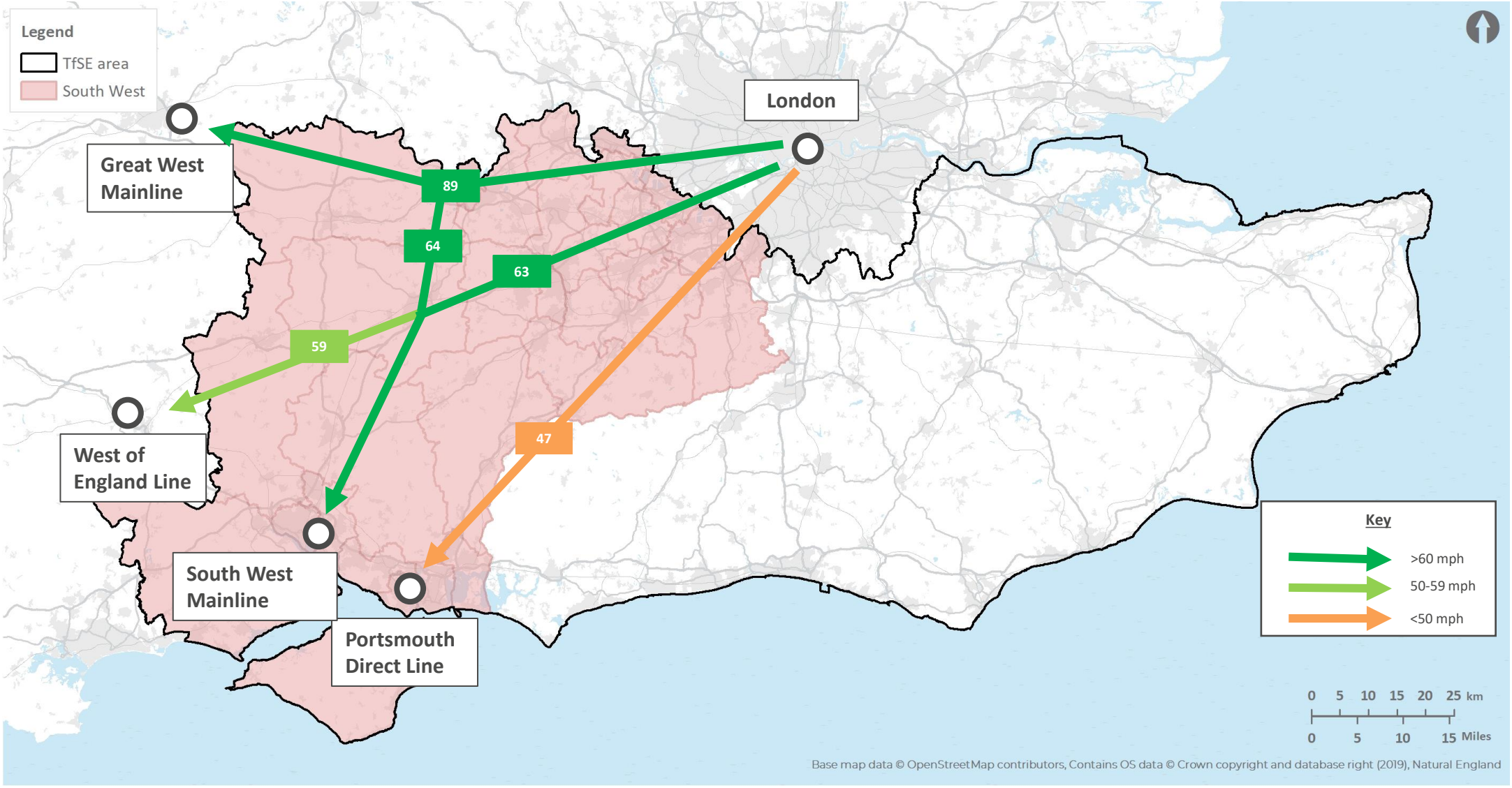

**Figure 1.17:** Railway Network and Station Entries and Exits

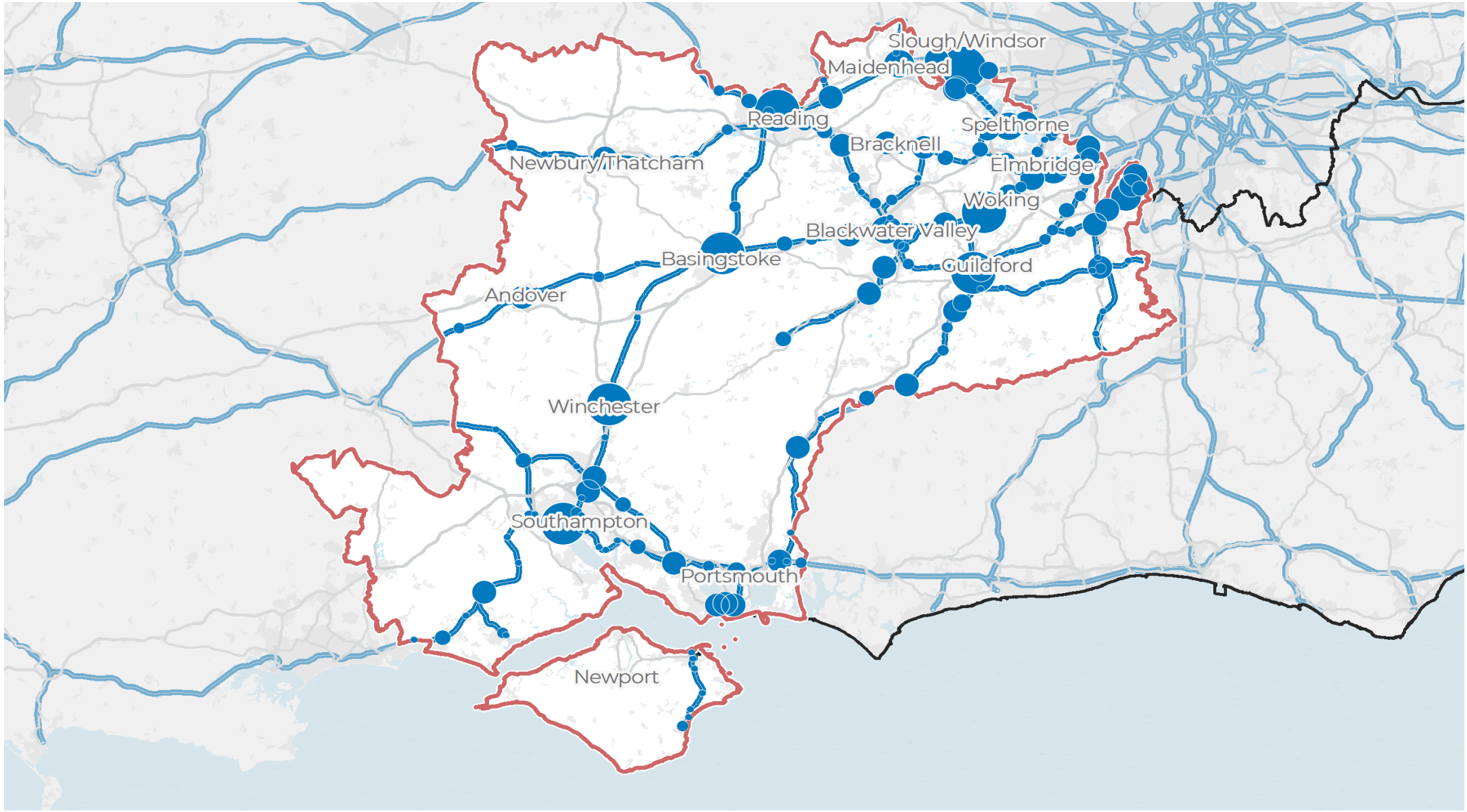


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**Figure 1.18:** International Gateways

# Part 1f

## Public Transport Access and Connectivity

# Public Transport Access and Connectivity

## Public Transport Access

**As might be expected, urban areas generally enjoy better access to public transport services than rural areas – but there are some interesting exceptions.**

**Figure 1.19** shows the average minimum journey time to key services by public transport (plus walking). Key services are defined as providers of retail, education, and health services. Unsurprisingly, access to these services is much faster in urban areas compared to rural areas.

**Figure 1.20** shows the difference in journey time between car and public transport access to the same services considered in **Figure 1.19**. Not only do people living in rural areas need to travel further for these services, the quality of public transport provision tends to be more limited.

**Figure 1.21** shows trends in bus use in the South West Radial Area. This shows some encouraging signs of growth in urban areas (e.g. Reading, Wokingham, West Berkshire and Southampton). However, Slough has also experienced significant decline given it is a more urban area. These differing trends could be due to a number of external reasons, such as an increase in the number of young people living in Reading for example. However, it is worth noting that the fall in bus patronage in Slough may have caused operators to reduce the number of services, which in turn makes bus an unattractive mode of transport for potential passengers.

## Catchment Analysis

**To help better understand how Public Transport connectivity varies across the South East, we conducted analysis of Public Transport connectivity to key urban hubs.**

**Figures 1.22** and **1.23** show the areas of South East England that can be reached by public transport for the following large urban areas:

- Portsmouth (**Figure 1.22**);
- Southampton (**Figure 1.23**);
- Guildford (**Figure 1.24**);
- Reading (**Figure 1.25**).

This analysis examines how easy/difficult it is to travel from a given point using public transport (and walking). Using isolines, it shows how far it is possible to travel by 0-30 minutes, 31-60 minutes, and 61-90 minutes.

In general, spaces where this catchment covers a larger area, it also likely includes a wider range of opportunities and amenities.

**The results of this analysis clearly show that that Public Transport provision is not equitable between urban areas across the South East.**

**Portsmouth** has good connectivity east and West, However, it suffers from significantly poorer connectivity in a North-South direction.

**Southampton** has excellent connectivity North and South, and good connectivity in an East-West direction and is much better connected in general than Portsmouth.

Both have relatively good connectivity for with east – west movement (sometimes referred to as orbital) movements. The Outer Orbital Area Study is examining east – west movements along the South Coast. This South West Radial study will consider north – west movements.

**Guildford** benefits from good radial links being located on the Portsmouth Direct Line offering connectivity to London to the north and Portsmouth to the south

**Reading** has excellent radial links with fast services into London, connectivity via Basingstoke to the south coast via the Great West Mainline to the West Country and via Didcot to Oxford and the West Midlands.

**Figure 1.19:** Public Transport Access

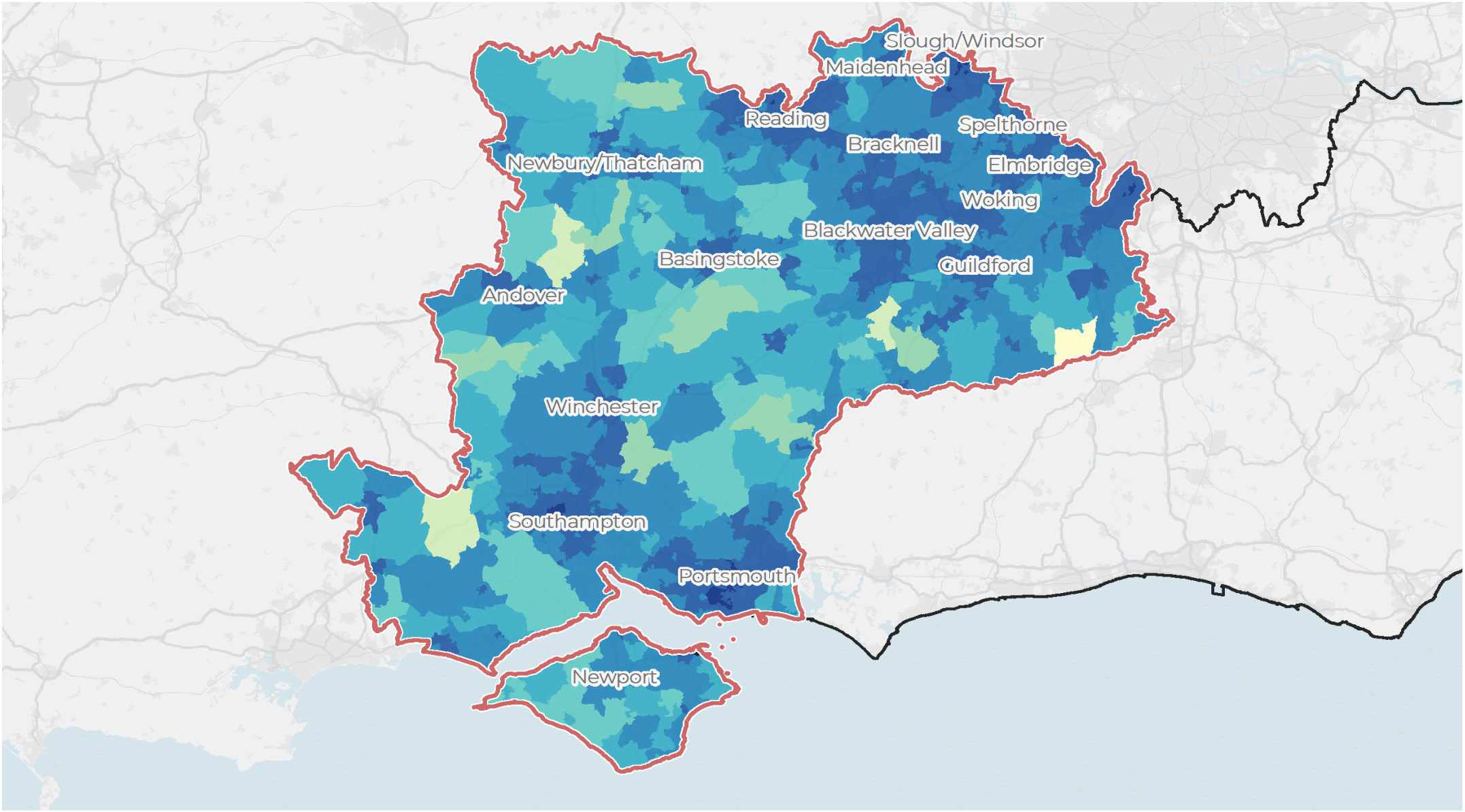

**Figure 1.20:** Comparison of Car and Public Transport options

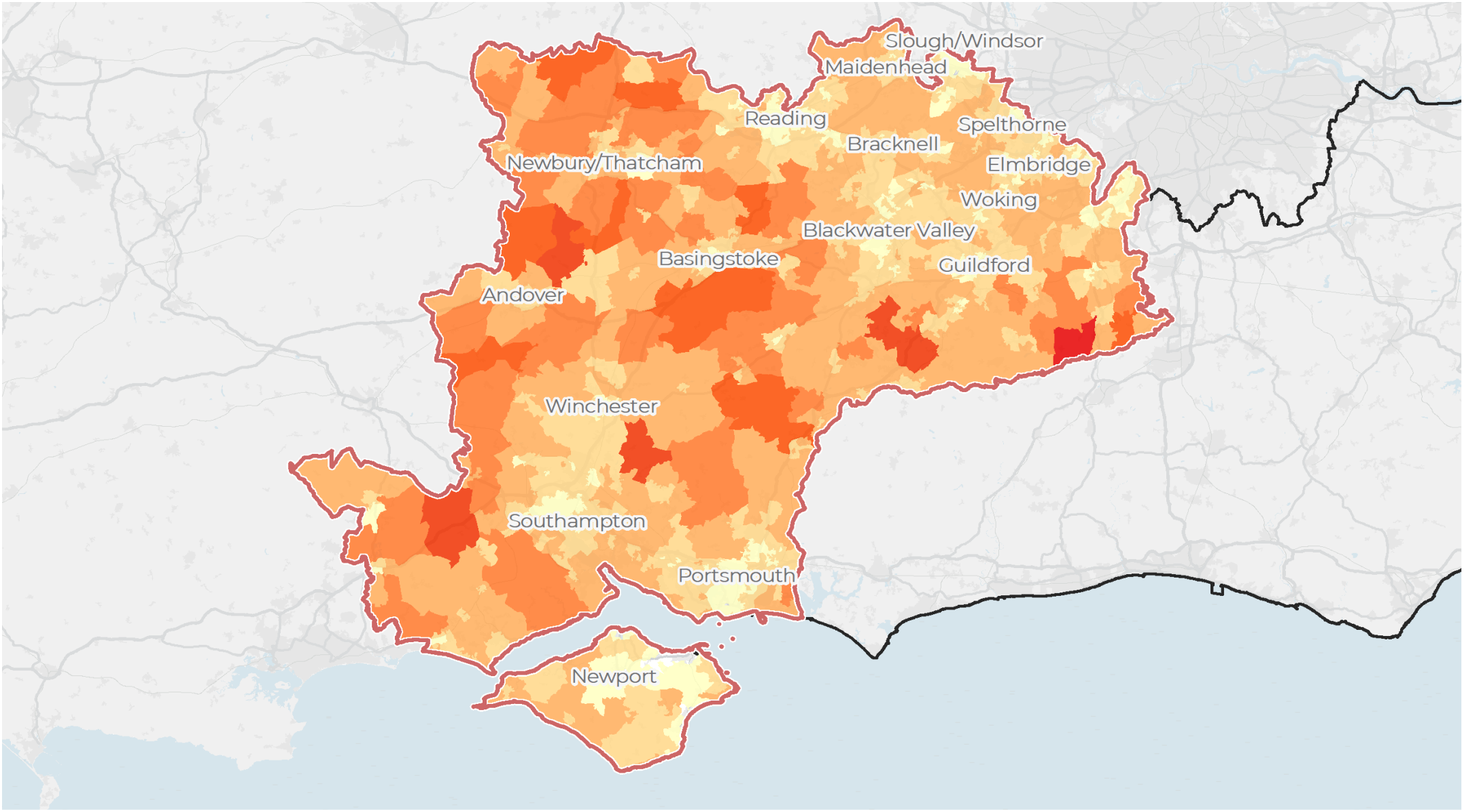

**Figure 1.21:** Annual Bus Passengers for Local Transport Authorities in the South West Radial Area

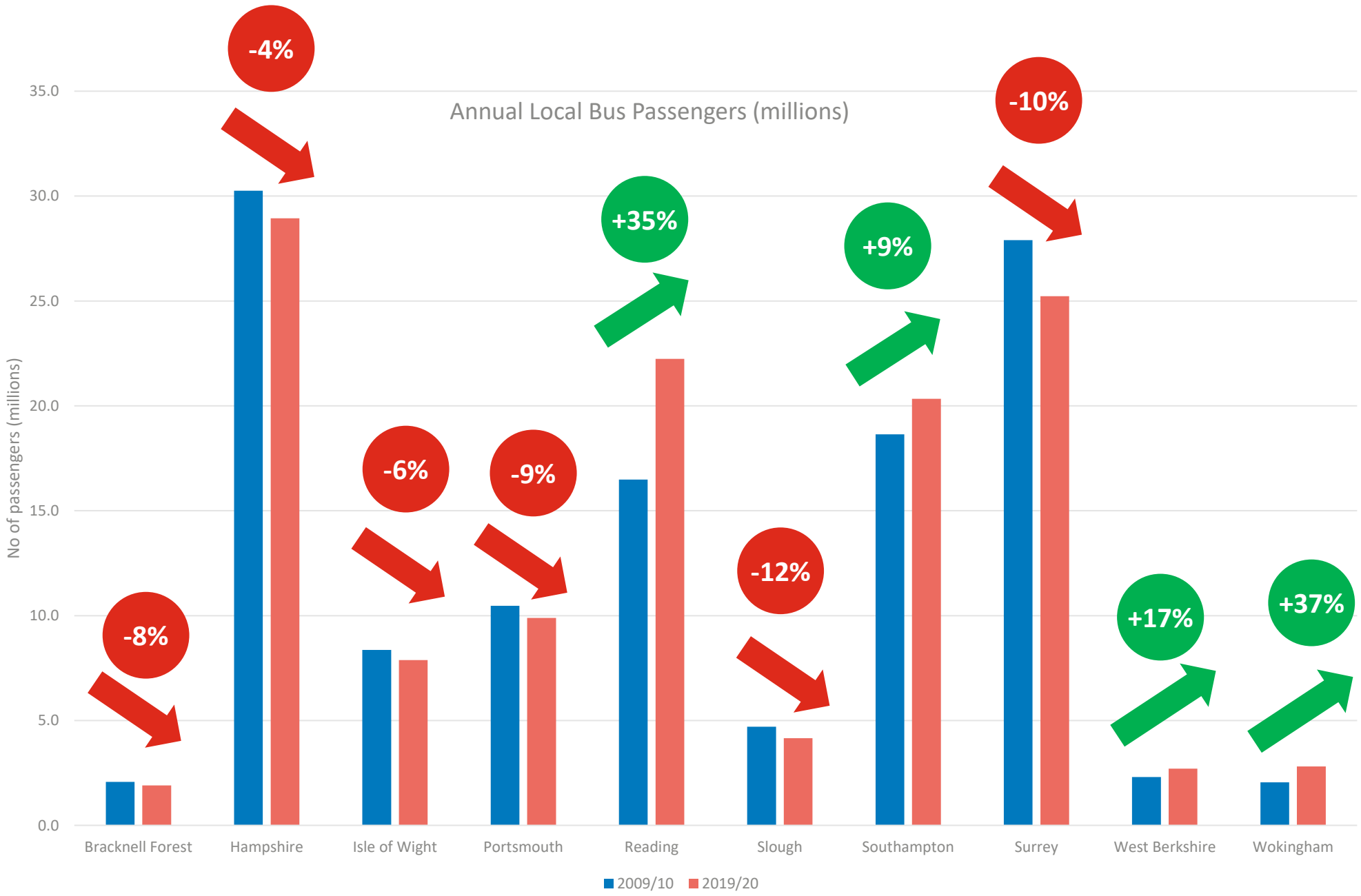

**Figure 1.22:** Portsmouth Public Transport Catchments

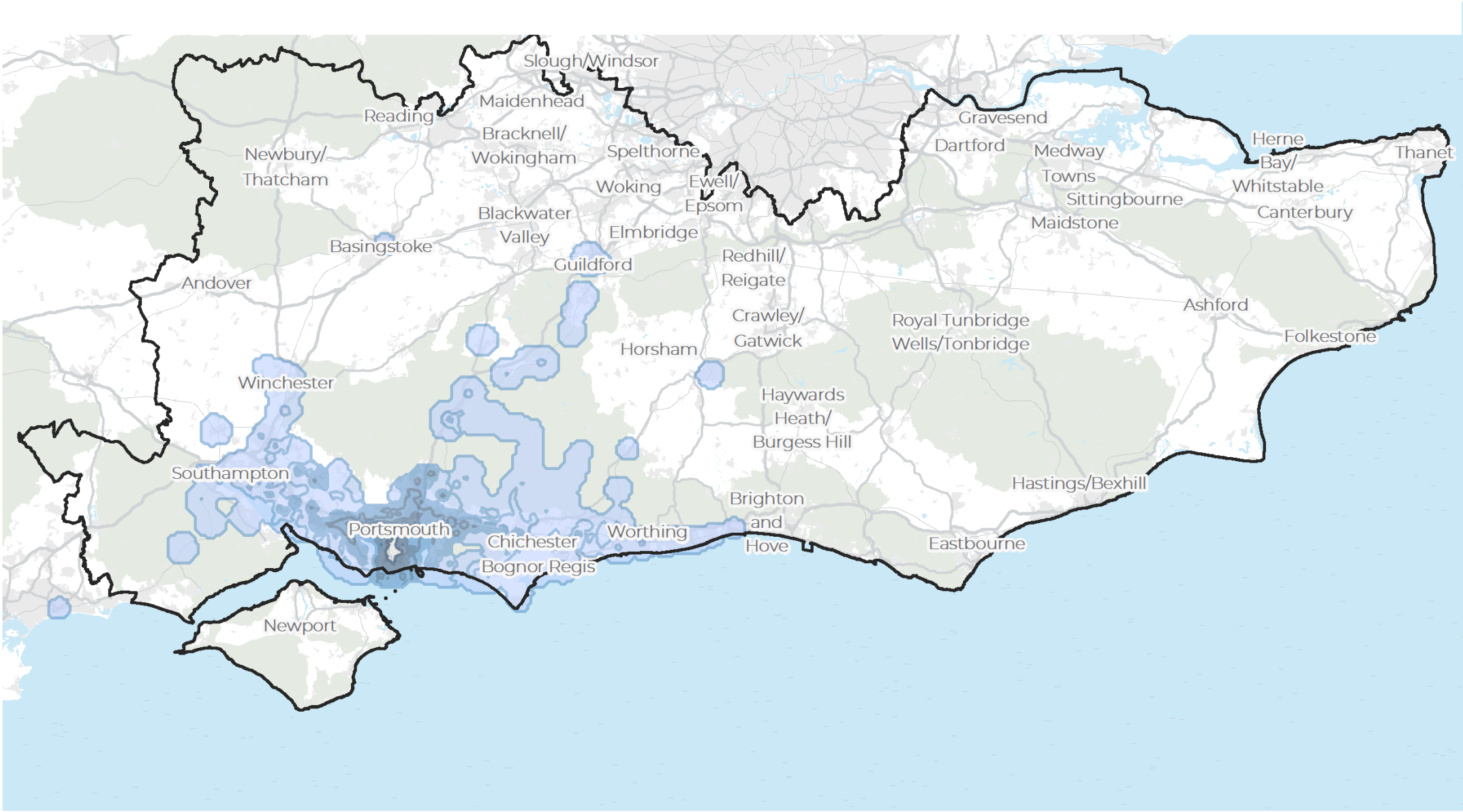


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**Figure 1.23:** Southampton Public Transport Catchments

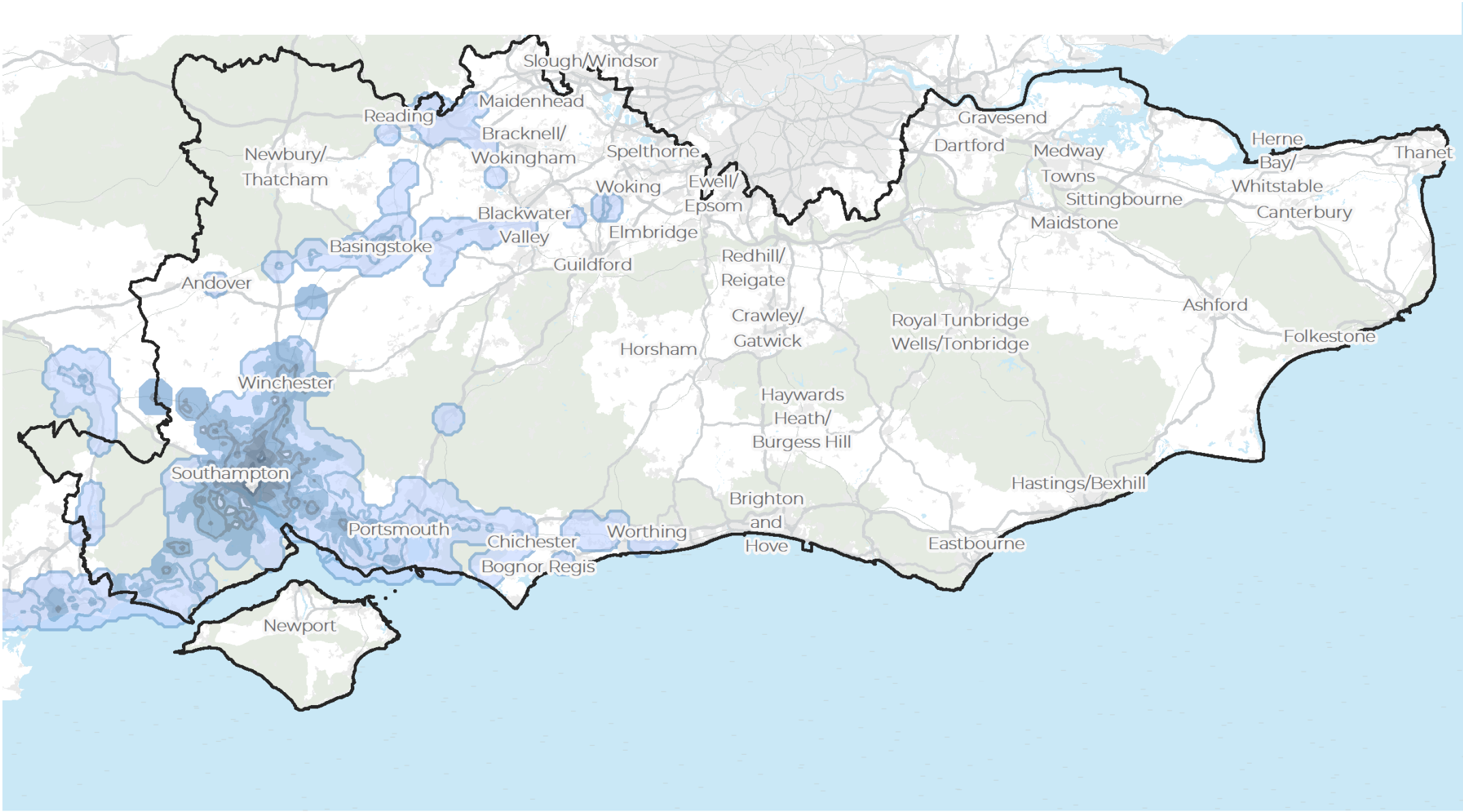


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**Figure 1.24:** Guildford Public Transport Catchments

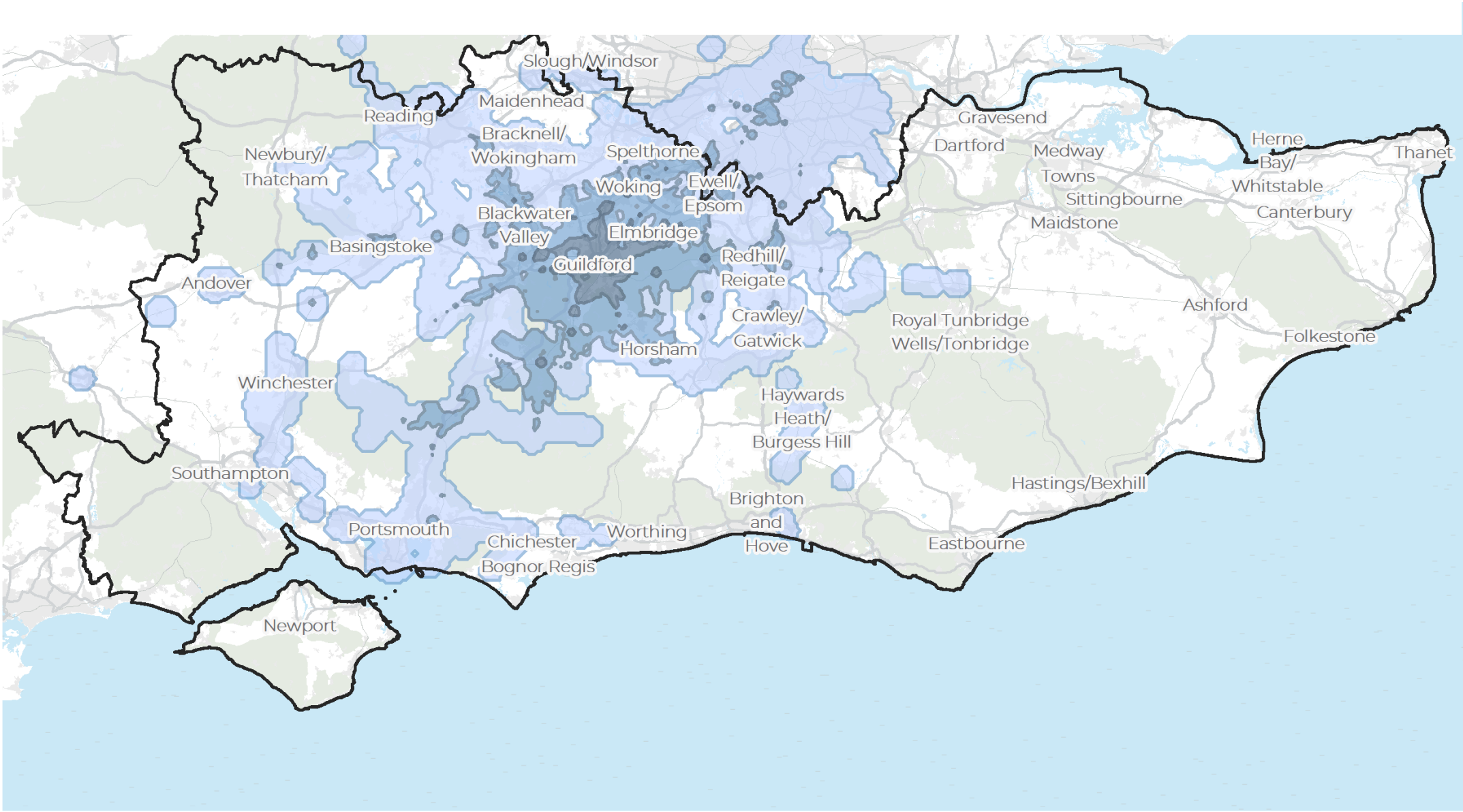
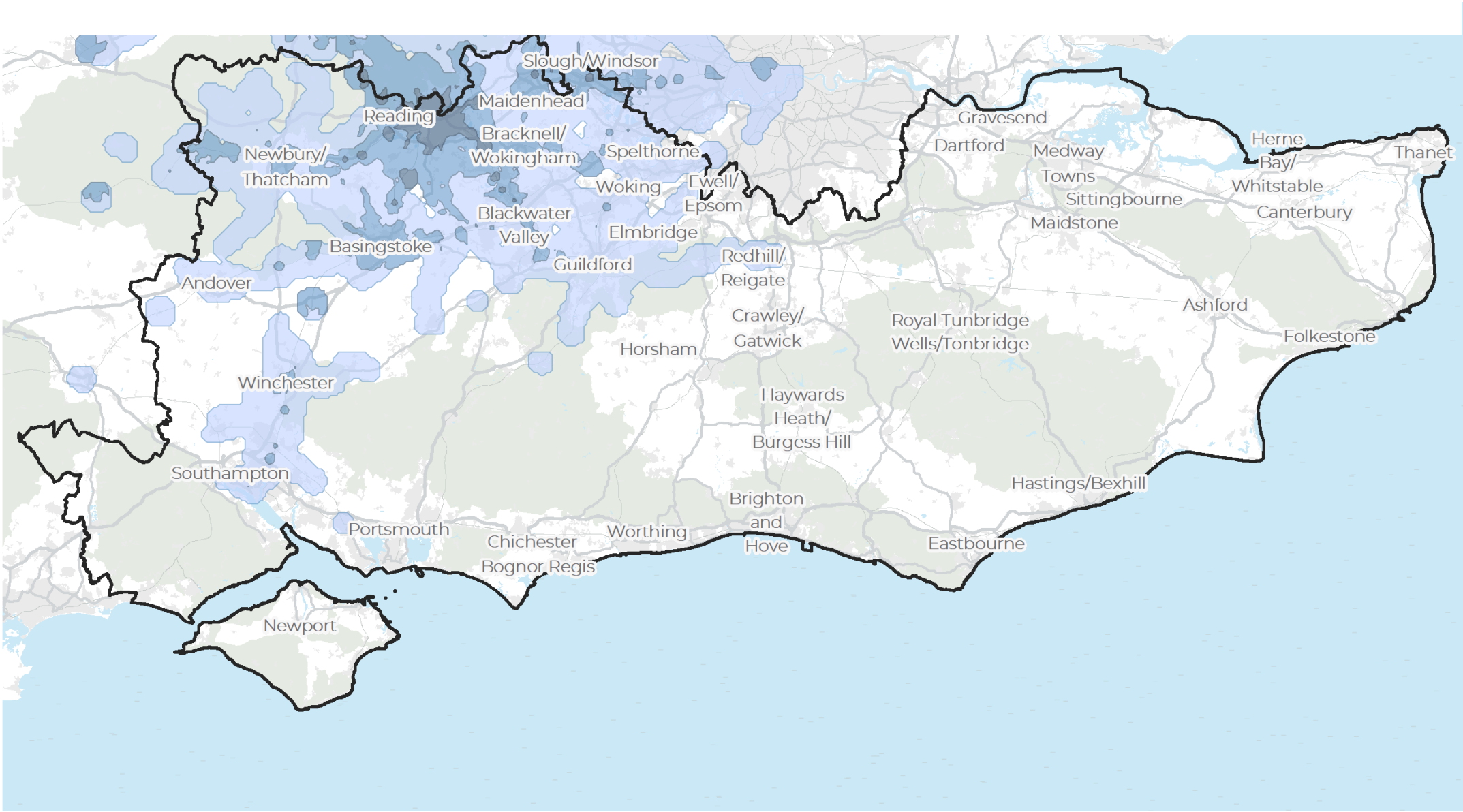


**Figure 1.25:** Reading Public Transport Catchments

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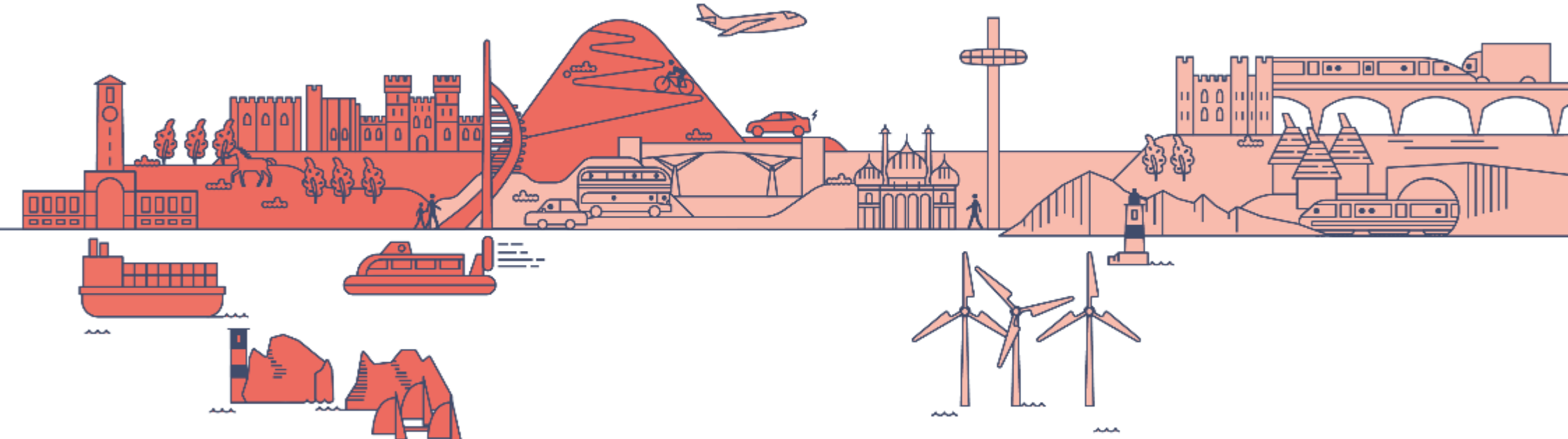


# Part 1g

## Travel To Work Analysis

# Travel To Work Analysis

## Travel To Work Flows

**There are significant Travel To Work flows across the South West Radial Area, particularly along its north – south axis.**

**Figures 1.26 – 1.31** show the largest Travel To Work Flows (sources from the 2011 Census) between the Major Economic Hubs in the South West. These include:

- Between Major Economic Hubs excluding South Hampshire and London (**Figure 1.26**);
- Between Major Economic Hubs and Greater London (**Figures 1.27** and **1.28**); and
- Within and around the South Hampshire built up areas (**Figure 1.29**).

While these flows focus on trips to and/from work, they illustrate some of the pressures on transport networks during peak hours.

The figures above highlight significant reliance of Travel To Work flows on the South West Mainline from hubs such as Woking and Guildford to London. This suggests public transport can support many large flows, although not all are easily accommodated by public transport for longer journeys such as Southampton and Portsmouth.

## Public Transport Provision

**Public transport provision for the largest Travel To Work flows in the South West Radial Area is variable.**

**Figure 1.30** presents the largest Travel To Work Flows presented in **Figures 1.26 – 1.29**. The colours of the arrows represent Steer's assessment of the quality of public transport options serving each flow. This was determined by comparing journey times for car to public transport options. Flows with competitive public transport journey times are shown as having a "good" assessment, and those with much longer public transport journey times are shown as "poor".

Public transport in the north of the South West Radial area often provides a better journey time than car with these routes largely being designated in the better half of the ratings.

However in the south of the South West Radial area the public transport provision is rated as much poorer compared to car journey times.

## Travel To Work Catchments

**Travel To Work Catchment areas tend to reflect the geography and quality of the transport networks that serve them.**

**Figures 1.31 – 1.43** show the catchment areas for the South West Radial Areas Major Economic Hubs. This shows output areas with ten or more journeys to/from the hubs on a typical working day. These include:

- Elmbridge (**Figure 1.31**);
- Ewell/Epsom (**Figure 1.32**);
- Guildford (**Figure 1.33**);
- Maidenhead (**Figure 1.34**);
- Newbury/Thatcham (**Figure 1.35**);
- Newport (**Figure 1.36**);
- Portsmouth (**Figure 1.37**);
- Reading (**Figure 1.38**);
- Slough/Windsor (**Figure 1.39**);
- Southampton (**Figure 1.40**);
- Spelthorne (**Figure 1.41**);
- Winchester (**Figure.1.42**); and
- Woking (**Figure.1.43**).

The sizes and shapes of these catchment areas vary and seem to align with the public transport and highways that serve them (e.g. many stretch more north/south than east/west).

**Figure 1.26:** South East largest Travel To Work flows (Census, 2011) – excluding South Hampshire and flows to/from London

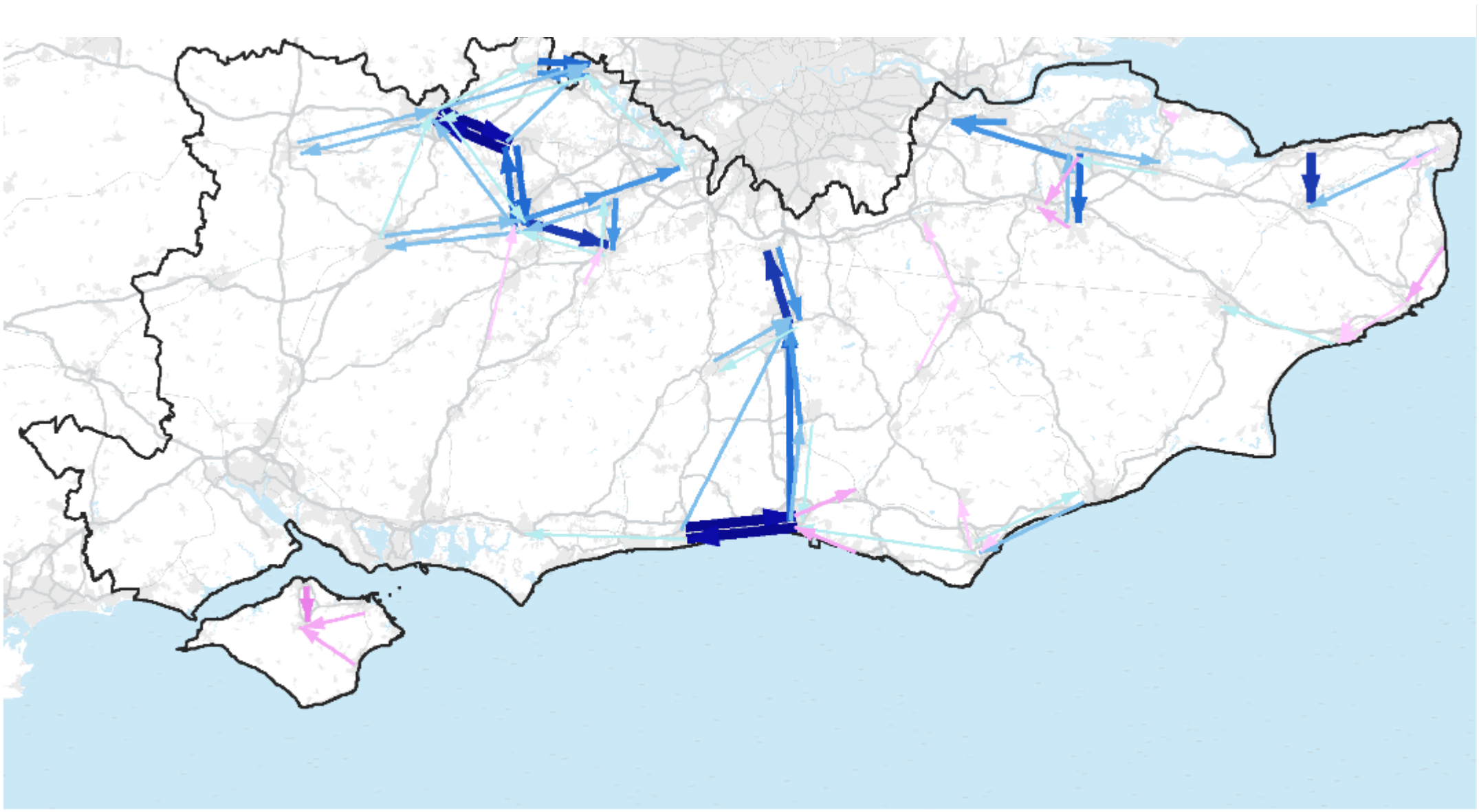


**Figure 1.27:** South East largest Travel To Work flows to London (Census, 2011)

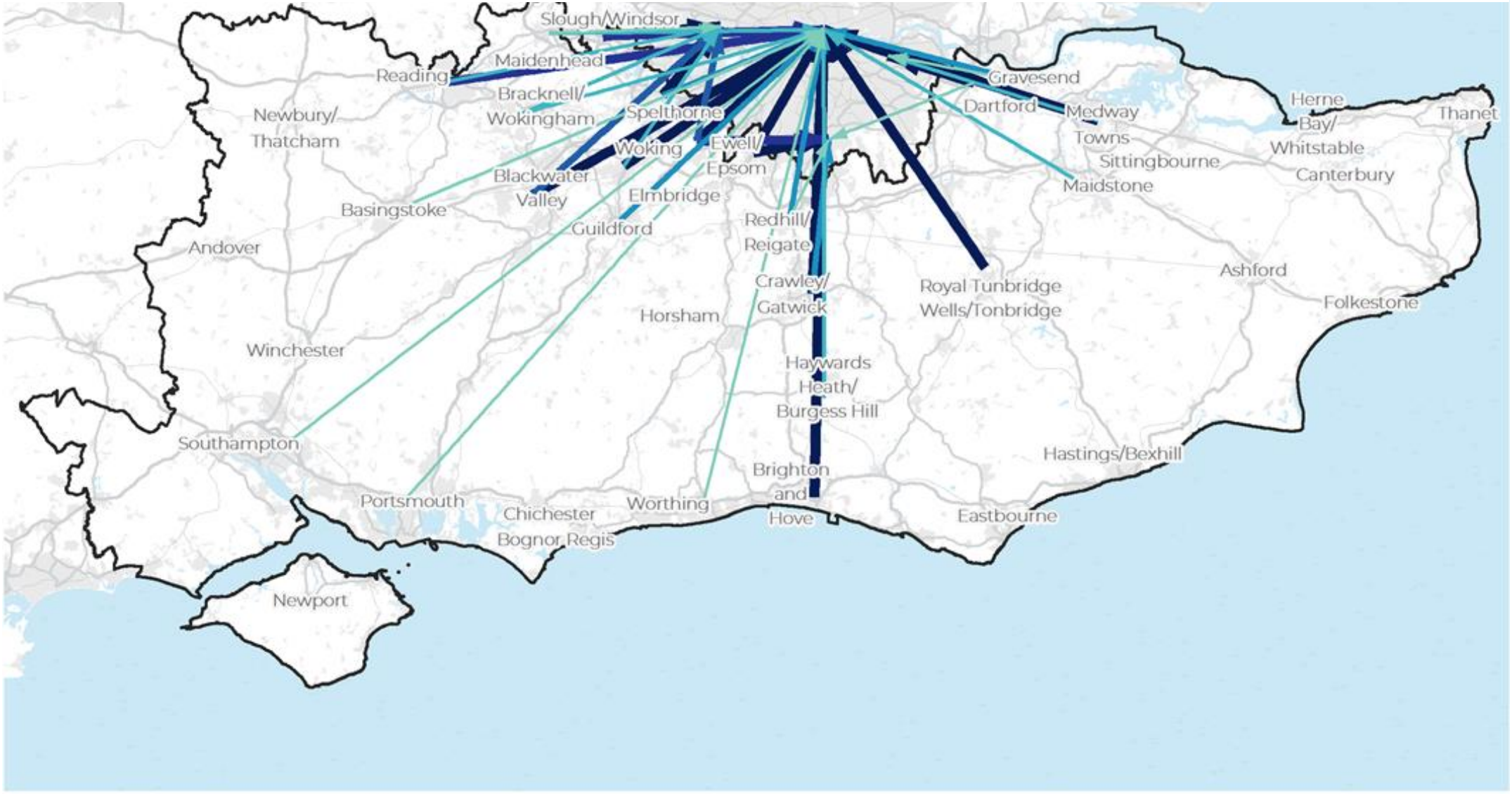


**Figure 1.28:** South East largest Travel To Work flows from London (Census, 2011)

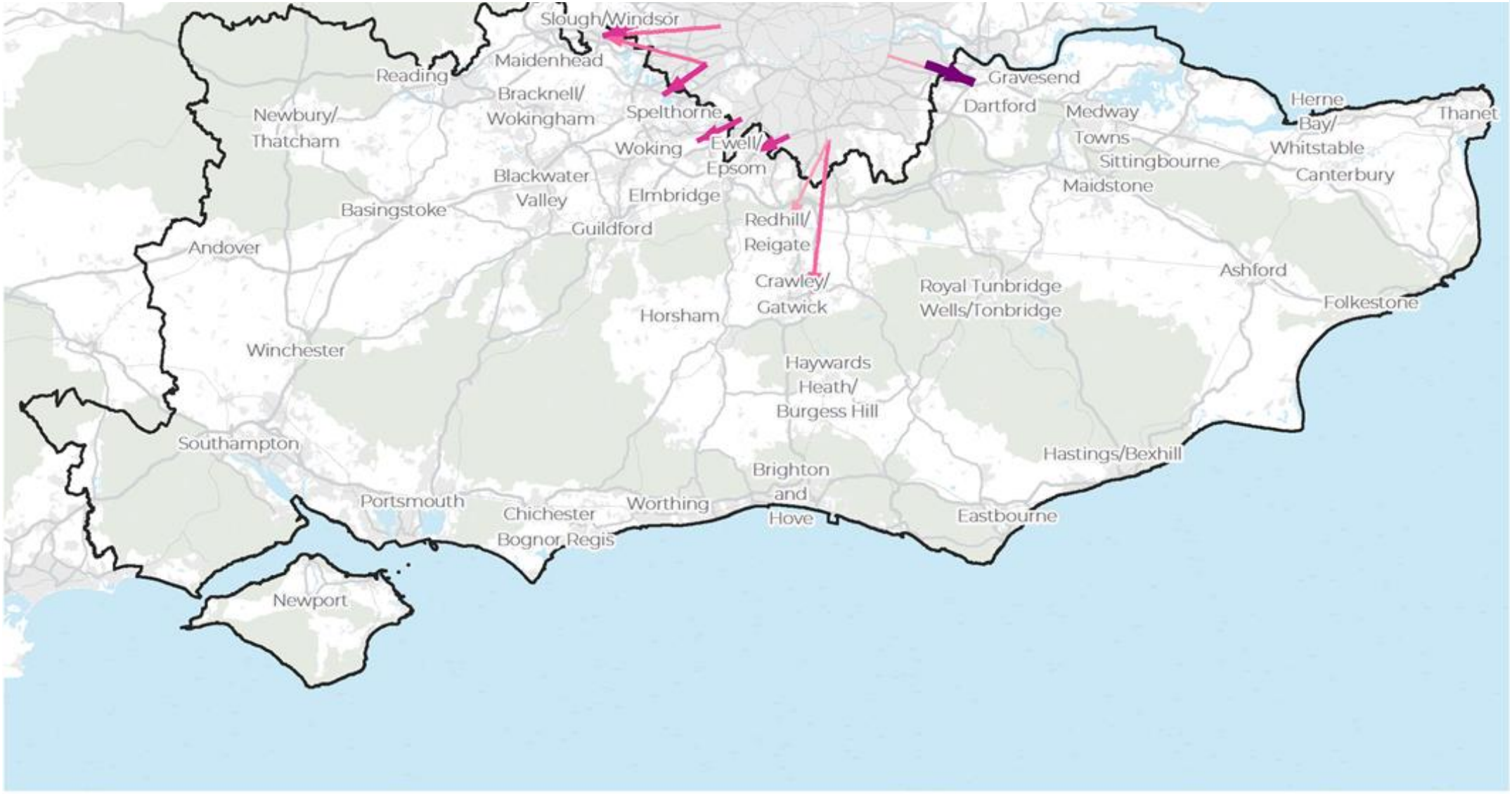


**Figure 1.29:** South Hampshire Travel To Work flows (Census, 2011)

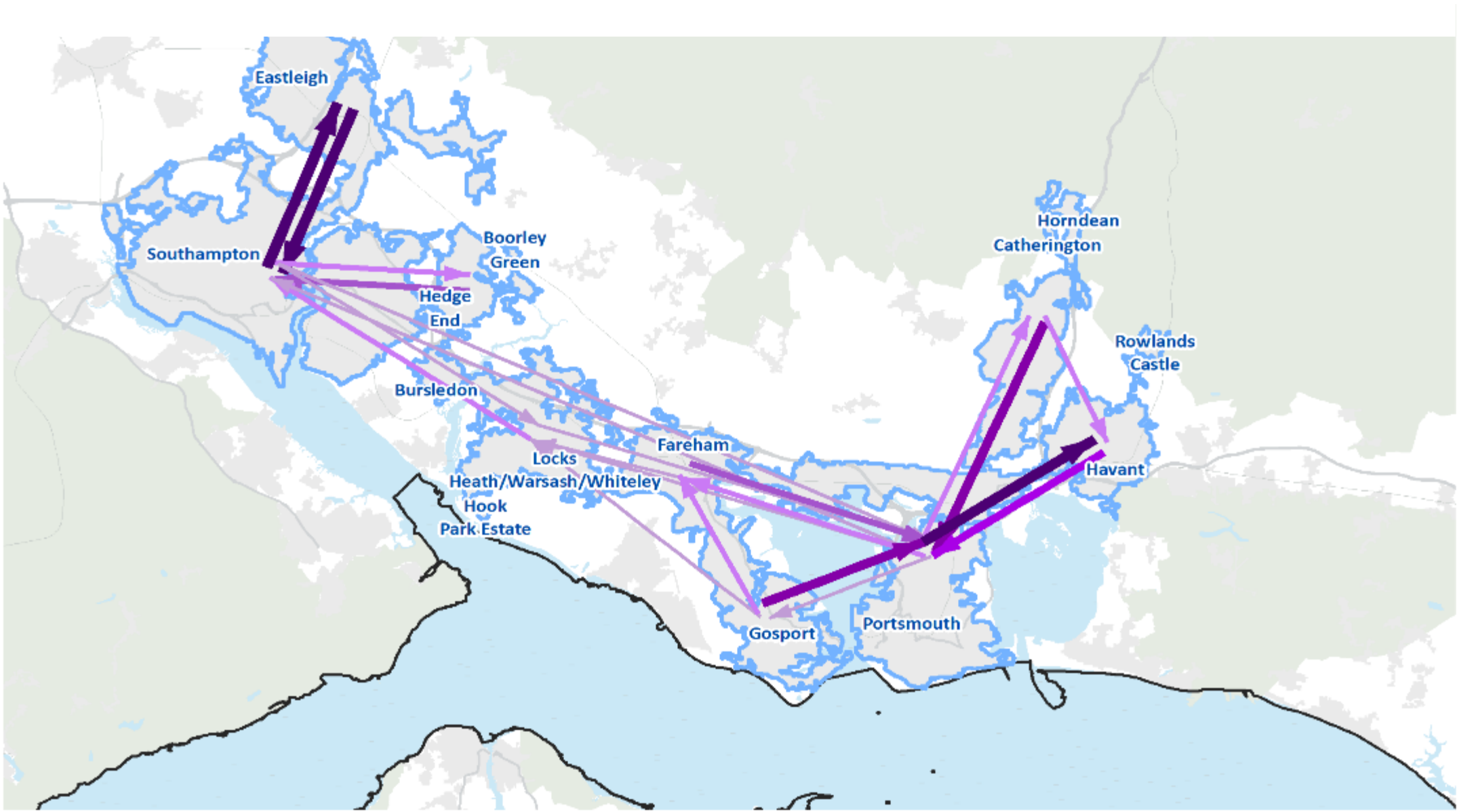


**Figure 1.30** Assessment of Public Transport provision on largest Travel To Work Flows (Steer Analysis, 2021)

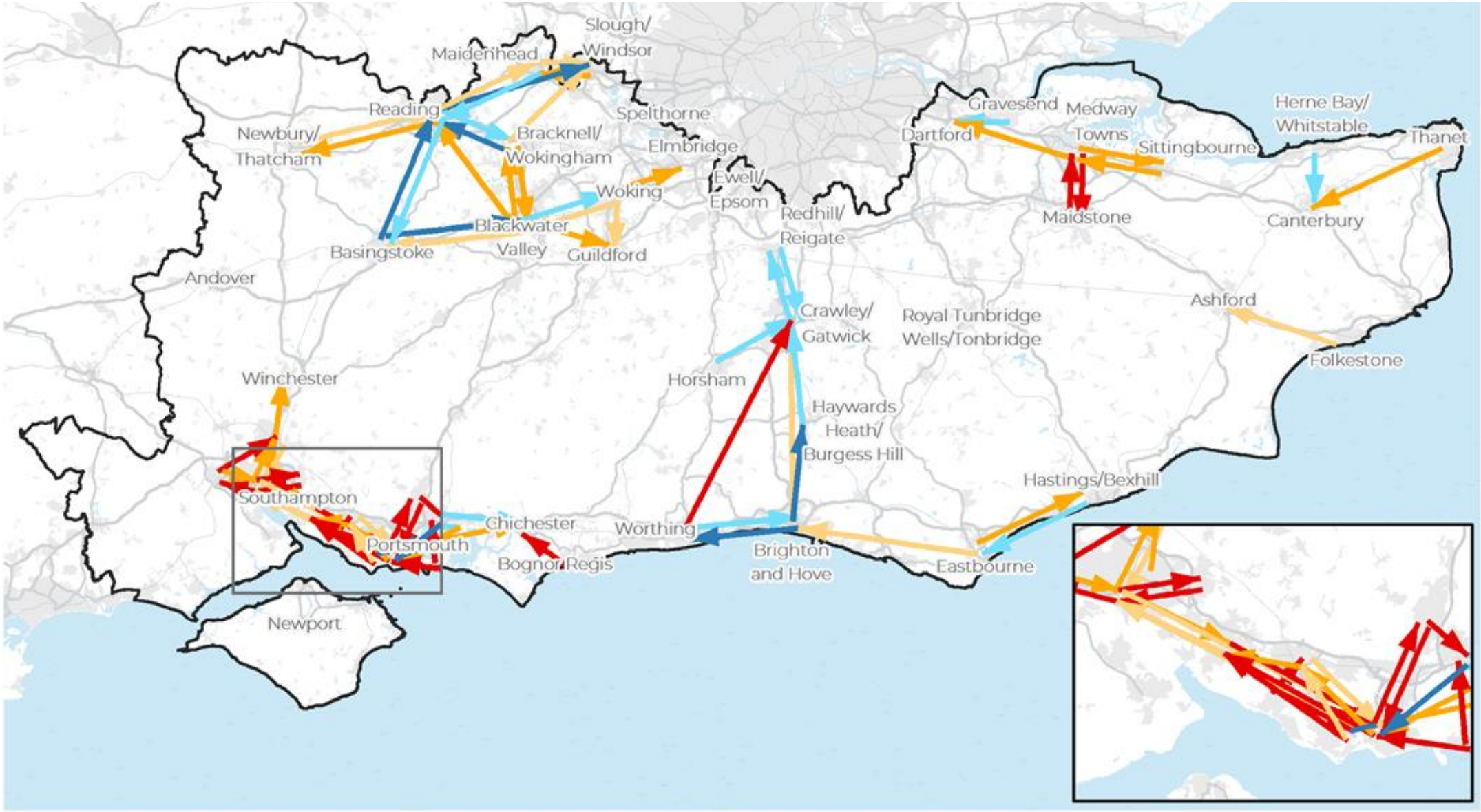


**Figure 1.31:** Elmbridge Travel to Work catchment area (Census, 2011)

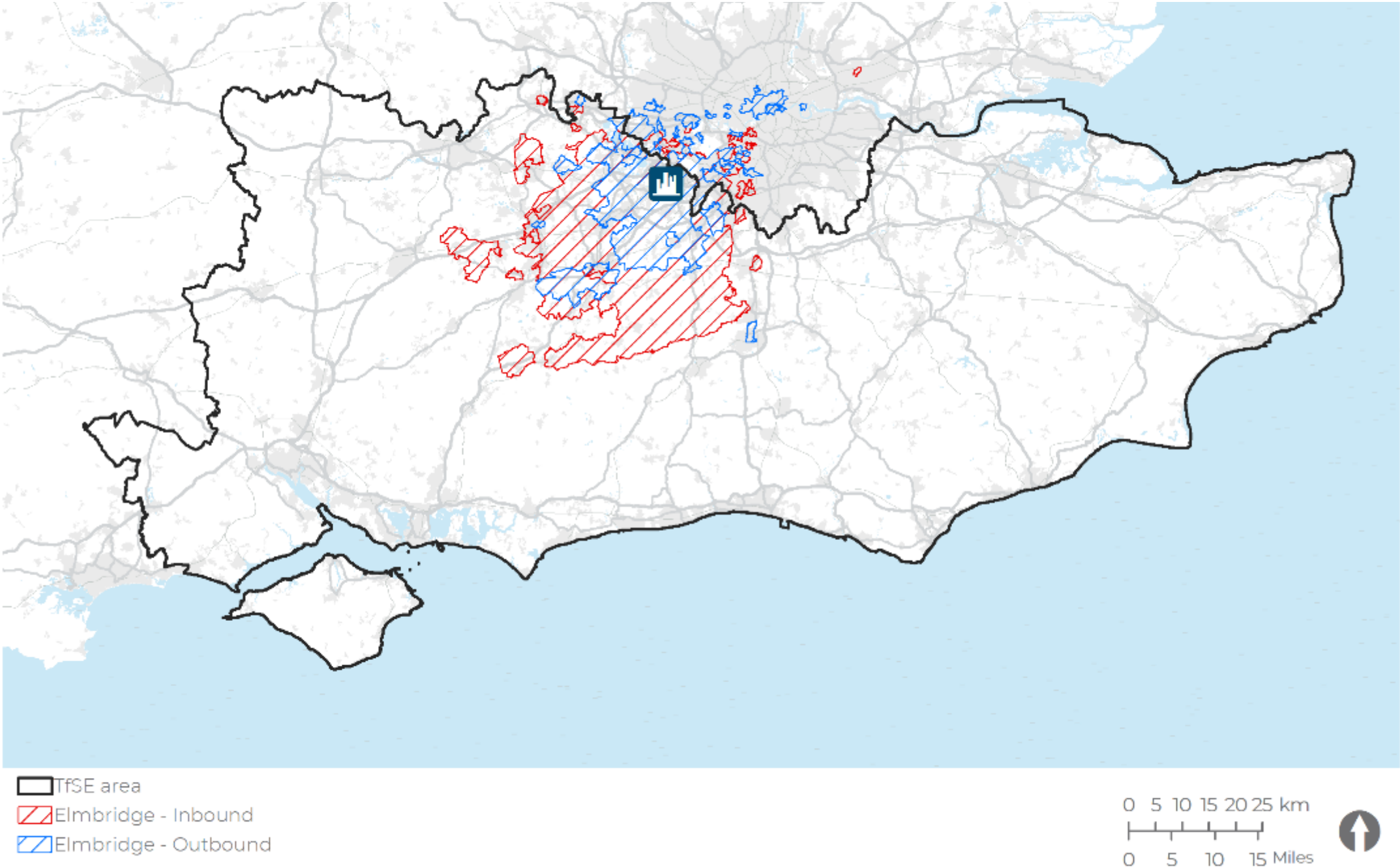


**Figure 1.32:** Ewell/Epsom Travel to Work catchment area (Census, 2011)

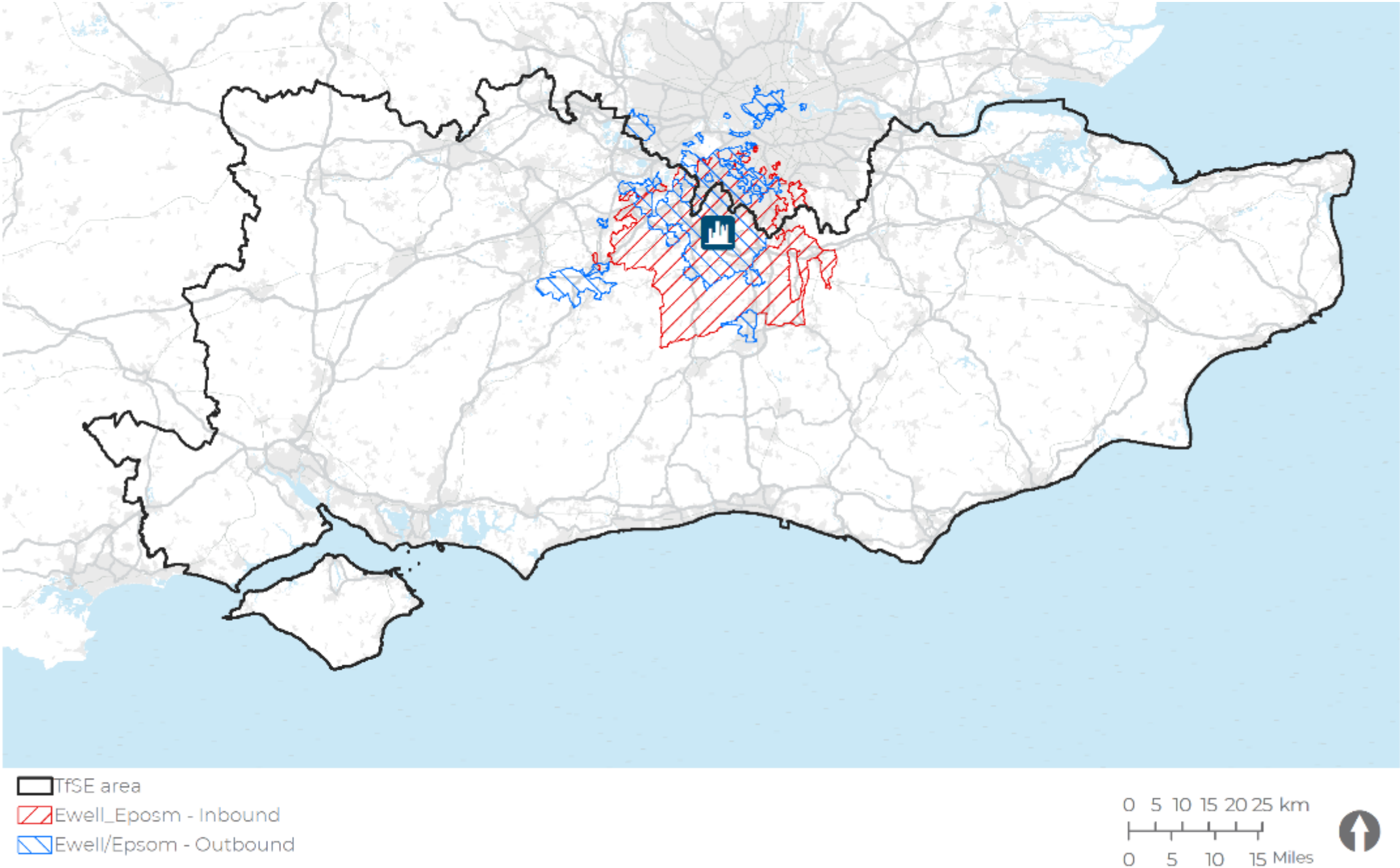


**Figure 1.33:** Guildford Travel to Work catchment area (Census, 2011)

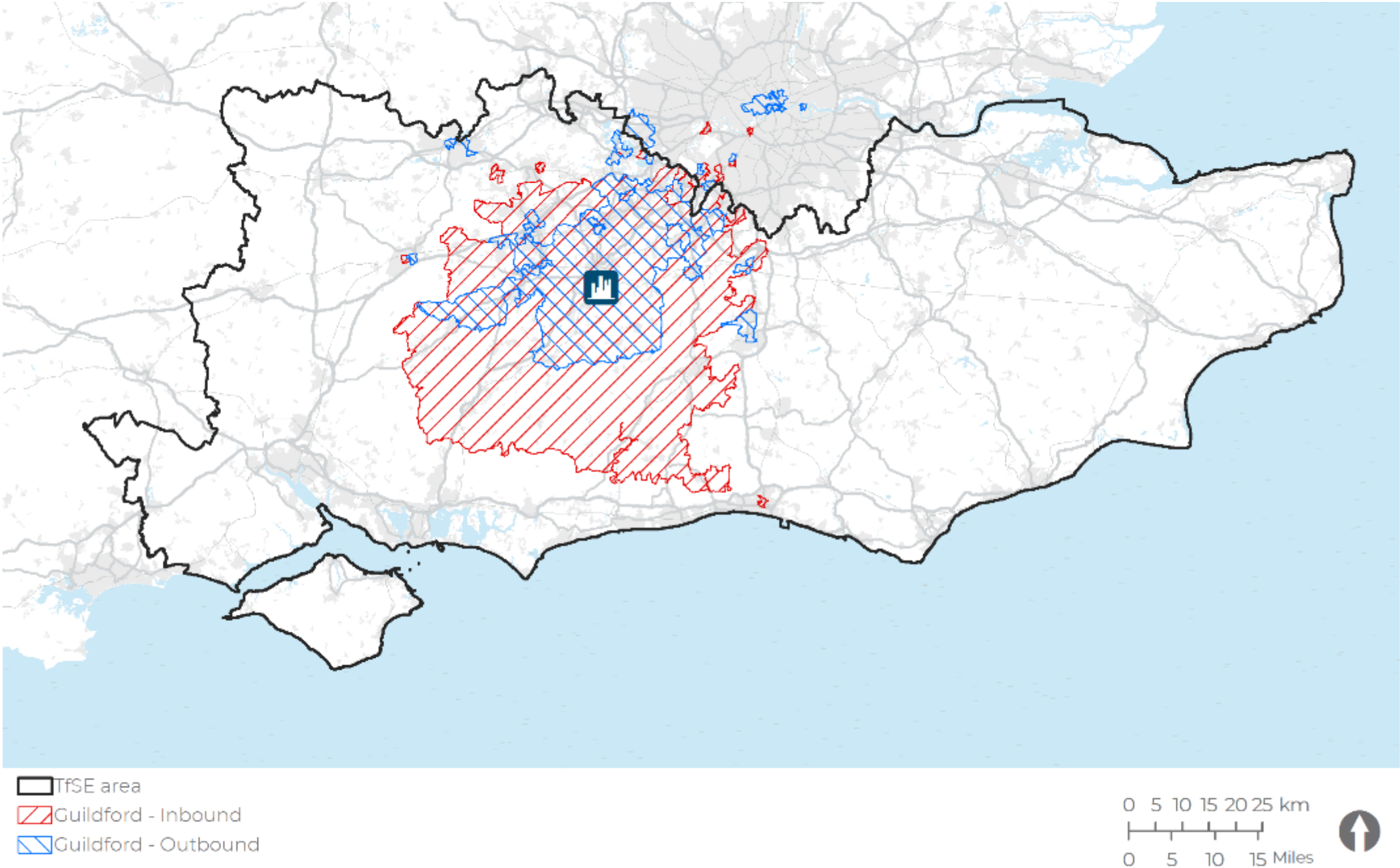


**Figure 1.34:** Maidenhead Travel to Work catchment area (Census, 2011)

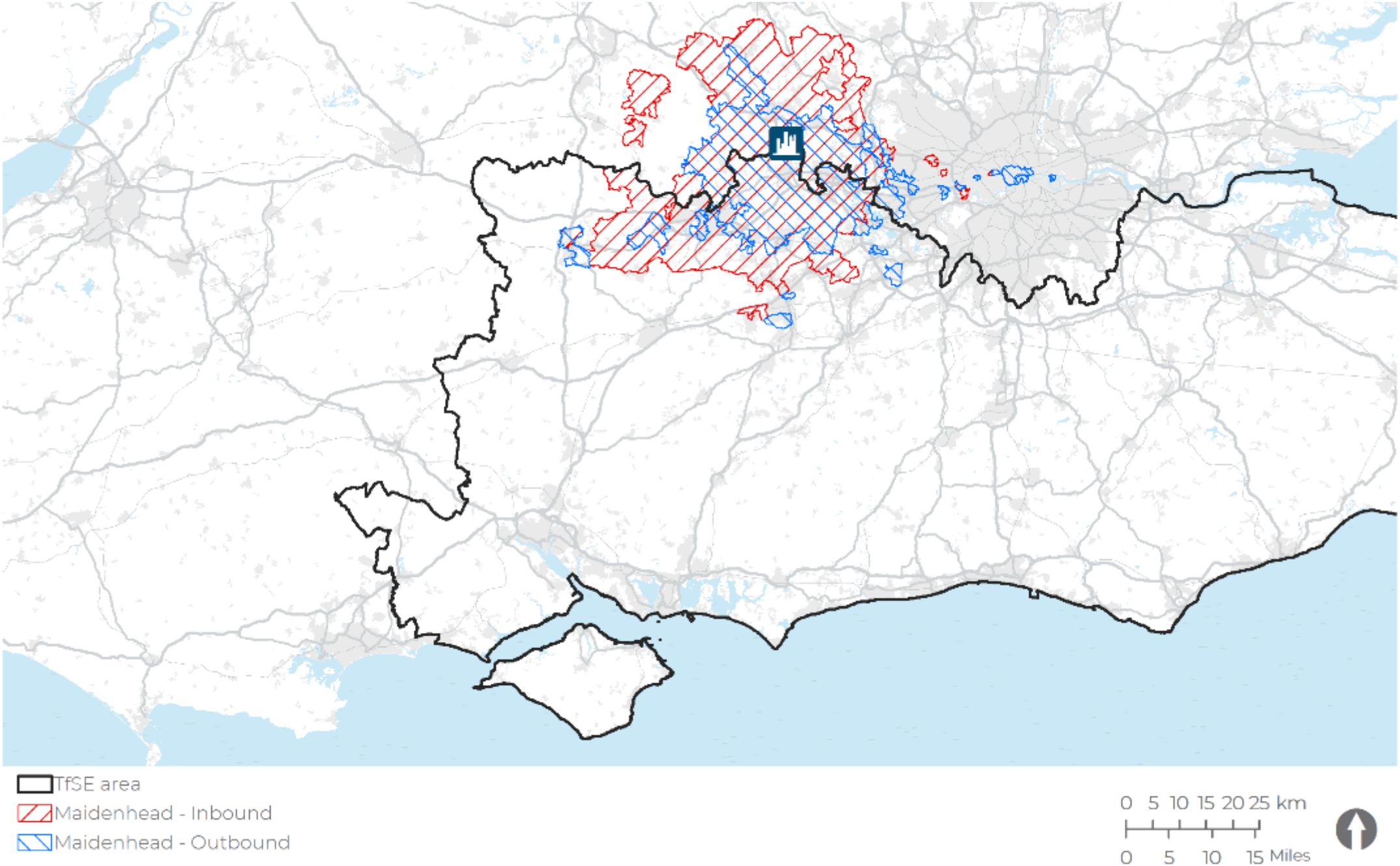


**Figure 1.35:** Newbury/Thatcham Travel to Work catchment area (Census, 2011)

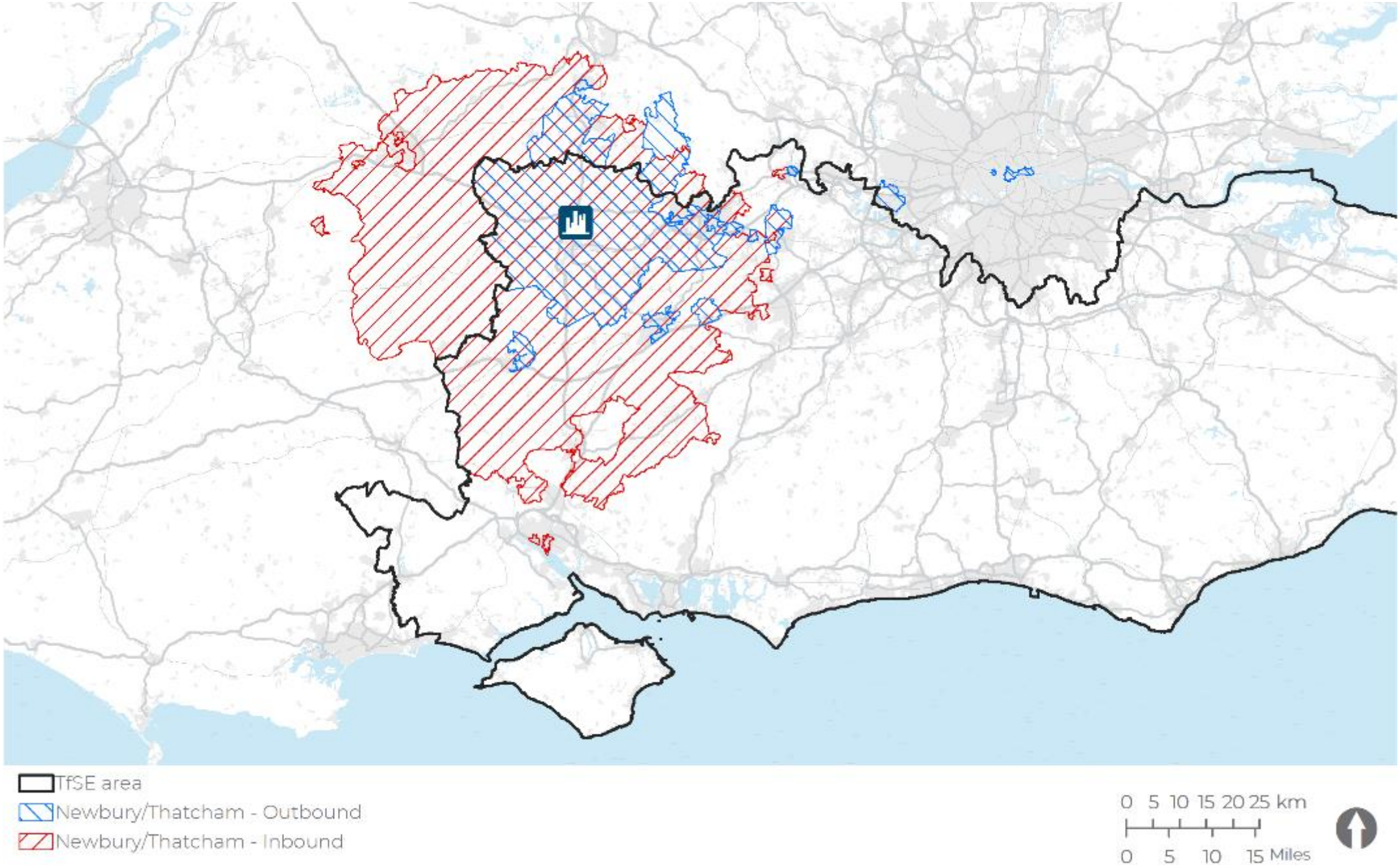


**Figure 1.36:** Newport Travel to Work catchment area (Census, 2011)

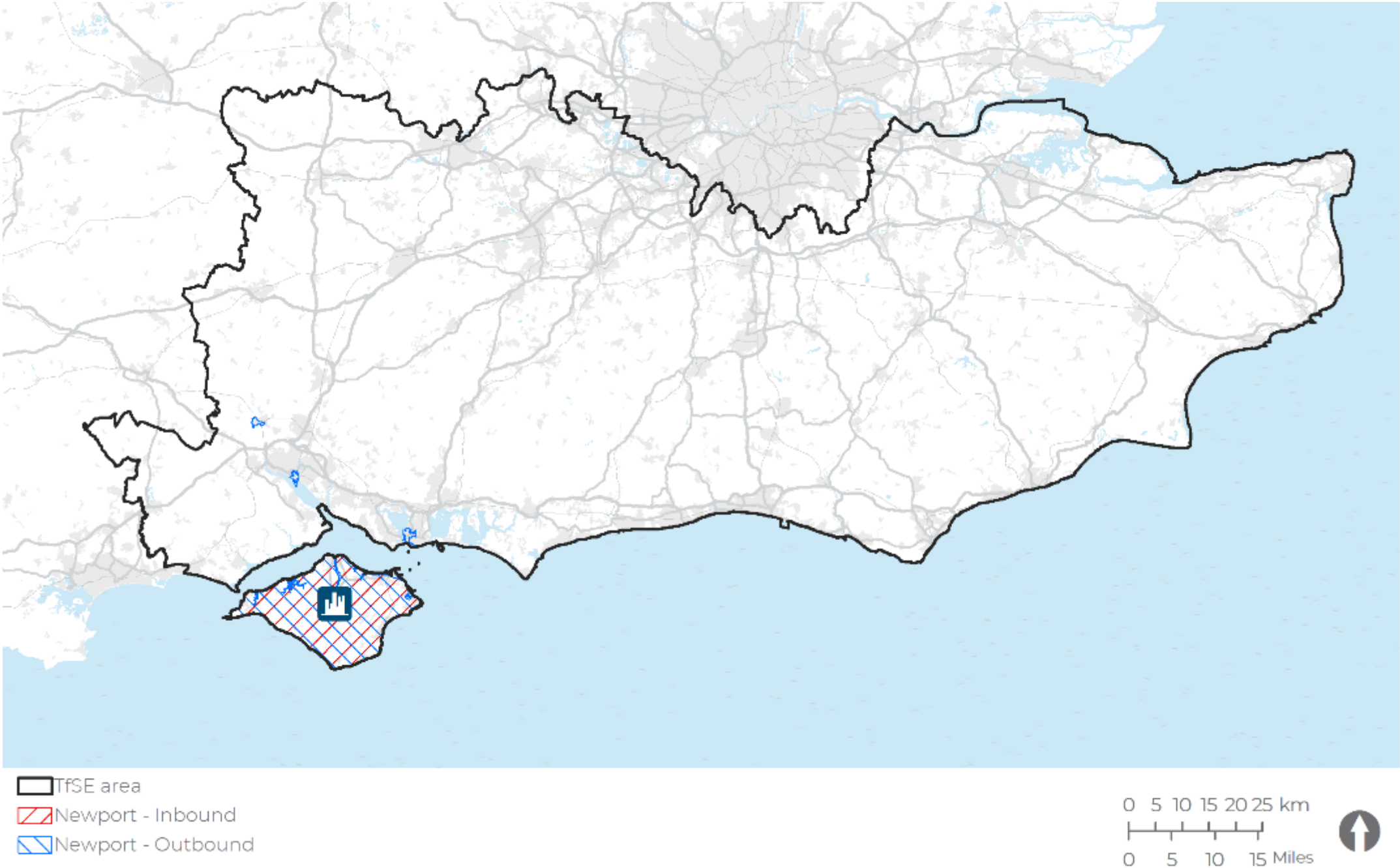


**Figure 1.37:** Portsmouth Travel to Work catchment area (Census, 2011)

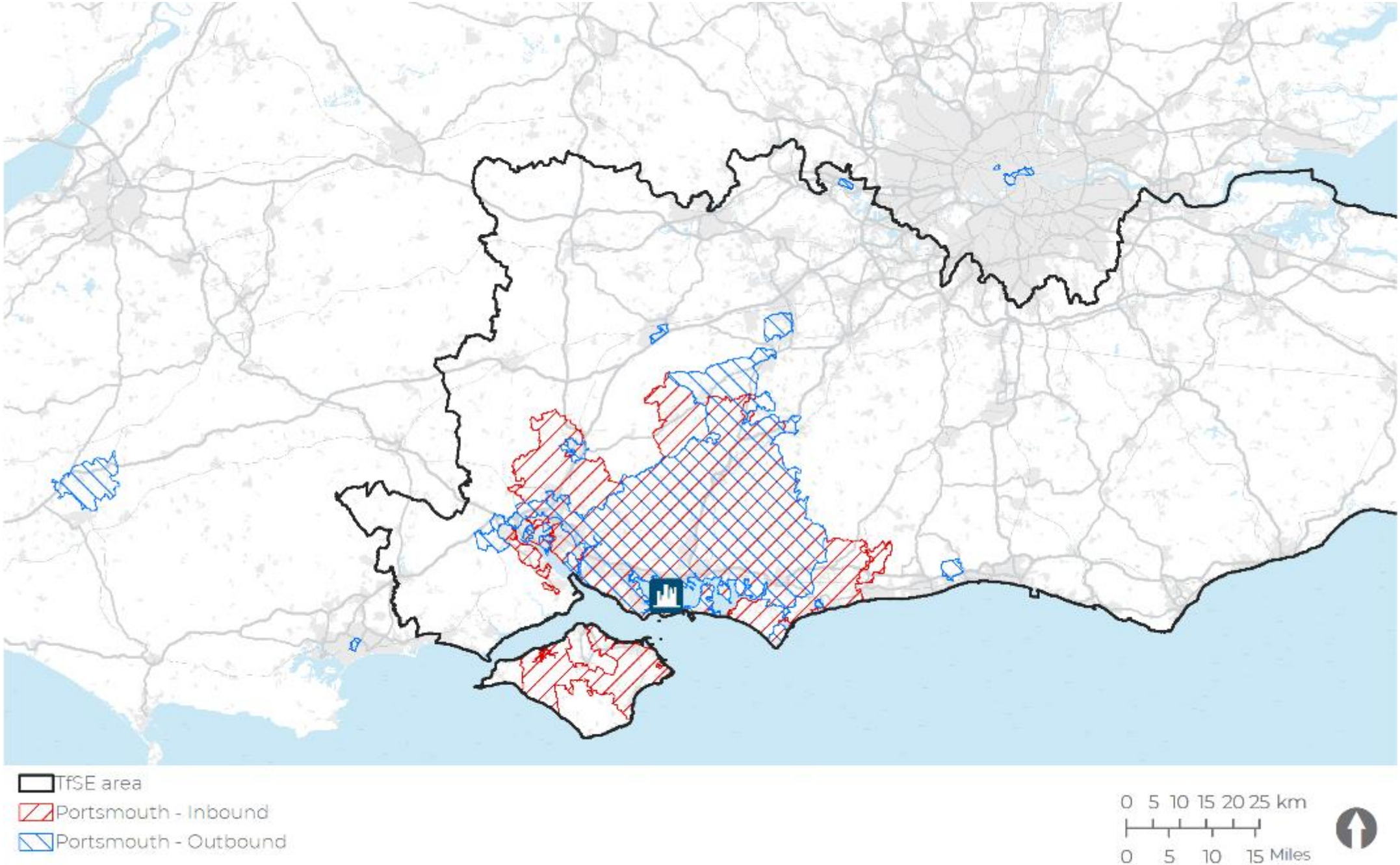


**Figure 1.38:** Reading Travel to Work catchment area (Census, 2011)

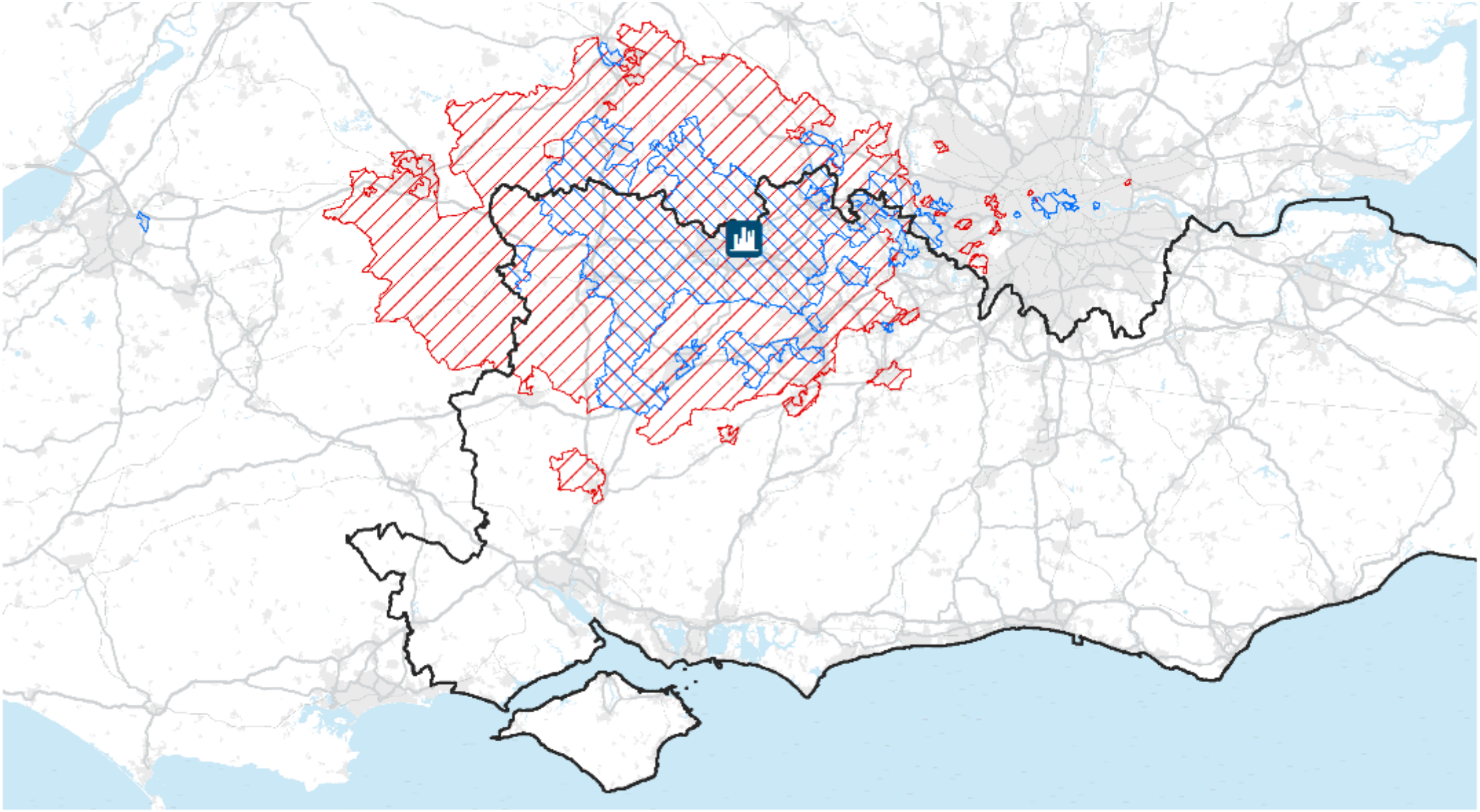


**Figure 1.39:** Slough/Windsor Travel to Work catchment area (Census, 2011)

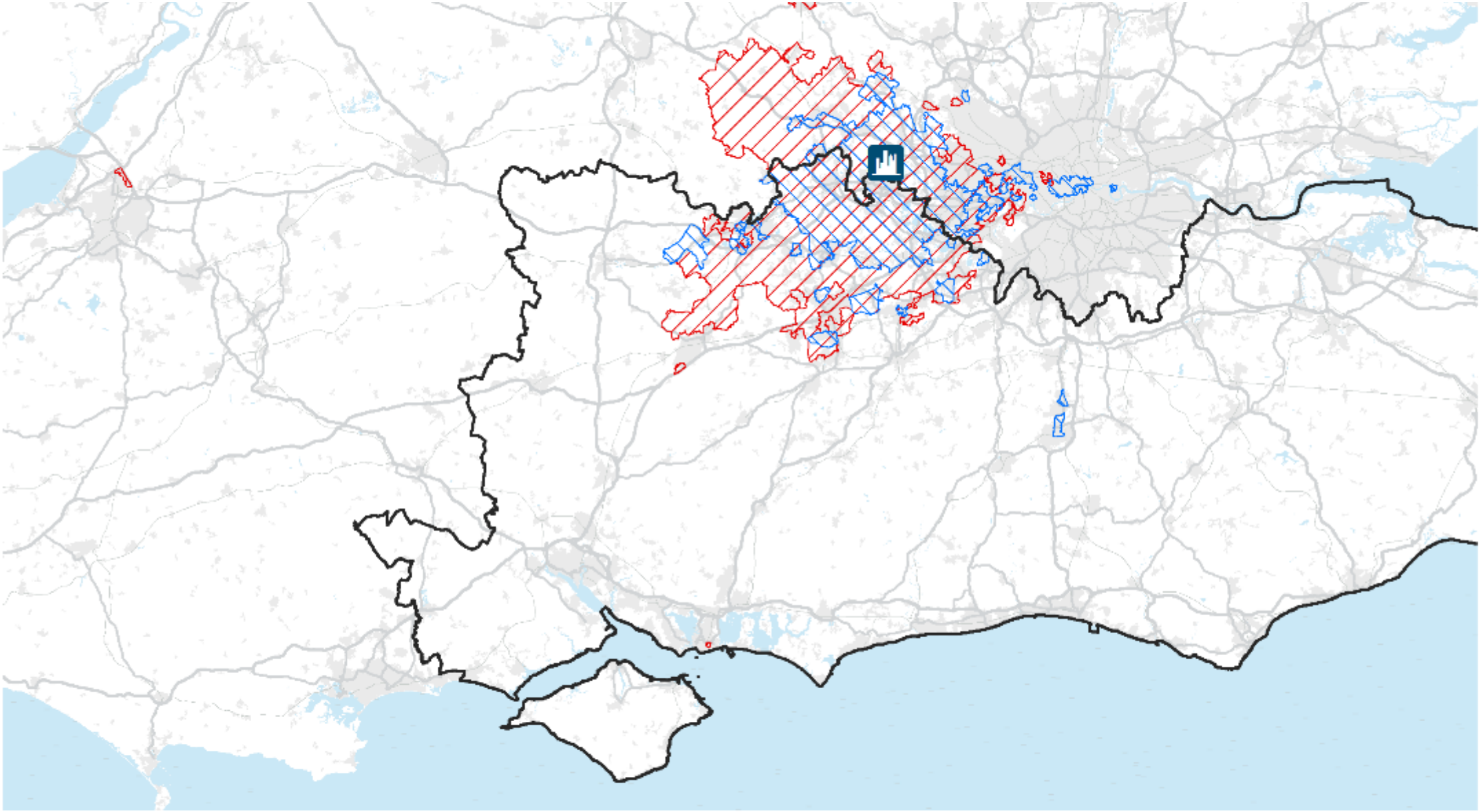


**Figure 1.40:** Southampton Travel to Work catchment area (Census, 2011)

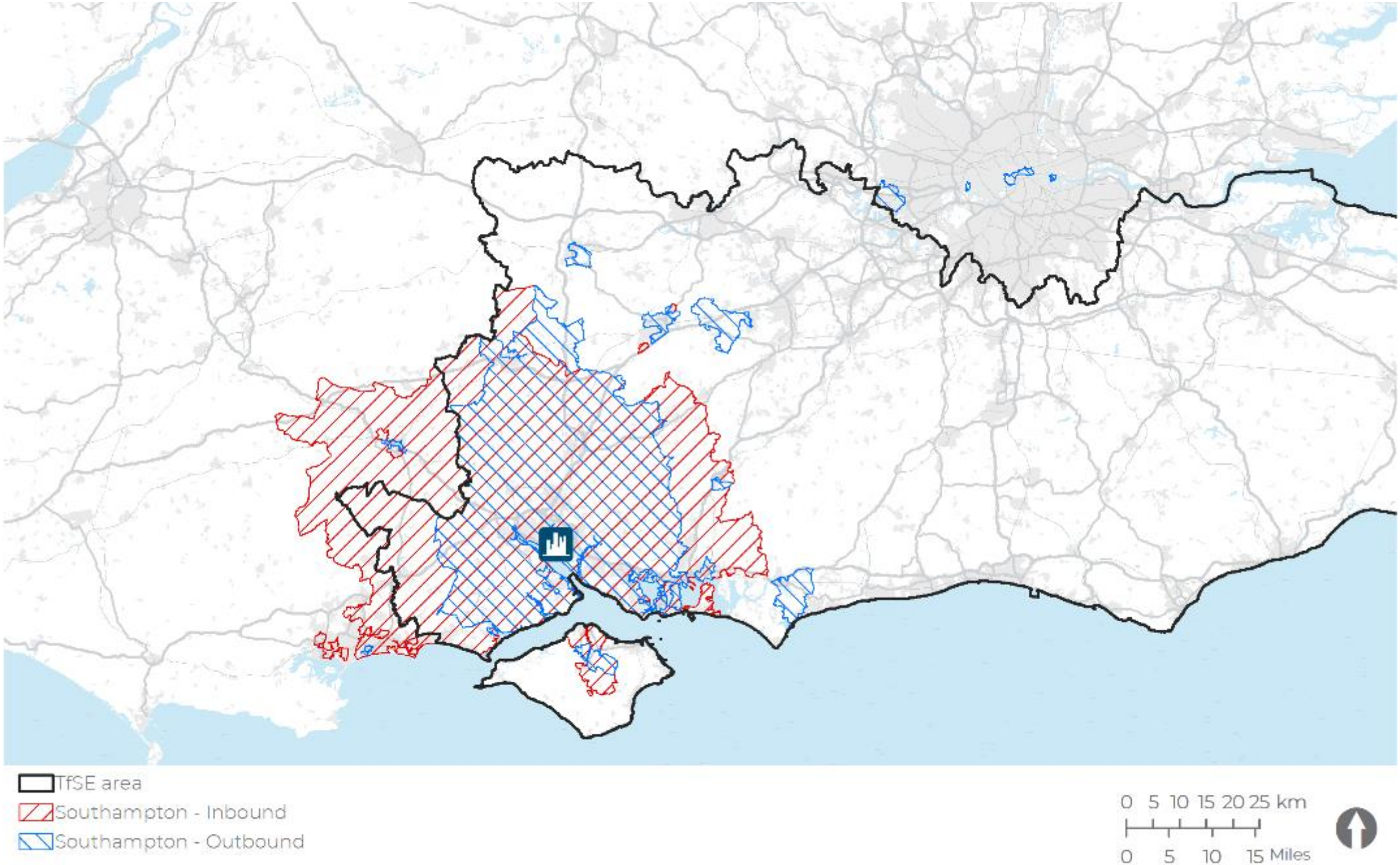


**Figure 1.41:** Spelthorne Travel to Work catchment area (Census, 2011)

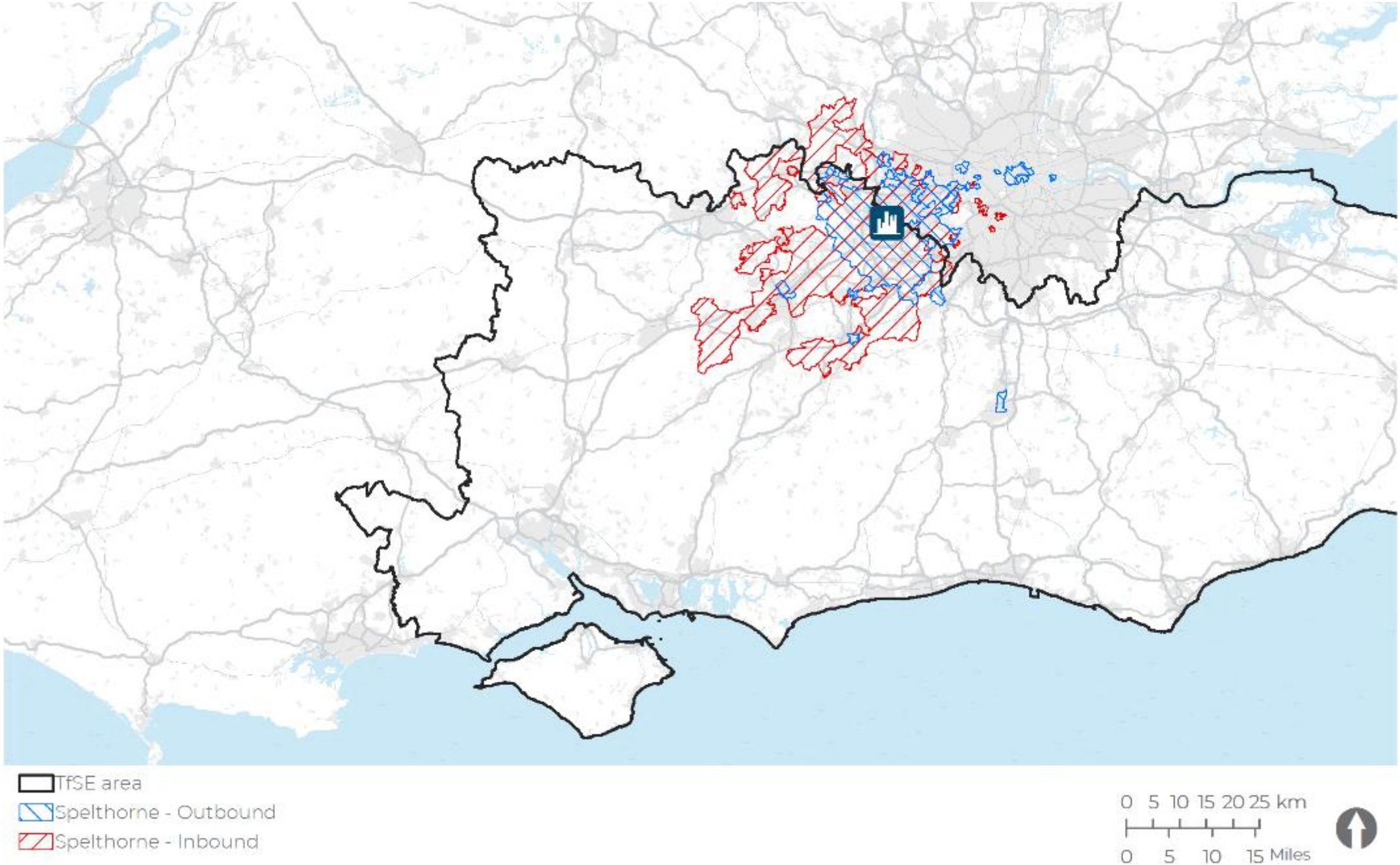


**Figure 1.42:** Winchester Travel to Work catchment area (Census, 2011)

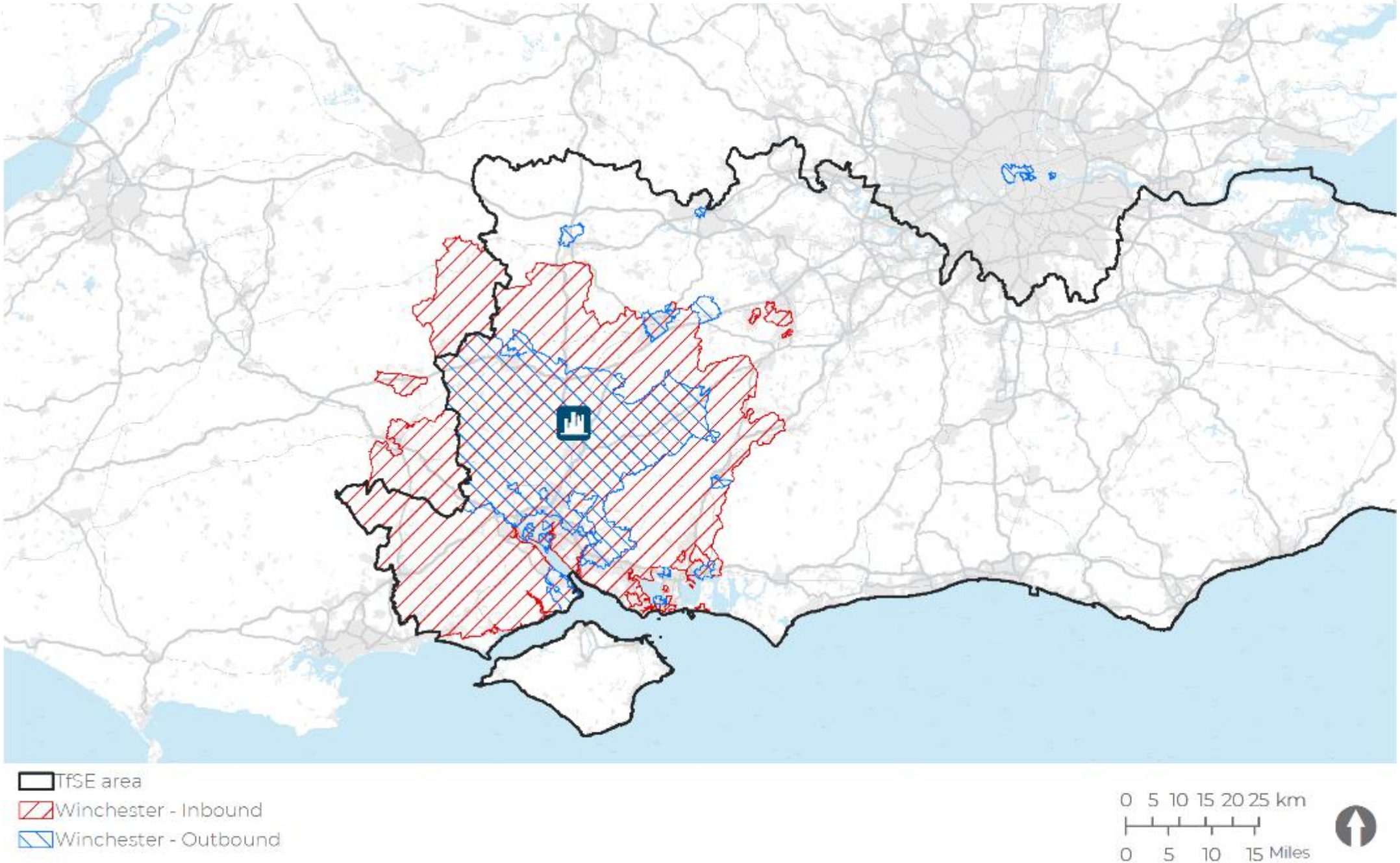
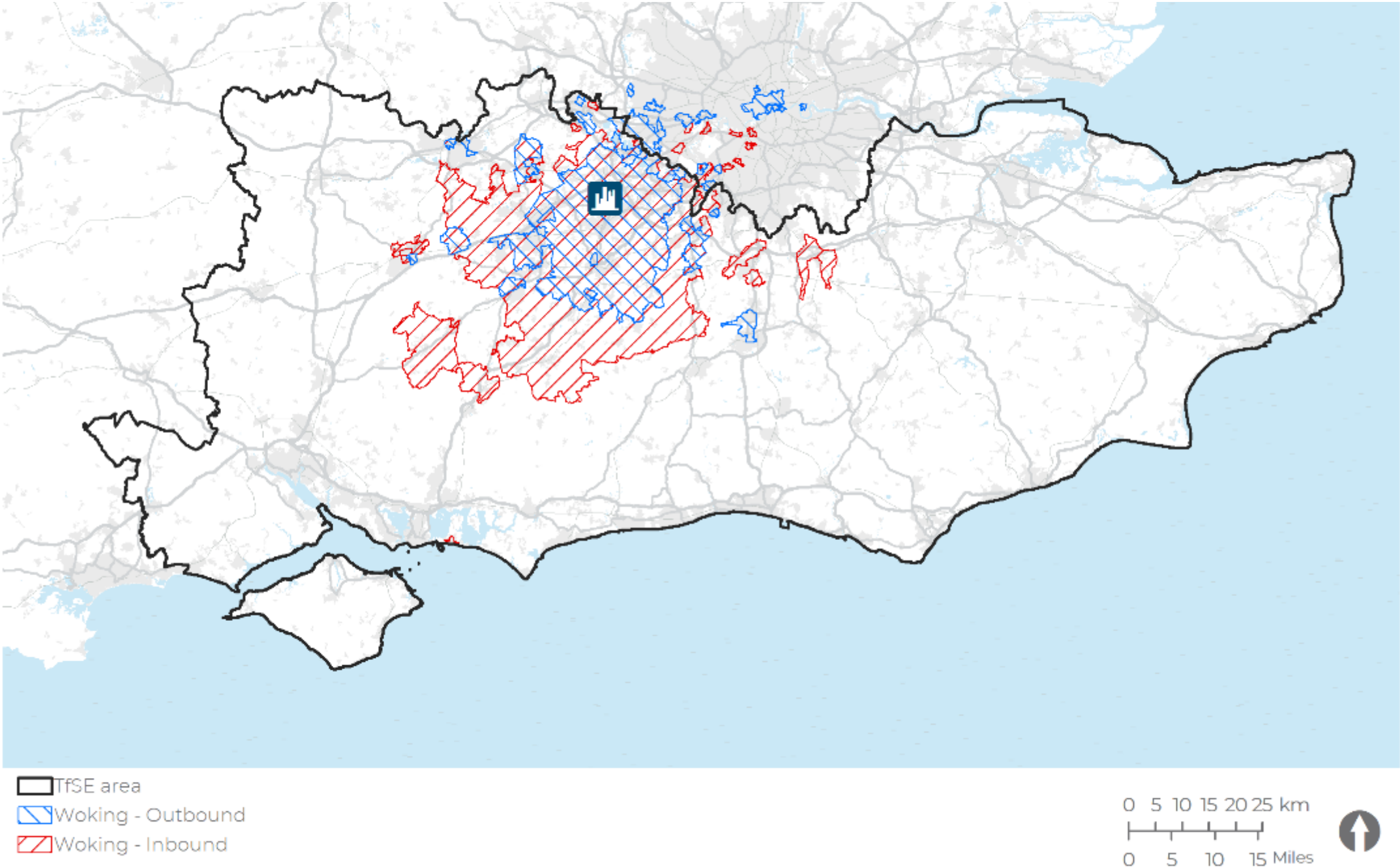
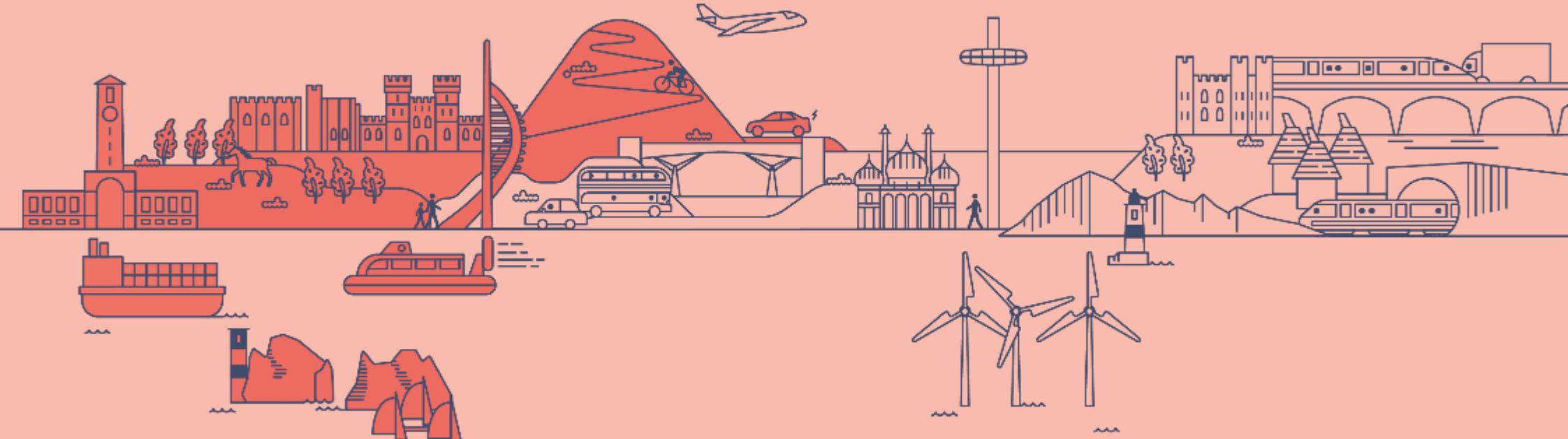


**Figure 1.43:** Woking Travel to Work catchment area (Census, 2011)

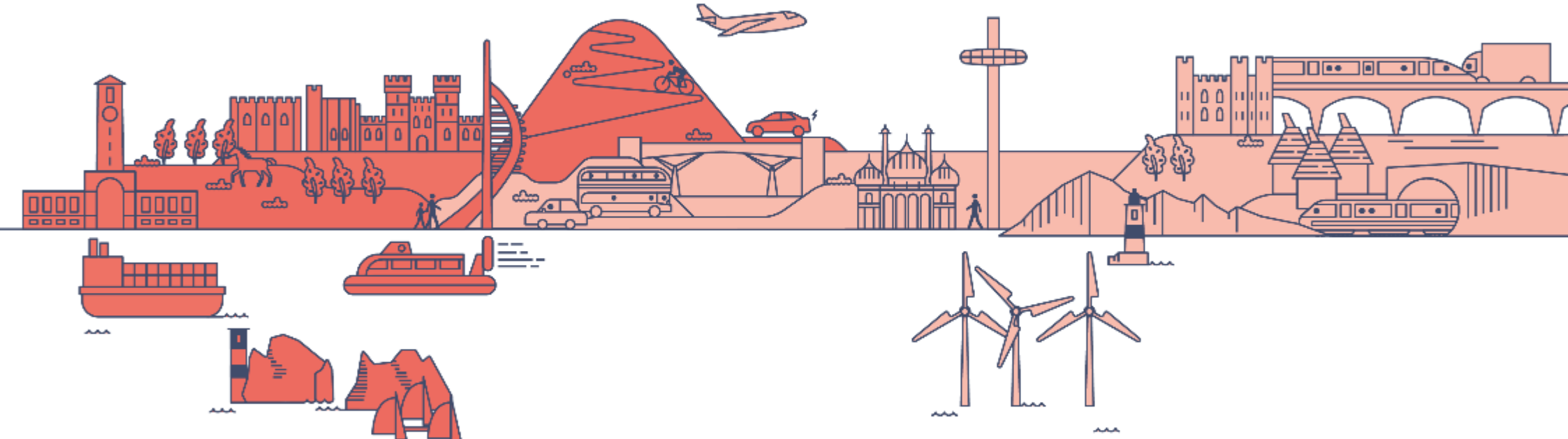


TRANSPORT FOR THE South East



# Part 2

## Future Context



# Part 2a

## Demographic Projections

# Demographic Projections

## Housing

**The South West Radial Area is expected to accommodate significant housing growth in the next local plan period (up to 2025).**

**Figures 2.1** and **2.2** show the location of the largest housing growth sites in the South West Radial Area. This is based on Local Plan estimates in 2019, which in many instances is dependent on transport and other infrastructure being delivered.

This map shows that future housing growth is expected to be concentrated around:

- Guildford, Woking and the Blackwater Valley;
- In the Reading to Basingstoke area;
- Southampton; and
- Newport.

Much of this growth will occur in peri-urban settings, so it will be critical that developments are supported with active travel and public transport connections. Doing so will ensure that individuals can travel sustainably to their places of work and residence without relying on private transport.

## Employment

**Employment growth is expected to be more concentrated in a few areas, particularly around Brighton and the South Coast and towards the northern end of the area.**

**Figure 2.3** shows the location of the largest employment growth sites in the South West Radial Area. The highest employment growth is expected to be clustered around Woking, Guildford and Elmbridge, with a subsequent cluster in Slough and Reading. Other areas of high job growth are on the Isle of Wight and in Southampton.

Along the South Coast, employment growth is expected to be focussed in urban centres.

Most employment growth in the northern end of the corridor will occur on the urban periphery. This is partly driven by the availability of land in these places, as well as the nature of specialist industries (e.g. logistics and tourism).

It will therefore be important to provide good public and active transport connections from these peripheral locations to urban centres and transport hubs. This will ensure these major economic hubs enjoy economic prosperity and an increased quality of life for all residents.

## Risk of imbalance?

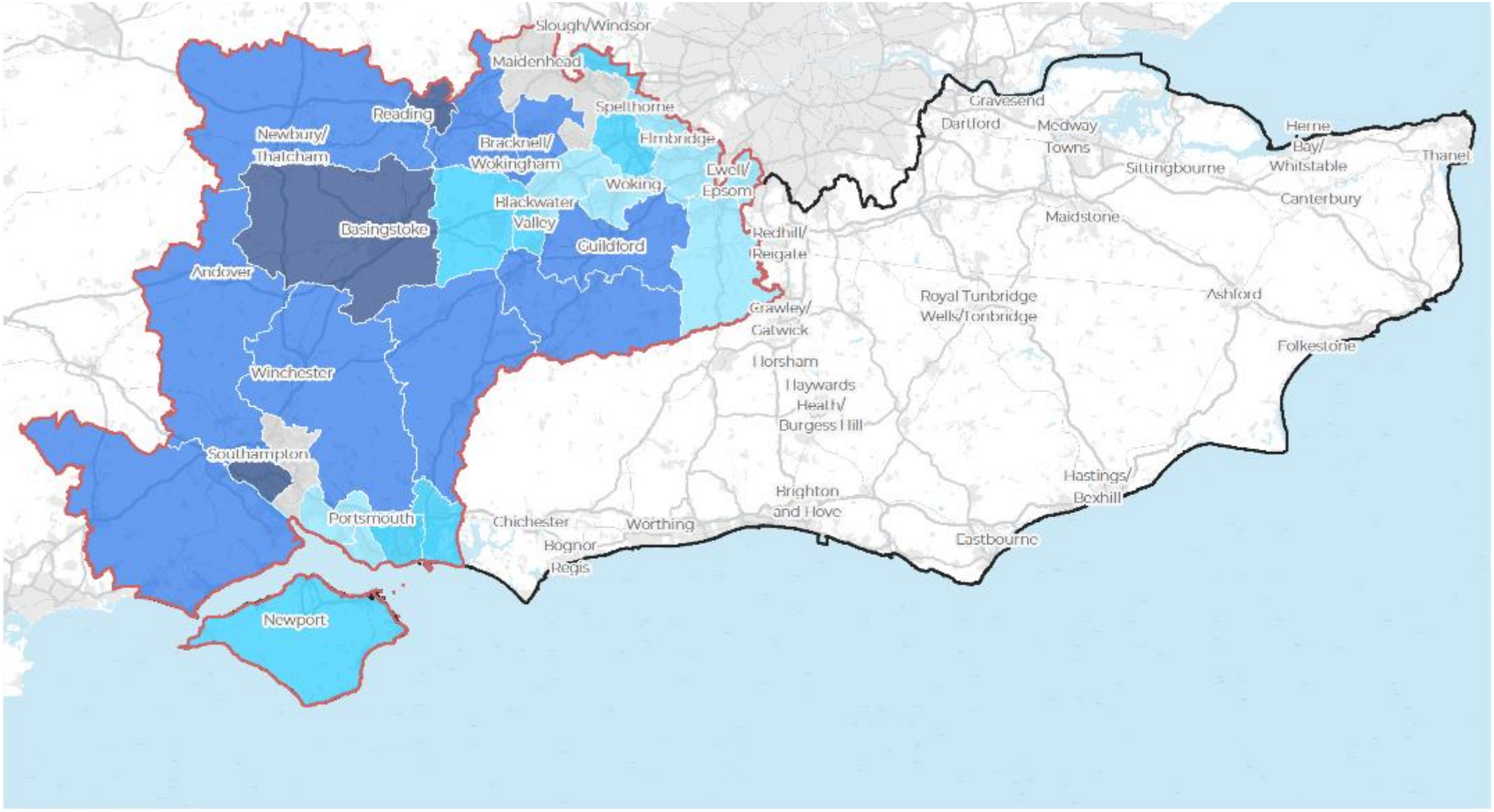
**There is a risk that any significant imbalance in housing and employment growth may cause unsustainable outcomes.**

The maps show that housing development is expected to take place at several locations in the South West Radial Area, while future employment opportunities are concentrated in a few locations. There is a risk that the spatial imbalance in housing and employment may generate more travel demand, particularly by the car as many of these new development sites are not served by the existing public transport network.

It is recognised that there is an acute need for housing in the South West Radial Area and that, given the environmental and physical constraints of the corridor, some areas will be better placed to absorb housing than others. To promote more sustainable outcomes, it is recommended that:

- Development is located near to urban centres and transport hubs;
- New development includes mixed use areas to provide local shops and services and is developed to a suitable density/volume; &
- Developments are served by sustainable transport options (from the outset).

**Figure 2.1**: Planned Homes for the South West Radial Area (Districts and Boroughs)




This data is sourced from MHCLG's local plans prototype tool : https://local-plans-prototype.herokuapp.com/. Local plan housing requirement data reflects MHCLG understanding of adopted plans as at end January 2021. The data is experimental, updated monthly, and subject to limited validation. It therefore shouldn't be relied upon as a reliable 'real-time' representation of local plan progress or content.

**Figure 2.2**: Planned Homes for the South West Radial Area (Detailed)

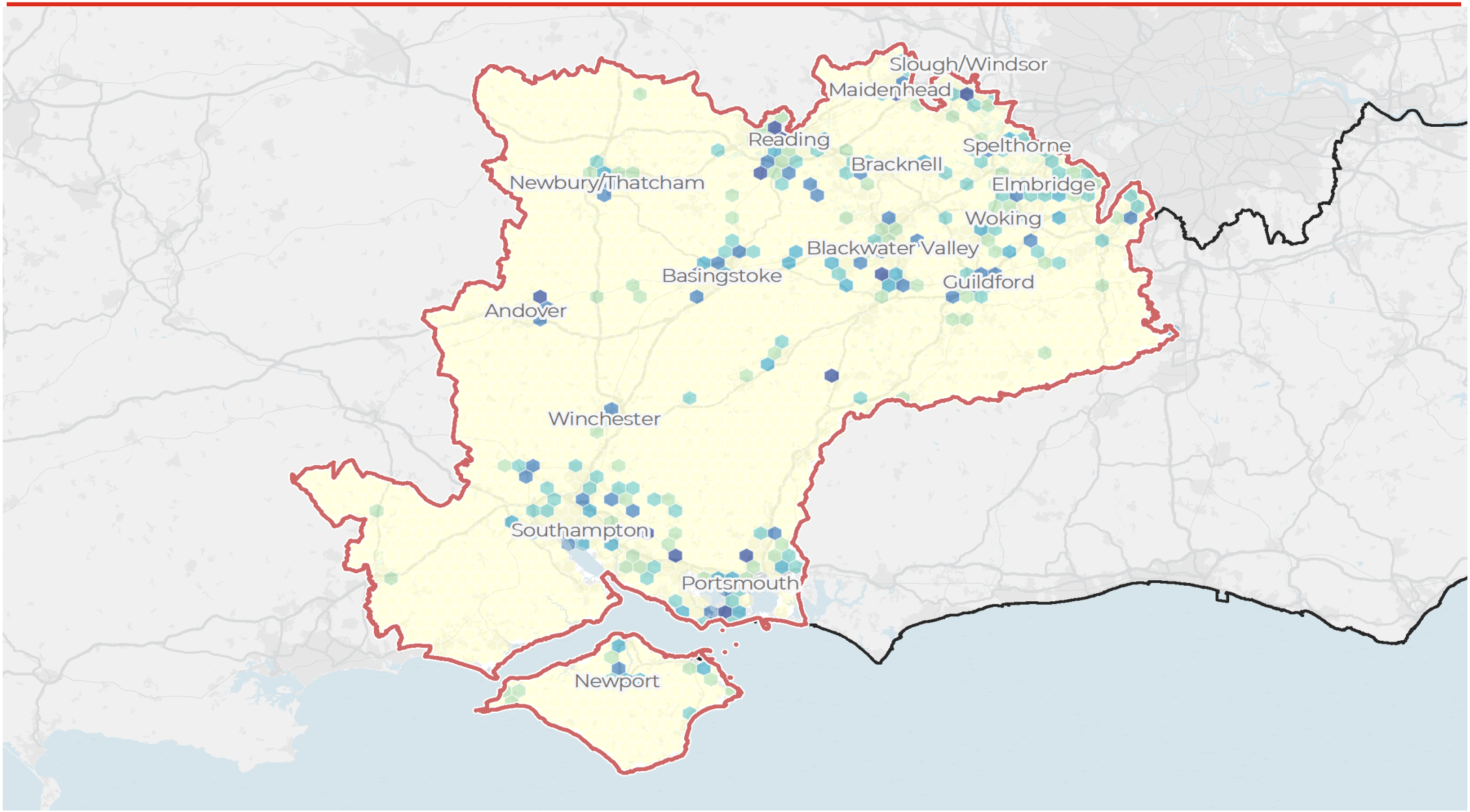



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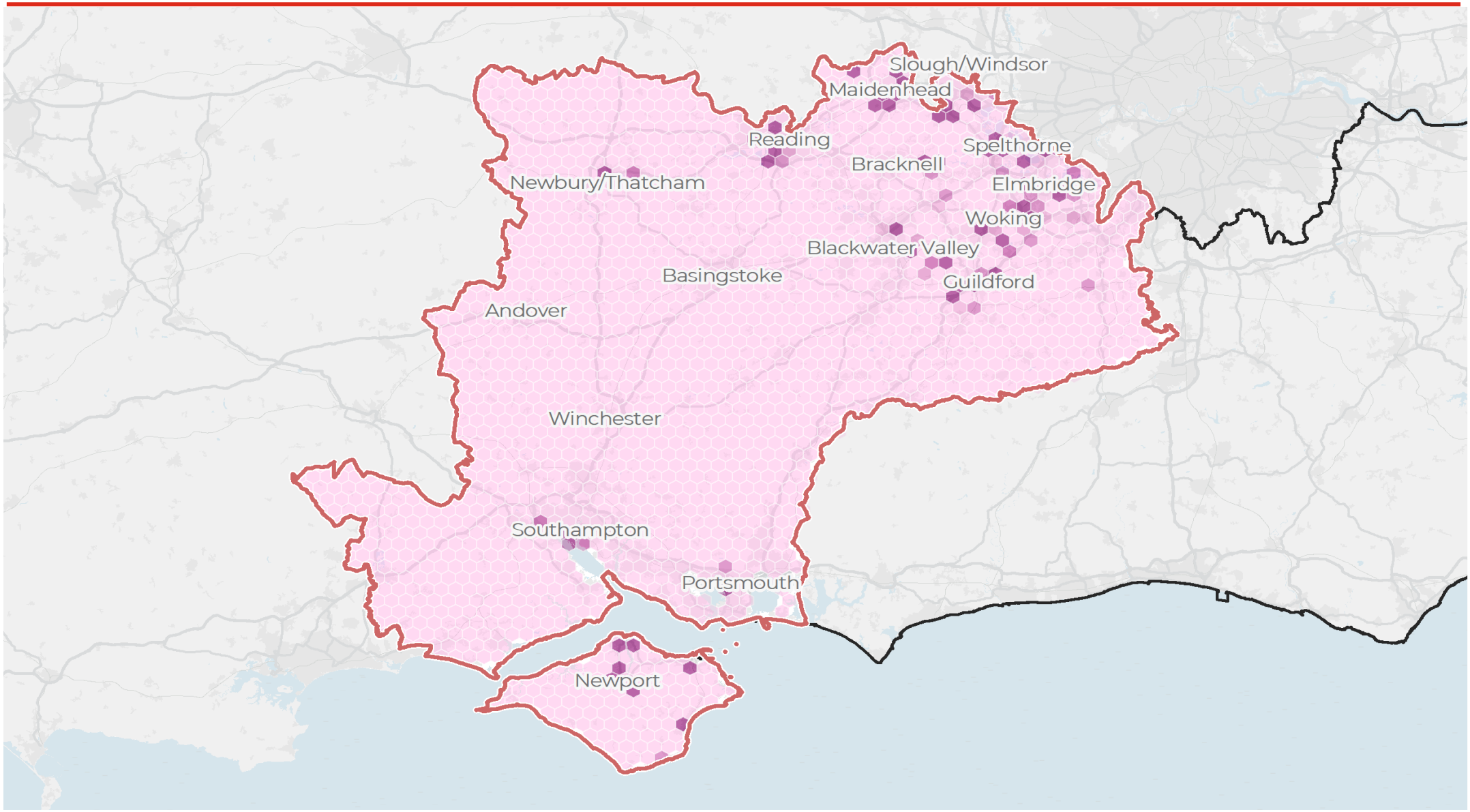
**Figure 2.3:** New Jobs in the South West Radial Area

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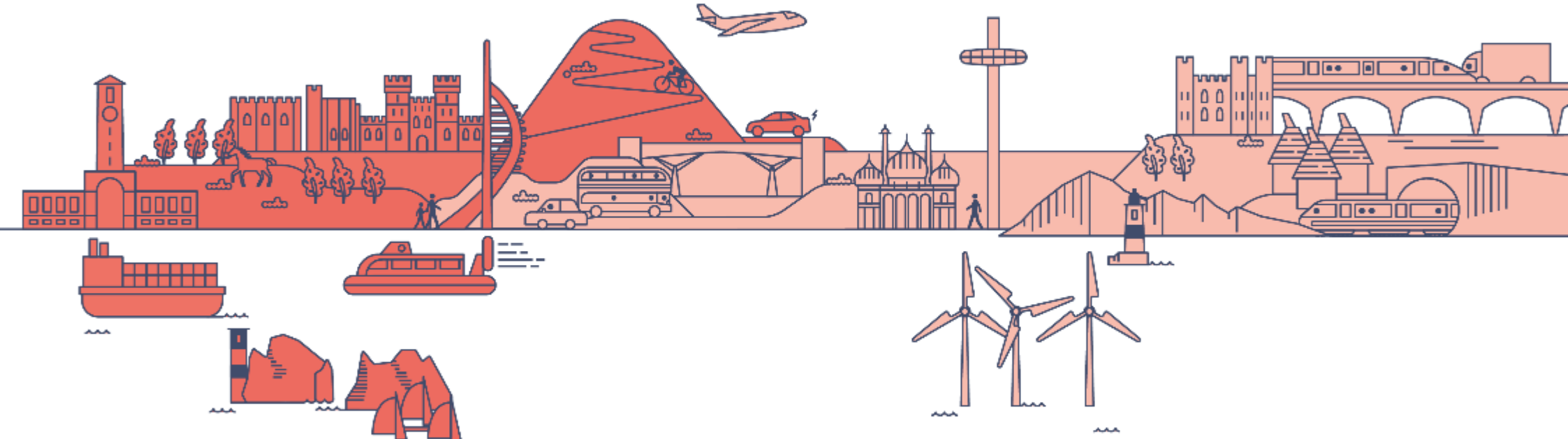


# Part 2b

## Scenario Forecasts

# Scenario Forecasts

## TfSE Transport Strategy

**To support the development of a Transport Strategy for the South East, in 2018/19 TfSE developed future scenarios for the area.**

The scenarios were designed to help TfSE understand how different routes for the development of the South East's economy and population might impact transport outcomes from 2020 to 2050. They were developed by combining "axes of uncertainty", which describe the plausible outcomes of uncertain trends. These trends included the rate of adoption of emerging technology, changes in attitudes towards the environment, and the development of target industrial sectors in the economy.

Each scenario was modelled using a land use and transport model called the South East Economy and Land Use Model (SEELUM). The outcomes of modelling each scenario were compared to a Central Case ("Business As Usual"), which was developed by modelling the impacts of the Department for Transport's National Trip End Model on the South East's economy and transport networks.

Further adjustments have been made to reflect the impact of COVID-19 on the South East. The modelling results were used to develop a **Preferred Scenario** for the future of the South East: "A Sustainable Route to Growth".

## Socioeconomic Outcomes

**The Preferred Scenario delivers more sustainable travel outcomes than the Business As Usual (BAU) scenario.**

TfSE's Preferred Scenario envisages a focus on improved integrated transport and land use planning to promote more sustainable travel outcomes (e.g. fewer trips overall, and fewer trips by car).

**Figure 2.4** shows projections for transport and socioeconomic indicators for a BAU scenario (modelled on current trends). **Figure 2.5** compares the modelled outcomes for the Preferred Scenario compared to the BAU scenario. These results show that the Preferred Scenario delivers:

- Higher employment and GVA in the South West Radial Area;
- Minimal change in population growth;
- More trips overall, but fewer trips by highways;
- Significantly more trips between the South West Radial Area and London (in both directions), primarily using public transport;
- Significantly more trips by rail and bus overall; and
- Marginally more trips by active modes.

## Transport Demand

**The Preferred Scenario anticipates a fall in highway demand compared to the BAU scenario, which predicts growth instead.**

In contrast, this scenario calls for a major change in public transport provision, including for the railway network. It also includes the widespread adoption of demand management policies, including road user charging.

**Figure 2.6a and 2.6b** show the expected impact of the Business as Usual Scenario and Preferred Scenario on highway demand. It generally points to less demand than the Business As Usual scenario, which suggests only targeted highways improvements will be required where there are particular local issues, growth hotspots or a need for accommodating port and airport freight access.

**Figure 2.7a and 2.7b** show the expected impact of significant increase in rail demand on the rail network. It suggests that additional capacity will be required on all corridors in a preferred scenario.

The model does not provide map outputs for bus or local transit, but the overall increase in forecast demand for bus suggests there will be a need for local interventions to support this growth, which could include mass transit systems such as Bus Rapid Transit.

**Figure 2.4:** Business As Usual Growth Projections

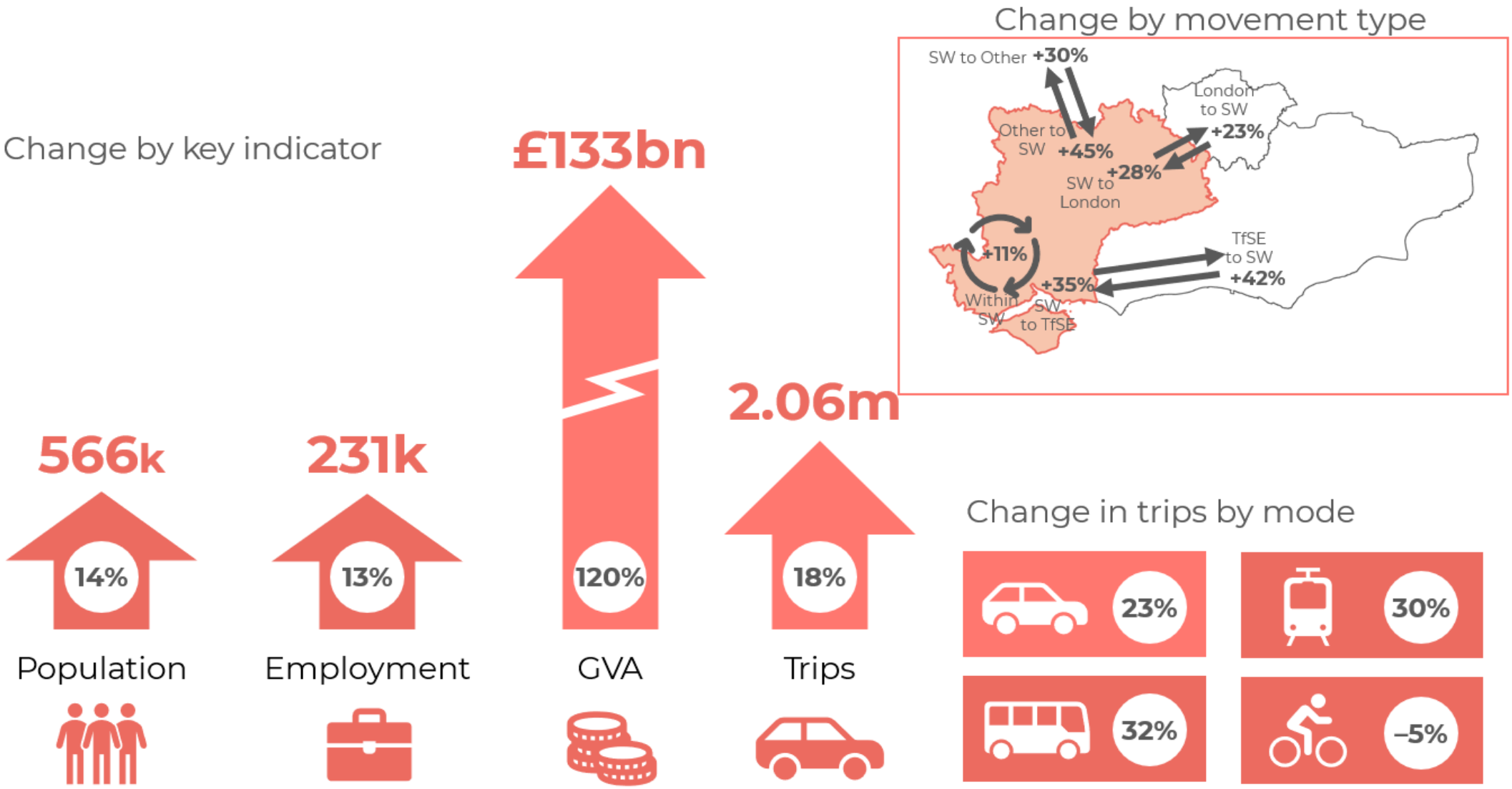


**Figure 2.5:** Preferred Scenario Projections compared to the Business As Usual Projections

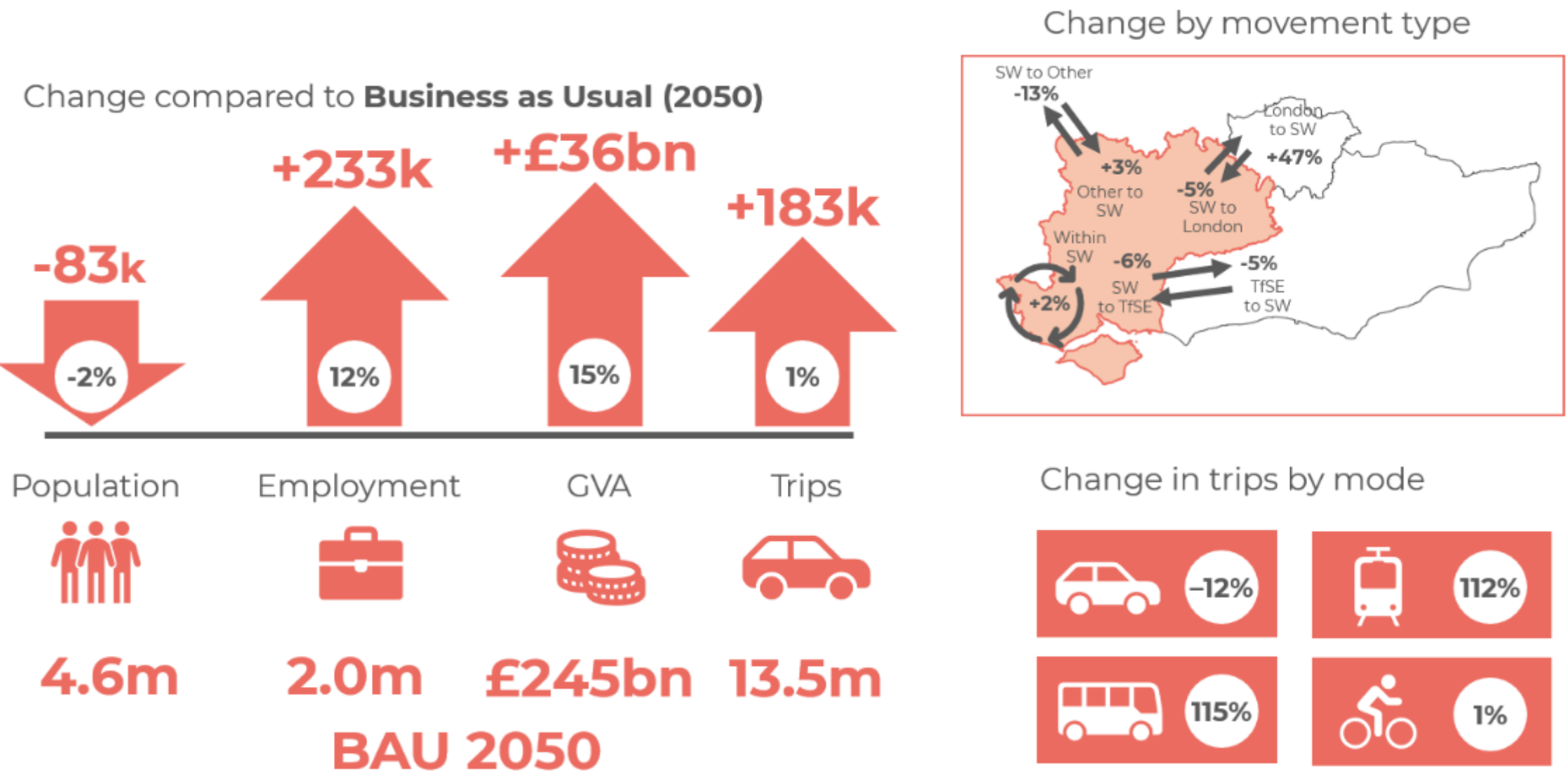


**Figure 2.6a:** Volume over capacity forecasts for highways under the "Business as Usual" Scenario

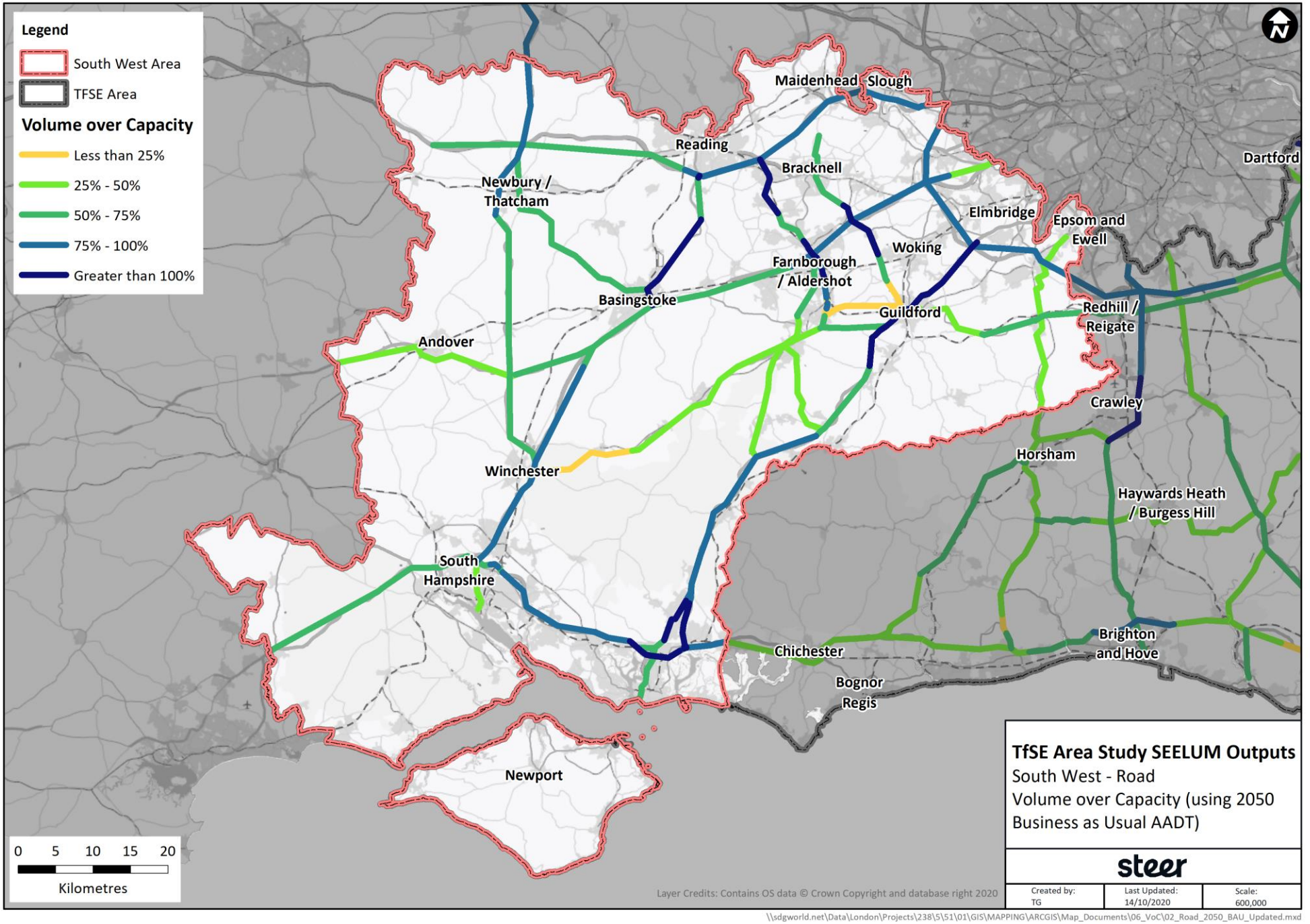


**Figure 2.6b:** Volume over capacity forecasts for highways under the Preferred Scenario, "A Sustainable Route to Growth" in 2050

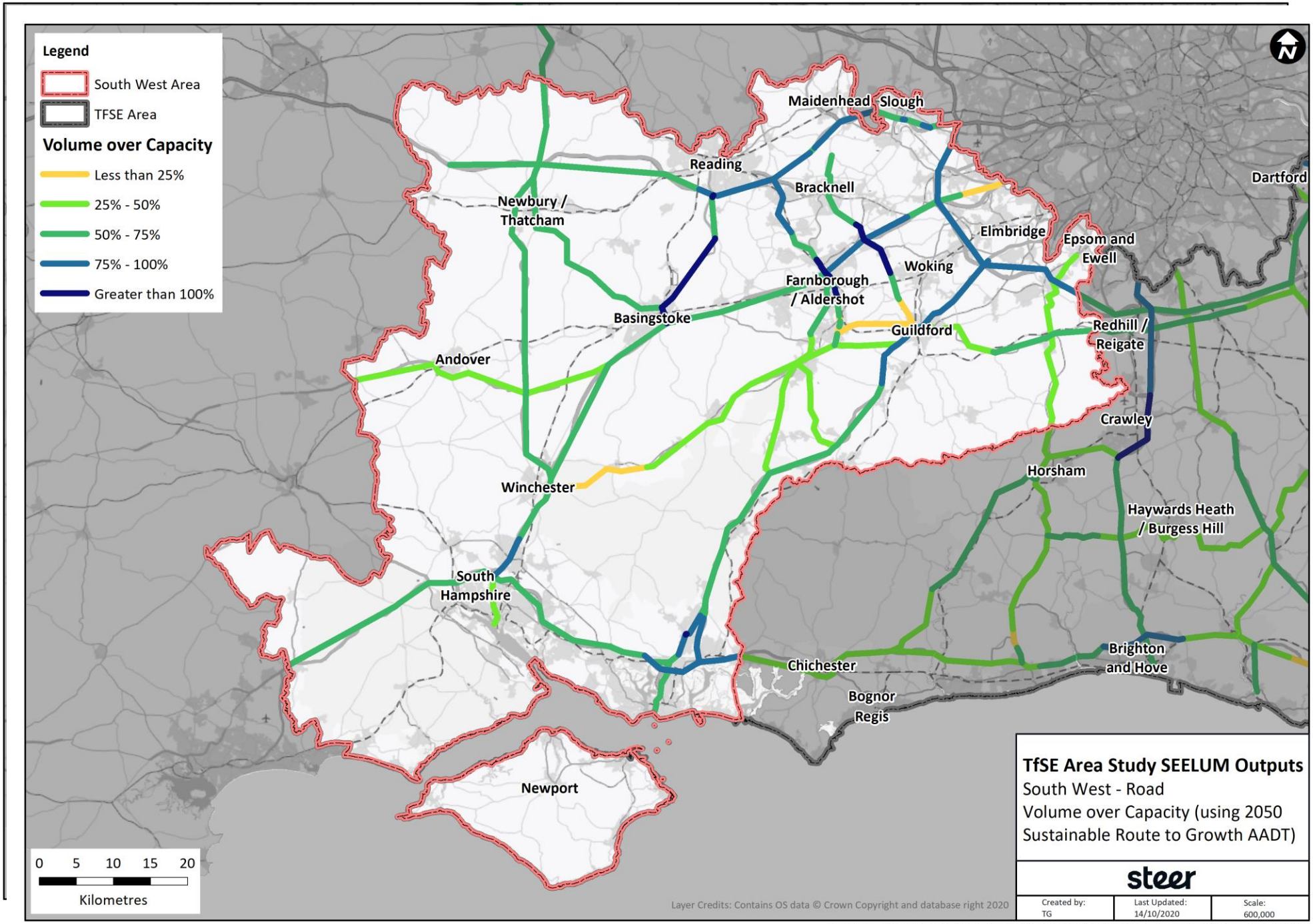


**Figure 2.7a:** Volume over capacity forecasts for railways under the "Business as Usual" Scenario

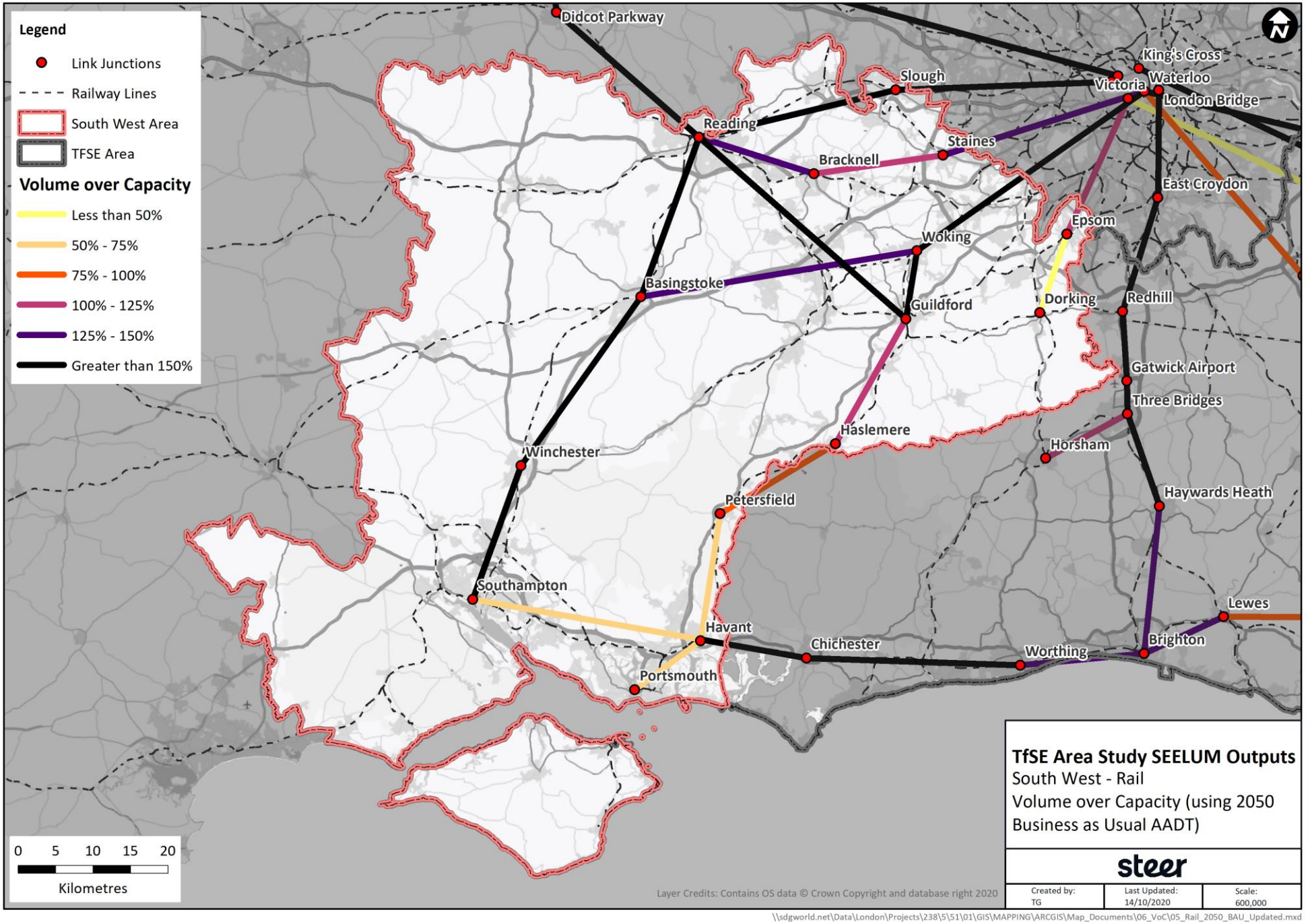
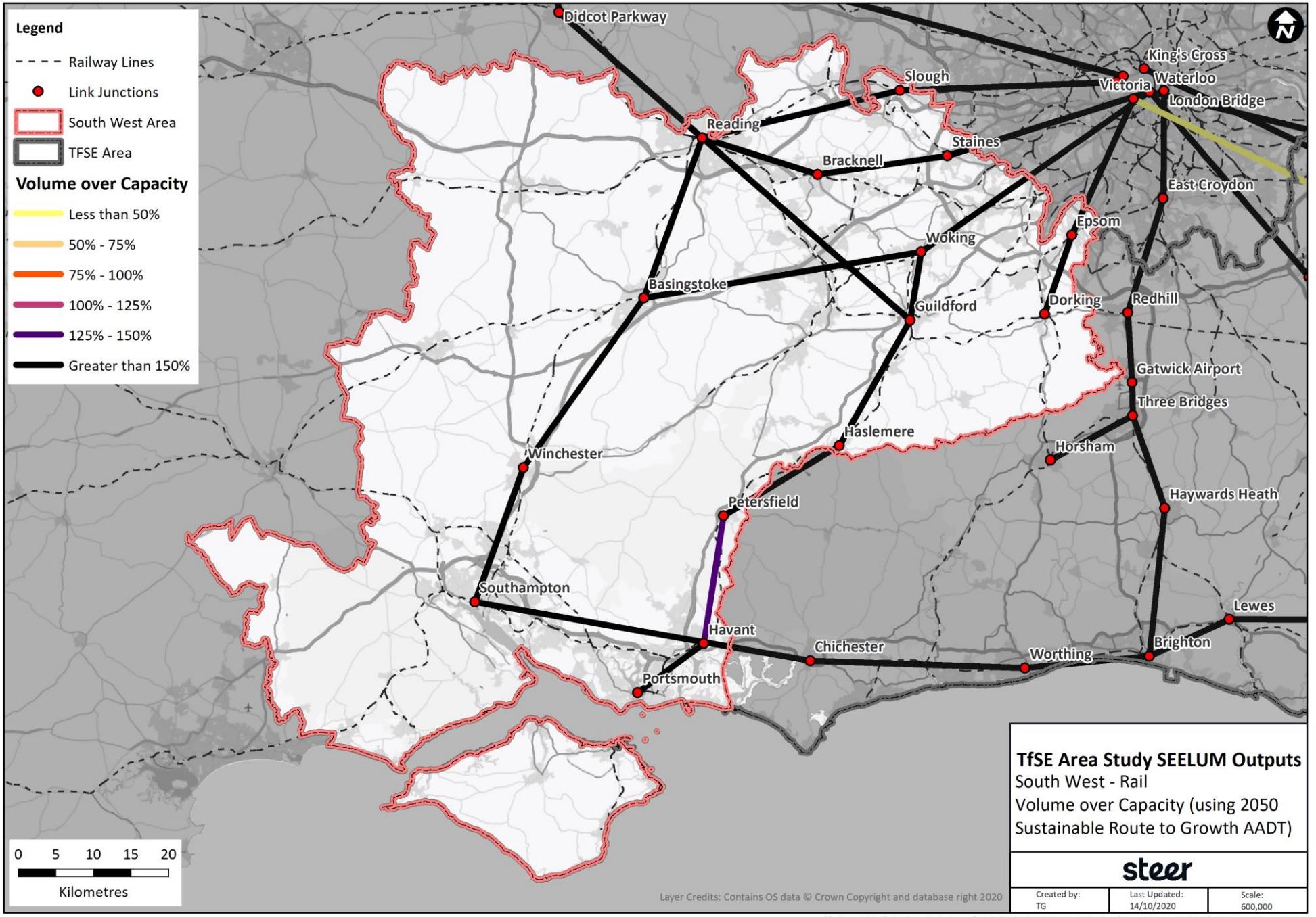
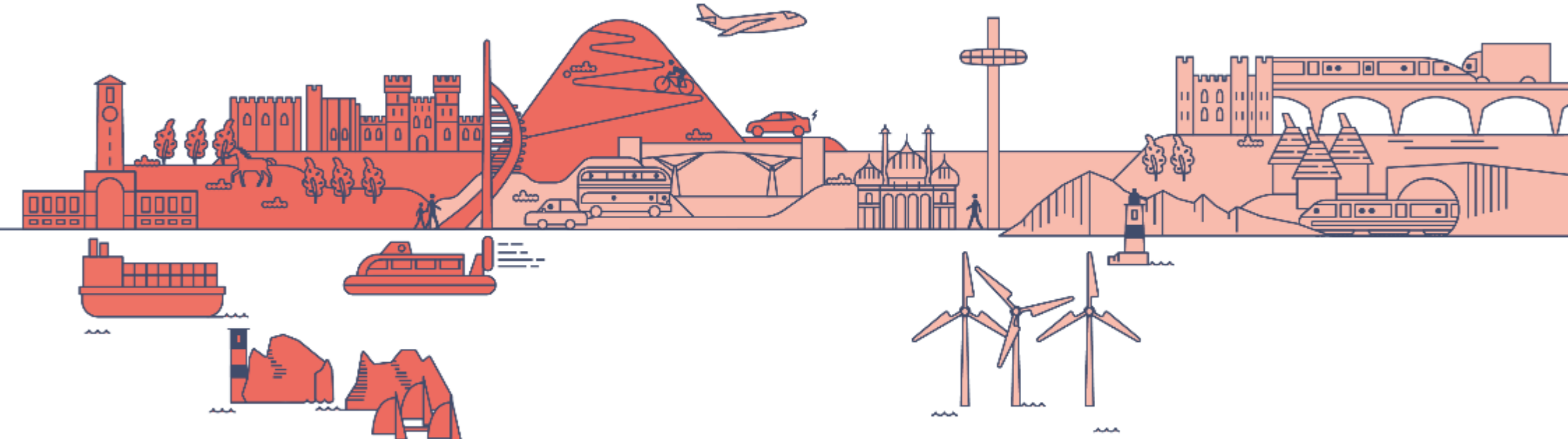


**Figure 2.7b:** Volume over capacity forecasts for railways under the Preferred Scenario, "A Sustainable Route to Growth" in 2050





# Part 2c

## Interventions

# Highway Interventions

**Local Transport Authorities and Highways England are developing interventions to improve connectivity along the South West Radial corridor, many of which will support housing and employment growth in the area.**

**Table 2.1** summarises the key highways schemes that are currently in development in the South West Radial Area. These are at varying stages of development. The List in **Table 2.1** is not exhaustive.

The most prominent north to south corridors in the area are the M3 and the A3, which provides the fastest connectivity from London to Southampton and Portsmouth respectively. Planned improvements on the M3 at Junction 9 will unlock a freight travel pinch point, while conversion of more of the route to 'Smart motorway' will cater for current demand and allow for growth in the future. On the A3, Guildford has been identified as a crucial bottleneck, however, while schemes are being considered, Highways England have not managed to agree or secure financing for a solution.

Multiple corridors also provide east to west connectivity across the area. These include the M27, which connects Southampton to Portsmouth, and the M4, which connects Bristol to London via reading. The M27 is a vital link between two of England's major international ports and a host of schemes have been planned to improve this link in the coming years. These include implementing further section of smart motorway and targeted junction improvements. Along the M4 further sections will also be converted to Smart motorway and a refurbishment will be carried out on the Tidmarch Road Pier.

Many of the interventions highlighted have progressed through the initial feasibility stages and have shortlisted options on the table. However, they still need to follow statutory processes and secure funding if they are to be realised.

**Table 2.1:** Proposed Highway Interventions in the South West Radial Area

| |
|---|
| **M3 road corridor schemes** |
| M3 Junction 9 Improvements |
| M3 Junctions 9 to 14: Smart Motorway Improvements |
| **M4 road corridor schemes** |
| M4 Junctions 3-12: Smart Motorway Improvements |
| M4 Tidmarsh Road Pier Refurbishment |
| **M27 road corridor schemes** |
| M27 Junctions 4 to 11: Smart Motorway Improvements |
| M27 Romsey Road bridge replacement scheme |
| M27 Southampton Junction 8 |
| M27 Junction 3 to M271/A35 Junction - access to Southampton Port |
| M27 Junction 3 to M271/A35 Junction |
| M27 Junction 8 + Northam Rail Bridge and A3024 MRN Corridor |
| **A road corridor schemes** |
| A3 Wisley/M25 Junction 10 Interchange |
| A27 Portsmouth East/West - A27/A2030 Junction and Cosham Railway Bridge |
| A320 North Corridor |
| A3 Guildford Bypass |
| A3 Ripley to Guildford |
| A3095 Bracknell road upgrade |

# Railway Interventions

**A number of stakeholders have ambitions for a range of rail upgrade schemes that will enhance railway connectivity between centres in the South West Radial Area.**

**Table 2.2** summarises the key railway schemes that are currently under development in the South West Radial Area. This includes schemes currently being delivered by Network Rail and future ideas proposed by local stakeholders to improve rail connectivity along the corridor.

The majority of this area is part of Network Rail's 'Wessex route', which hosts over 230 million passenger journeys each year, 100 million of which travel to or from London Waterloo. But the route is also important for rail freight, linking the major port at Southampton with the north (this is also covered in the next slide).

Network Rail are committed to developing the route in the coming years and support a range of schemes, both minor and major, intended to improve the route's efficiency and capacity. Major schemes notably include Crossrail 2, which may allow for greater capacity between London and key locations like Southampton, Portsmouth, Woking and Guildford.

In addition to this, Network Rail is investing over £2 billion into railway infrastructure across the southwest, which will be invested into a range of locations including Track improvements at Guildford and an £18m investment in a freight train lengthening scheme in Southampton.

Local stakeholders across the area are also promoting schemes (some of which are supported by Network Rail) that aim to enhance and improve the rail offer across the South West Radial Area, these are noted in **Table 2.2**. Many of the schemes listed in **Table 2.2** are still in the early stages of their development. This provides an opportunity for stakeholders to influence the scope and design of these schemes to maximise their impact on travel in the area. The list in **Table 2.2** is not exhaustive.

**Table 2.2:** Proposed Railway Interventions in the South West Radial Area

| Railway upgrade schemes |
|---|
| Guildford platform capacity increase |
| Reading West Station upgrade |
| Winnersh Triangle Parkway station upgrade |
| Newbury Station upgrade |
| Theale Station Park and Ride upgrade |
| Maidenhead Railway station access |
| Fareham - platform upgrade creating a through platform and passing loop |
| Portsmouth to Portcreek signalling |

| New railway schemes |
|---|
| Western Rail Link to Heathrow |
| Southern Rail Link to Heathrow |
| Ashford International to Tonbridge line upgrade (with potential extension to Reading via Redhill and Guildford) |
| Woking Area Capacity Enhancement - Woking flyover enabling a direct route to the Portsmouth Direct Line, extension of platform 6 |
| Basingstoke Grade Seperation - Reading Line and South West Mainline |
| New Reading Green Park railway station |
| Crossrail 2 |
| Southampton – Basingstoke – Reading – Oxford Rail Freight and Passenger Capacity Enhancement |

# International Gateway and Local Transport Interventions

**Proposals for the South West Radial area also include several potential Mass Transit options and a host of local sustainable schemes. Alongside these it is notable that the area is home to both Southampton and Portsmouth, which include two of the UK's major ports and Southampton international Airport.**

**Table 2.3** summarises the key international gateway and local transport interventions under development in the South West Radial Area. The list in **Table 2.3** is not exhaustive.

Southampton Port is already the 5th most significant UK port in terms of tonnage handled and is planning for significant growth (up to 1 million tones more per annum) between now and 2050. Highways schemes, such as upgrades to relevant junctions along the M27, will unlock freight capacity on the roads, while additional freight paths north through Oxford will also relieve congestion and allow good to be transported more efficiently. Improvements to Southampton international airport will allow the airport to host more services from different airlines and to different locations, supporting post-COVID recovery. Discussions are also underway supporting a stronger link to London Heathrow as part of the southern Access to Heathrow Scheme, which will provide efficient service from the South West Radial Area to one of the worlds busiest and well-connected airports.

Local stakeholders are also committed to providing an attractive alternative to car use in urban centers across the region. Larger scale mass transit opportunities are in discussion, including the South Hampshire Bus Rapid Transit Scheme and the second phase of Slough Mass Rapid Transit. Supporting these are a host of sustainable transport packages which further look to create extensive, useful walking and cycling networks or private car alternatives which serve the requirements of local residents. These schemes have access to funds such as the Transforming Cities Fund (TCF) which should facilitate their development.

**Table 2.3:** Proposed International Gateway and Local Interventions in the South West Radial Area

| |
|---|
| **International Gateway schemes** |
| Southampton airport investment Programme, including runway extension |
| Portsmouth International Port Investment |
| M27 Junction 3 to M271/A35 Junction - access to Southampton Port |
| Southampton – Basingstoke – Reading – Oxford Rail |
| Southern Access to Heathrow (SAtH) |
| **Mass Transit schemes** |
| SEHRT South Hampshire Bus Rapid Transit |
| Solent Metro |
| Slough Mass Rapid Transit Phase 2 (SMaRT P2) |
| **Local sustainable schemes** |
| Southampton Transforming Cities fund |
| Portsmouth City Council LSTF Project - Transforming cities fund |
| Wokingham - National Cycle Network Route 422 |
| Guildford major transport schemes/unlocking Guildford |
| Blackwater Valley Gold Grid - bus, cycling and public realm works |
| Maidenhead Town Centre "Missing Links" scheme |
| Thames Valley Park and Ride |
| Coppid Beech Park and Ride to serve both Wokingham and Bracknell town centres |
| A range of Sustainable Transport Package across Surrey (including Deepdene Phase 1, Redhill, Epsom- Banstead and Greater Leatherhead) |
| Thames Valley Berkshire Smart City Cluster (digital innovation) |

# Part 2d

## Covid-19

# COVID-19

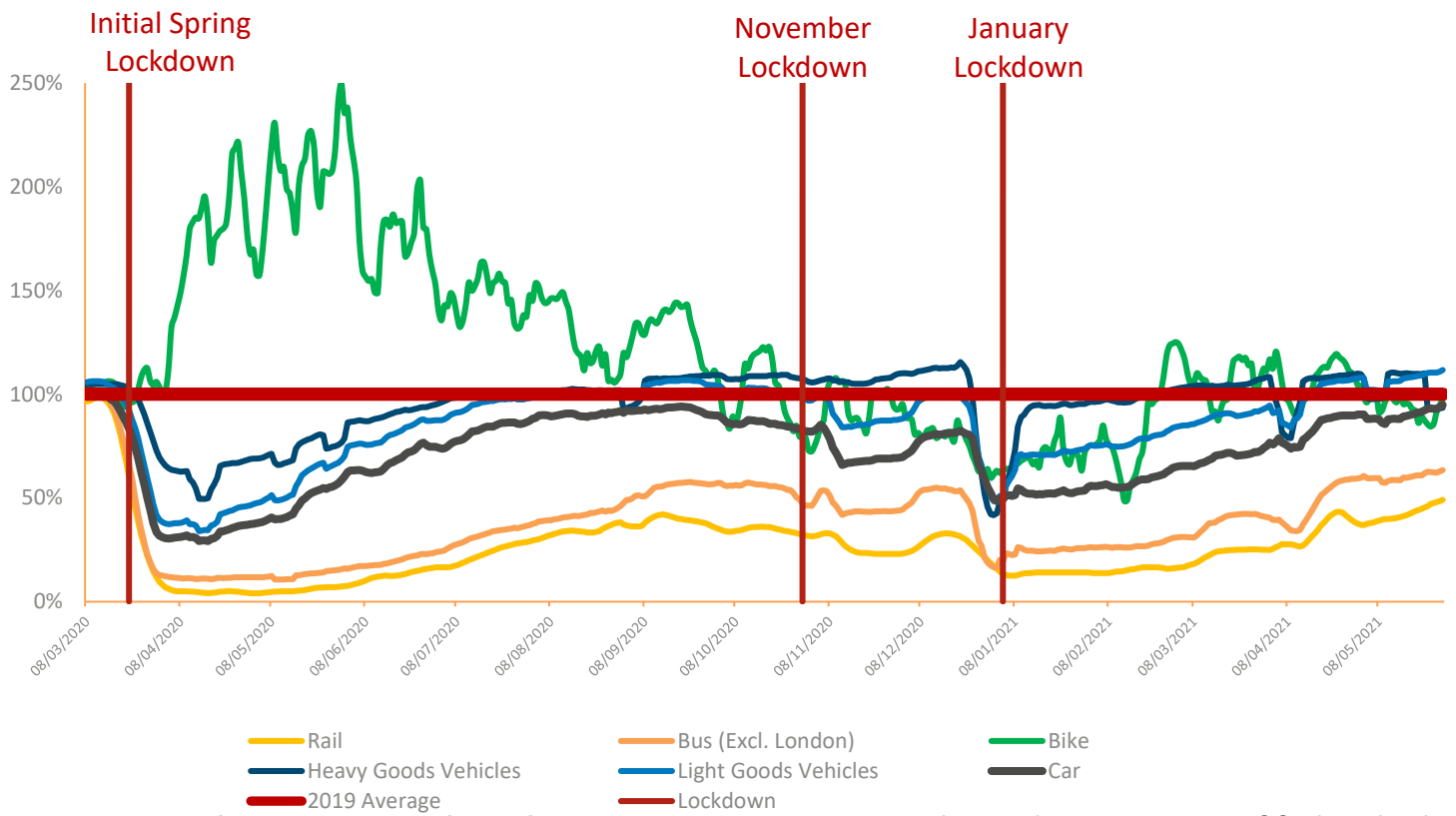
**The South East has been severely impacted by the COVID-19 pandemic – both in terms of the health of its people, and in terms of the economy.**

At the time of writing, the South East had experienced three periods of "lockdown". Each lockdown has had a significant impact on the economy and transport network. Although national rollout of a vaccine means that a "return to normal" is now on the horizon, there remains significant uncertainty about how the transport network is going to develop post COVID-19.

### Impact on transport networks and demand

As **Figure 2.8** shows, travel behavior has differed markedly compared to the 2019 average. In general, the first lockdown generated an initial increase in the use of active modes in urban areas, which has since declined as the winter has advanced. Motoring rebounded quickly after the initial lockdown and is now at pre-pandemic levels. Public transport has been severely impacted across all areas, and revenues have been significantly impacted by this trend. International travel has also remained suppressed, in part due to the double impact of the pandemic and BREXIT. However, it is too early to predict how this will vary over the longer term.

**Figure 2.8: Indexed transport demand by mode (national)**




### Impact on the economy and employment

There has also been a significant impact on the economy and employment. In March 2020, the Treasury introduced a furlough scheme to cover a portion of the cost of employees who were unable to work during the spring lockdown. The proportion of furloughed workers therefore presents a useful measure for COVID-19's economic impacts.

**Figure 2.9** shows the proportion of furloughed workers in the area. Furlough rates were particularly high in the New Forest and on the Isle of Wight, which may be due to the high dependence on hospitality of these areas. The post-pandemic economic impacts remain to be seen. **Figure 2.10** shows the proportion of workers working from home across the South East. This was particularly high in Winchester, Basingstoke and parts of Surrey, but far lower in Southampton.

**Figure 2.9:** Proportion of the workforce participating in the COVID-19 furlough scheme

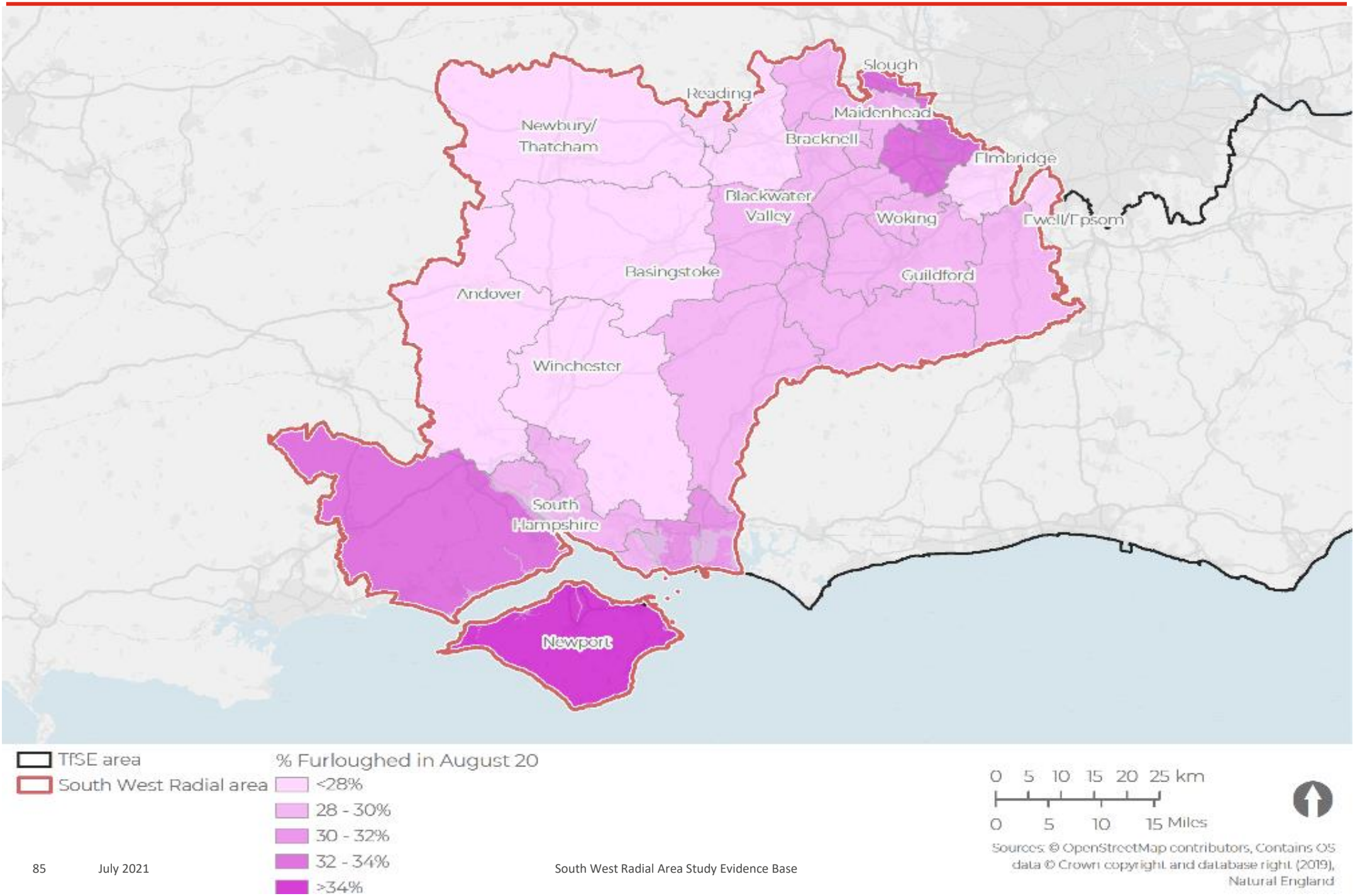
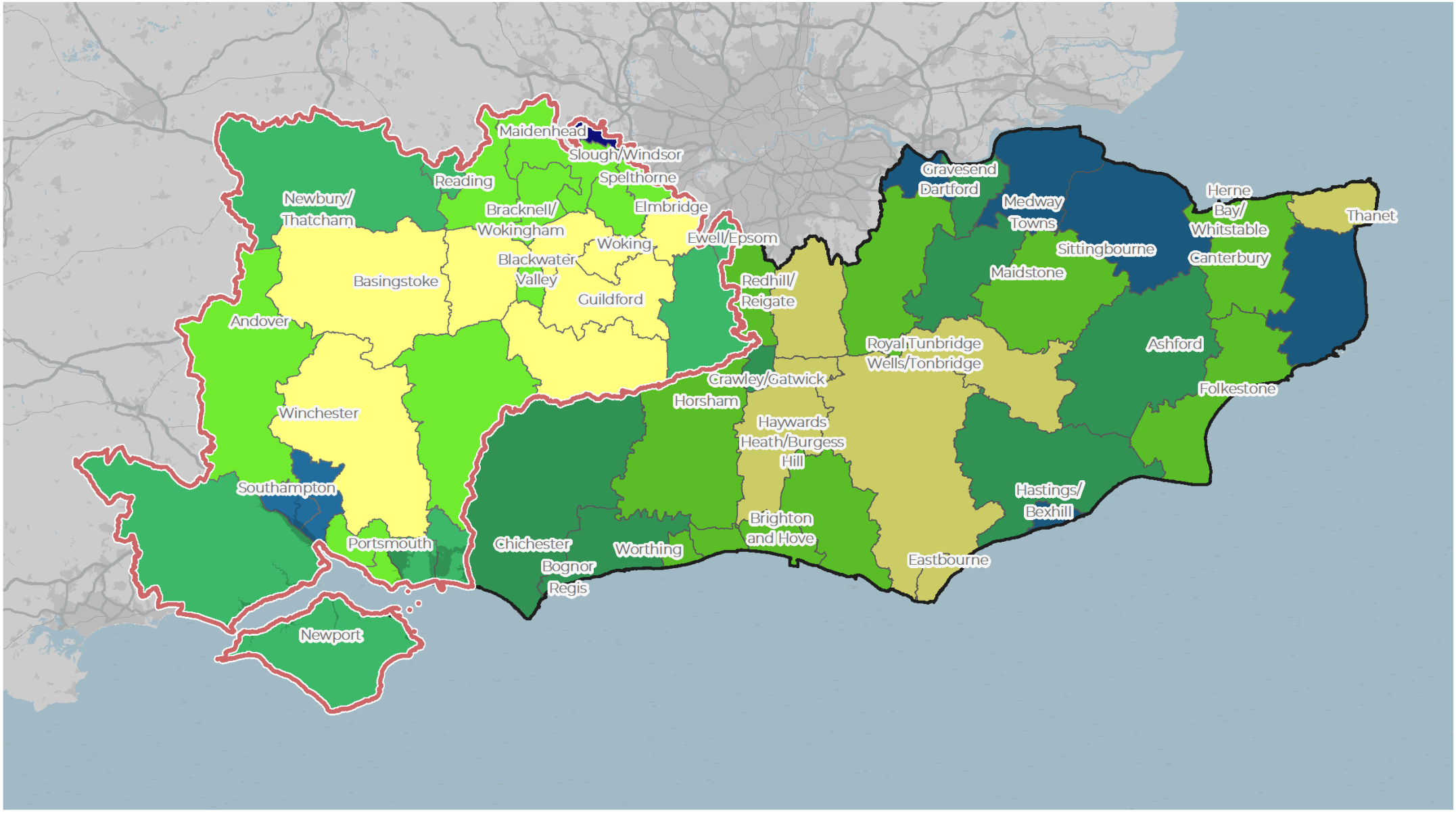


**Figure 2.10:** Proportion of the workforce working from home during Covid-19

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# Part 2e

## PESTLE Analysis

# PESTLE Analysis - Introduction

## What is PESTLE analysis?

**PESTLE considers the key exogenous drivers that might impact the South West Radial Area.**

The framework considers:

- **Political**
- **Economic**
- **Sociological**
- **Technological**
- **Legal**
- **Environmental**

This framework is designed to capture the key external factors which may impact upon any organisation or area. This can help the organisation to spot future risks and opportunities which may impinge/influence its future strategy. This type of analysis is particularly useful in this area because of the array of factors which feed into its future development – there is no single overriding factor which will define its future development.

A summary of the key issues we have identified through this analysis is presented in **Figure 2.11** to the right and explored in more detail in the following two pages.

**Figure 2.11:** Summary of PESTLE Analysis

### Political

- Increasing interests and concerns about Climate Change and the environment
- The "Levelling Up" agenda and devolution
- COVID-19 and "Building Back Better"

### Economic

- COVID-19 and associated economic impact
- New UK/EU trading arrangements
- Reducing reliance on London as an economic centre

### Social

- Inequality
- Ageing population
- Changes in working patterns

### Technological

- New mobility
- Broadband and mobile telephony connectivity
- Technological developments in established transport networks

### Legal

- UK Exit from the European Union
- Planning framework reforms
- Local government reform

### Environmental

- Climate Change
- National Parks
- Changing attitudes and behaviors to sustainability

# PESTLE Analysis (1 of 2)

## Political

- **Environmental awareness –** There is increasing awareness in the political mainstream that environmental destruction fundamentally threatens the stability of our societies. This shift in policy/political direction will likely change the nature of the conversations being conducted about future scheme development in the South West Radial Area.
- **"Build Back Better" –** Following calls for a "Green New Deal", the current government is promising to "Build Back Better" following the COVID-19 pandemic. This may help the South West Radial Area alleviate significant constraints, in terms of housing provision and transportation links.
- **"Levelling up" –** The government has expressed a need to 'level up' the economy, helping to reduce inequality. Greater devolution of power to local government and the rise of LEPs may also improve decision making at a regional level, and increase the effectiveness of many schemes.

## Economic

- **COVID-19 recession –** The UK economy is currently in a recession resulting from the COVID-19 pandemic. It has caused unprecedented structural changes to, and imposed severe limits upon, economic activity. This will have a major impact on the economic development of the South West Radial Area, and the South East more widely. In times of austerity, central government may be forced to reduce grants to Local Authorities. Local Authority funding may be affected by declines in local income streams (e.g. business rates).
- **Reducing reliance on London as an economic centre** – The government have outlined an ambition to "level up" the economy through investing more in the regions. The South West Radial Area could benefit from this investment. Couple this with COVID-19 and a shift in attitudes to working in large centres, there may be more scope for developing local economies which will benefit small and medium sized enterprises. There is opportunity for new industries in the region, which will drive jobs and earning potential.

## Social

- **Inequality –** There are pockets of high levels of deprivation in South West Radial area, notably in Southampton, Portsmouth and in urban areas on the Isle of Wight. Many people also find it challenging to afford a place to live as housing is relatively expensive in this area.
- **Ageing population –** Certain sections of the South West Radial area have a very concentrated elderly population. Therefore the needs of the elderly will need to be addressed with regards to accessibility to transport and mobility.
- **Changes in working patterns –** In response to the COVID-19 pandemic, significant volumes of people are working totally/more extensively from home. This has encouraged individuals who might otherwise have lived and worked full-time in London to spend more time in the wider South East. Some stakeholders believe this trend will continue and this could lead to more people living further away from London and commuting less frequently than before.

# PESTLE Analysis (2 of 2)

## Technological

- **New Mobility –** This encompasses new, emerging technologies (e.g. electric vehicles, scooters, and bikes) as well as new business modes, often based on sharing rather than owning assets. Advances in technology must be allied with encouragement by local political actors to ensure the uptake of these technologies is straightforward and widespread.
- **Broadband and mobile telephony connectivity –** Social changes, such as increased home working, and the greater resilience on an internet connection to share data about what is happening around the transport network (e.g. congestion) mean that connectivity to the internet is becoming increasingly important for economic prosperity and development.
- **Technological developments in established transport networks –** This includes Smart Motorways and technology to allow for dynamic and automated signalling which can increase capacity by enabling trains to run closer together at higher speeds.

## Legal

- **UK exit from the European Union ("BREXIT") –** Significant changes in the legal frameworks which govern trade flows between the UK and EU were introduced in March 2021. This will likely have a major impact upon the flows of people and goods that move through the international gateways located in the South West Radial area, potentially leading to delays and congestion.
- **Planning Framework Reforms –** The current approach toward planning and developing schemes can make it challenging to achieve alignment between spatial and transport planning (and interventions).
- **Local Government Reform** – There is a general trend in UK local government towards Unitary Authorities and Combined Authorities. Unitary Authorities, which combine the powers and roles of counties and districts into a single authority, exist in several parts of the South West, including Berkshire. In other parts of England, Unitary Authorities are being established to replace two tier counties. Some areas are going further by combining transport functions through Combined Authorities.

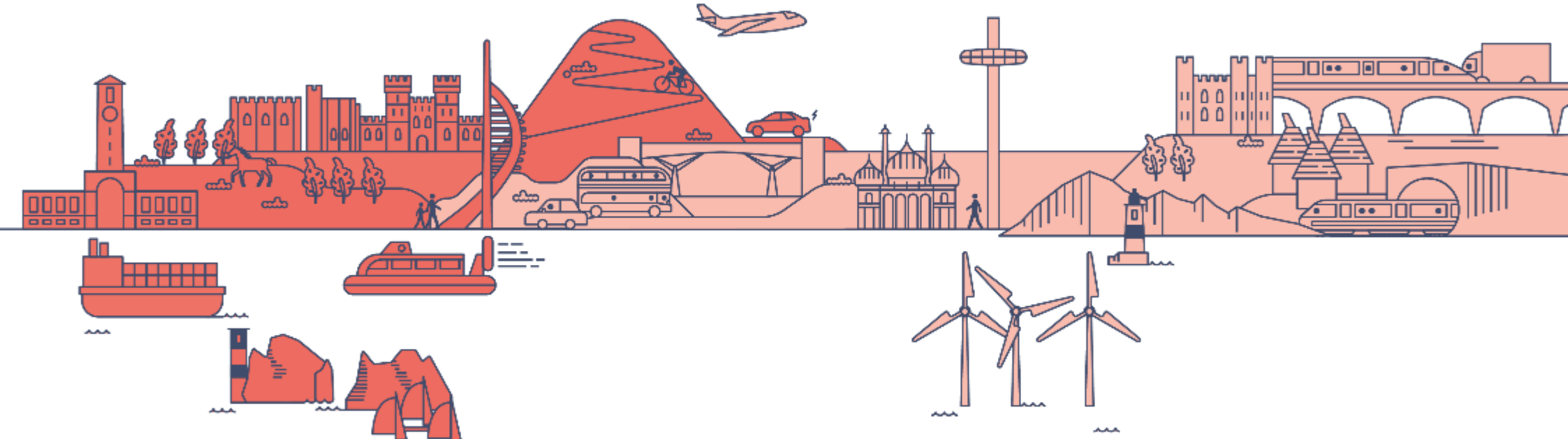
## Environmental

- **Climate Change –** The South West Radial area will be impacted by the climate crisis. This is already one of the warmest areas in the country and several areas identified as being at the highest risk of flooding. It is also forecast to have one of the fastest rising temperatures of all UK regions. Many activists are increasingly using the UK's Climate Change Act (2019) to challenge infrastructure planning decisions.
- **National Parks** – The South West Radial area is home to several internationally recognised protected areas, including the North Wessex Downs and the Surrey Hills. These are one of the region's core strengths. However, they can constrain some opportunities for development.
- **Changing attitudes and behaviors to sustainability** – People are becoming more aware of the wider climate issues. Environmental groups are becoming more vocal in the region, showing strong opposition to infrastructure schemes which may harm the natural environment or increase carbon emissions. This may encourage more people to switch from less sustainable transport modes to more sustainable modes.

TRANSPORT FOR THE South East

# Part 3

## Need for Intervention



# Part 3a

## SWOC Analysis

# SWOC Analysis

## Introduction

SWOC is a framework that considers:

- S Strengths
- W Weaknesses
- O Opportunities
- C Challenges

It is used to help understand and synthesise an organisation or area's current resilience, and future potential.

We have analysed the evidence presented in earlier parts of this document and worked with stakeholders – including members of this area study's Working Group and the study's wider stakeholder forum – to understand the key strengths, weaknesses, opportunities and challenges in the South West Radial Area.

These are summarised to the right and on the following two pages.

## Strengths

- **Connectivity to London –** notably on the South Western Main Line and M3/A3 corridor.
- **Prosperous economy –** with particular strengths in the ports and freight services industries.
- **Natural and historic environment –** the corridor has a high density of protected landscapes/coastlines, and numerous historic landmarks, towns, and cities.
- **Agricultural** – the area has a high portion of high-quality farming land.
- **Overall diversity in places and economy –** the proximity of vibrant cities, diverse landscapes, and economic opportunities provides a high level of opportunities and quality of life for residents.
- **Key cities, including one of the largest conurbations in England (Southampton and Portsmouth) –** which serve as key recreational and employment hubs.
- **International connections –** area is home to both Southampton airport and port and the port of Portsmouth.
- **Leading universities –** including Reading and Southampton and Guildford.

## Weaknesses

- **Poorer connectivity off the primary North-South corridor –** this makes journey times by public transport uncompetitive compared to private car journeys, especially for coastal communities such as Portsmouth and the Isle of Wight.
- **Connectivity for the Isle of Wight –** the island suffers from poor connectivity to the mainland with high ferry costs. This has an affect for residents on ease of access to opportunities, jobs, services and medical care.
- **Poor rural connectivity –** rural areas are less well served by public transport than denser, more highly populated urban areas, which means public transport access is often poor and not competitive with the car.
- **Complex governance landscape –** with multiple levels of regional, local, and national government, meaning that decision-making can be complex and slow.
- **Productivity gaps and pockets of deprivation –** while transport is not the only driver of this outcome, poor connectivity may be contributing to poor socioeconomic outcomes, particularly in coastal communities such as the Ise of Wight.

# SWOC Analysis

## Opportunities

- **Domestic tourism –** the region has some of the most easily accessible coastline in the country, with large nearby population centres. Recent interest in domestic tourism could reinvigorate local tourism.
- **Support for decarbonisation –** the area includes several local authorities who have indicated strong support to decarbonise their respective areas. This is an opportunity for stakeholders to promote sustainable transport interventions and use the area's resources to generate sustainable energy (e.g. offshore wind).
- **Housing and employment growth –** investment will enable more of the South East's residents to access affordable housing and local employment.
- **Freight industry –** The freight industry in the area is already strong and provides considerable economic benefits to the area. The recent successful bid for the Solent Free Port provides further benefits to the local economy in the South West Radial area, Southampton and Portsmouth in particular. The forthcoming free port will create a number of new jobs in the area.

## Challenges

- **Climate change (sea level rise, coastal erosion, extreme storms, droughts) –** parts of the area are susceptible to flooding if sea levels rise. Several transport corridors are vulnerable to disruption (e.g. landslips) caused by extreme weather.
- **Decarbonisation challenge –** parts of the area's transport network and economy (e.g. aviation) will find it difficult to completely decarbonise in the medium to long term.
- **Population growth –** significant investment is needed to ensure adequate housing, infrastructure, and services are needed to support a growing population.
- **COVID-19 and economic fallout –** parts of the South West Radial Area, were already behind in some economic indicators prior to the pandemic and are exposed to the economic impact COVID-19.
- **Transport accessibility, equity and social inclusion –** particularly in rural areas, coastal communities, and other areas with high indicators of deprivation.
- **Building consensus among stakeholders –** this has proved challenging in recent years.

## Conclusions

**The South West Radial Area has a strong economic foundation, particularly with its strength in the freight industry. it is well placed to prosper, despite the challenges posed by COVID-19 and the UK's changing relationship with the European Union.**

There is *some* evidence that the COVID-19 pandemic has caused many businesses and employees to re-evaluate their working practices. While there will continue to be a need for workplaces and work-related travel, there may be an opportunity to use the lessons from COVID-19 (and the technology that supports remote working practices) to work further away from major cities like London. This may markedly change transportation and development patterns across the region in the coming years and provide benefits to other economic hubs in the South West Radial area.

The impacts are unclear: Perhaps more businesses inside the M25 may see benefits in relocating to coastal towns and cities? Perhaps there will be more interest in domestic tourism (which had a very strong 2020 and 2021) and more people will be interested in short breaks in the South West, such as the isle of Wight? Either way, there are opportunities, and the transport system should be prepared for them.

**Figure 3.1:** South West Radial Area SWOC

A summary of the key global strengths, weakness, opportunities and challenges for the South West Radial Area are provided below. This was created in consultation with TfSE's key stakeholders.

## Strengths

- Proximity/connectivity to London
- High value sectors (Port and freight industries)
- Natural/historic environment and quality of life
- Isle of Wight tourism
- Rail services, South Western Main Line
- Cycling (popular leisure routes)
- Some well performing conurbations
- Solent cluster provides economic benefits
- Prosperous economies

## Opportunities

- Growth (inc. Green Growth) and investment in general
- COVID-19 recovery and 'levelling up' agenda
- Decentralised energy (hydrogen/offshore wind)
- Technology and planning opportunities to improve AQ
- Domestic tourism growth – Isle of Wight
- Funding opportunities from development
- Improvements in technology and broadband
- International shipping route only goes to south coast ports
- Cycling mode shift
- Collaboration between different LPAs to extract strategic infrastructure spend

## Weaknesses

- Weak integrated/transport planning/planning constraints
- Poor bus services in some areas and rural bus service connectivity
- Capacity challenges (highways, railways, energy)
- High reliance on car, especially in rural areas
- High levels of congestion and its effects on Air Quality, health, community severance and sense of place
- Rail network trying to be all things to all people
- Poor resilience on highway and railway networks
- Housing planning imbalanced with job growth
- Gaps in active travel infrastructure

## Challenges

- Decarbonisation
- New trading arrangements with the European Union
- Poor socioeconomic outcomes exacerbated by COVID-19
- Future energy needs (electricity, hydrogen, etc)
- Housing targets are getting harder to hit
- People will still need cars
- Providing for rail freight from Southampton and Portsmouth
- Protected areas harder to protect, and constrained
- Need for joined up thinking/appropriate governance
- Funding (amount needed/ties to development/silos)
- Rising micro-freight/last mile freight demand
- Nimbyism

**Figure 3.2:** South West Radial Area SWOC

## Rail

### Strengths

- Proximity/connectivity to London
- The existing rail network serves most major economic hubs in the area
- Freight rail route connecting Port of Southampton to Oxford and the West Midlands
- Much of rail network is already electrified

### Opportunities

- Significant investment is already planned for capacity and resilience improvements (but need funding)
- Rail industry reform
- Rail is a low carbon form of travel (with lots of existing electrification), so the case for investment to stimulate further modal shift is strengthened

### Weaknesses

- Slower rail journey times from London to Portsmouth
- Poor timetabling between Portsmouth and the Isle of Wight
- Capacity challenges at Woking
- High fares (often in low-income areas)
- Not all towns served well by rail
- Some inter-urban rail journeys slower than by car

### Challenges

- COVID-19 recovery, funding, affordability
- Capacity constraints, especially on radial routes
- Climate change (impacts on the network and the need to decarbonise)
- Integration barriers with other modes
- Rising micro-freight/last mile freight demand
- Integration barriers with other modes

**Figure 3.3:** South West Radial Area SWOC

## Active and local travel, new mobility, policy

### Strengths

- High bus usage in some urban areas (e.g. Reading and Wokingham)
- Successful new mobility trial in the Solent with e-scooters and drone trials connecting the Solent to the Isle of Wight
- Good intraurban bus networks in Southampton, Portsmouth and Reading.

### Opportunities

- Park and Ride infrastructure can be better used to increase bus patronage and provide facilities for delivery consolidation centres to enable sustainable last mile freight trips into town centres.
- New technology to encourage transport integration.
- Demand management measures to reduce highway congestion and generate revenue.

### Weaknesses

- Congestion in urban areas causing poor air quality.
- Rural public transport provision is insufficient.
- Active travel network does not provide for local commuting trips compared to leisure trips

### Challenges

- Climate change (resilience and the need to decarbonise motoring).
- Funding constraints.
- Limited bus connectivity, frequency and operating hours, outside of largest conurbations being a disincentive to use sustainable transport.
- Reducing negative perceptions of bus travel.
- Disruption during construction.
- Safety for cyclists.
- Political challenges for cycle investment.
- Providing sufficient connectivity, accessibility and affordability across the Solent

**Figure 3.4:** South West Radial Area SWOC

## Highways, International Gateways

### Strengths

- Well developed radial road network, with the M3 and A3 providing good north-south connectivity, and onward connectivity to other regions in the UK.
- International Gateways including ports of Southampton and Portsmouth - forthcoming Solent Free Port
- Strong recent increase in bus patronage in some areas (e.g. Reading and Wokingham)

### Opportunities

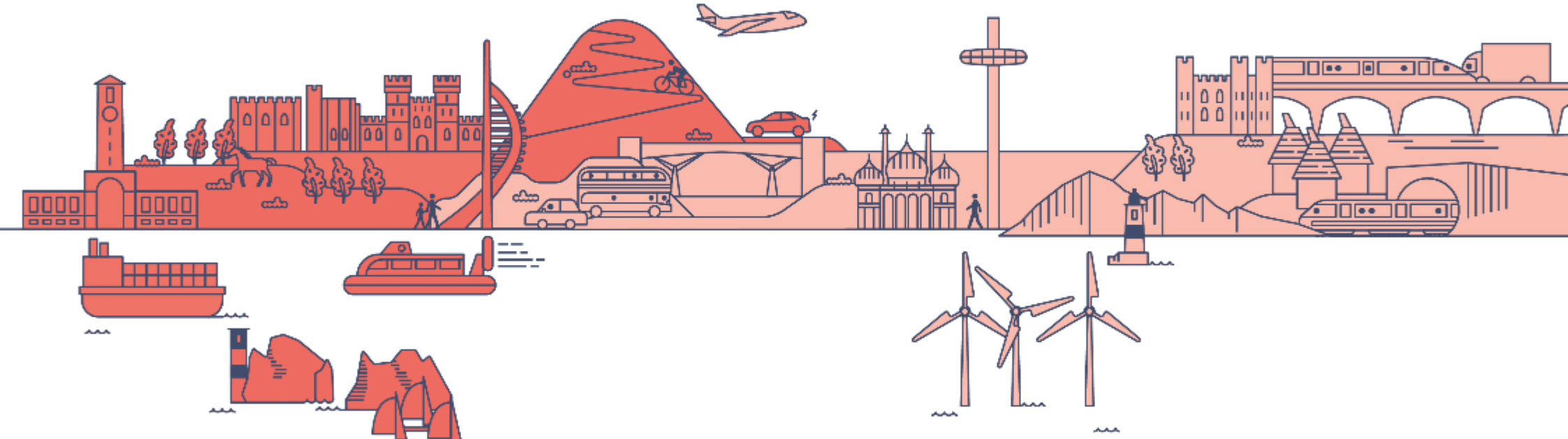
- Significant investment in additional capacity planned for Southampton (and to a lesser extent, Portsmouth)
- Government policy on free ports may offer opportunities for investment
- Scheme pipeline includes several interventions to target weaknesses – including several mass transit schemes
- Government policy strongly supports bus
- Demographics and landscape is well suited to public transport and healthy transport
- Significant housing investment planned

### Weaknesses

- Poor bus services and rural bus service connectivity
- Capacity challenges
- High reliance on car, especially in rural areas
- Unaffordable housing
- Poor congestion, safety, and air quality outcomes, notably at bottlenecks
- Gaps in active travel infrastructure and low active travel mode share

### Challenges

- Climate change (resilience and the need to decarbonise motoring).
- Increasing opposition to highway intervention (including cycleways) – partly driven by concern about climate change
- Funding constraints
- Reducing car reliance and incentivising higher public and active travel modes
- Decarbonisation is especially hard for road, aviation and shipping
- Managing last mile freight demand



# Part 3b

## Problem Statements

# Problem Statements

## Global issues

1. Transport is not decarbonising fast enough
2. Climate change threatens the resilience of transport networks
3. Parts of the South West Radial area have poor socioeconomic outcomes
4. There is a significant need for more housing – but it needs to be sustainable
5. Demand for public transport has been negatively affected by COVID-19

## Urban and inter-urban transport

6. In too many areas bus services do not provide a competitive sustainable alternative to cars
7. In parts of the area public transport does not adequately provide for strategic local trips
8. Connectivity out of the region is often poor via sustainable modes
9. Highway congestion limits public transport connectivity on the Isle of Wight
10. Ferry services on the Isle of Wight do not facilitate the same level of access to services as the mainland
11. Ferry fares are high and do not provide enough accessibility to and from the Isle of Wight
12. Highway congestion constrains access to Solent Ports
13. Radial highway corridors close to the M25 South West Quadrant experience considerable congestion

## Active Travel

14. Active travel mode share is low for short journeys in the region

## Rail

15. Infrastructure could be upgraded to allow more freight to be carried by rail
16. Portsmouth to London by rail is slower than most radial services in the wider South East area
17. The Inner South West Mainline between Woking and London is particularly capacity constrained
18. There are opportunities to improve rail connectivity between major economic hubs
19. There are opportunities to improve radial rail connectivity to London Heathrow

# 1 Transport is not de-carbonising fast enough

**While many stakeholders in the South West Radial Area recognise the need to decarbonise, this is not happening fast enough.**

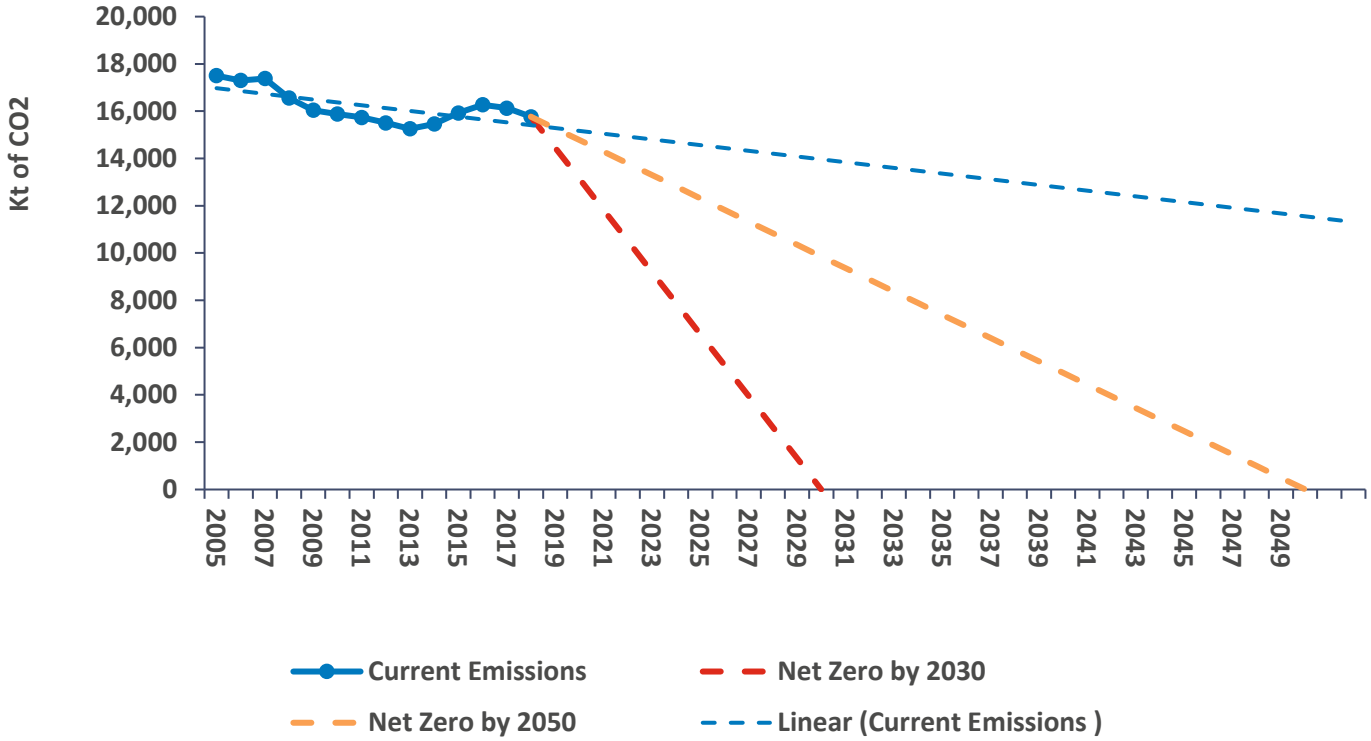
The trajectory shown in the figure to the right indicates, the wider South East will not reach a position of net-zero carbon emissions by transport by 2050 – which is now a legal requirement supported by domestic legislation and international agreements (e.g. Paris).

Several Local Transport Authorities in the wider South East have committed to more demanding decarbonisation targets (e.g. reaching net-zero by 2030).

Electric vehicle take-up is low and there are some areas with very poor access to charging points. A step change in the electrification of highway transport and modal shift away from fossil fuel transport to electric/healthy transport is needed if the area is to reach its climate commitments.

The wider South East's rail network, while almost entirely electrified, includes some sections of diesel operations, which also contribute to this challenge.

## Carbon Emissions Trajectory for the South East Area




*Source: Steer analysis of BEIS data*

**How can we influence future policy to ensure this region meets the net-zero target by 2050 (if not earlier)?**

# 2 Climate change threatens the resilience of the transport network

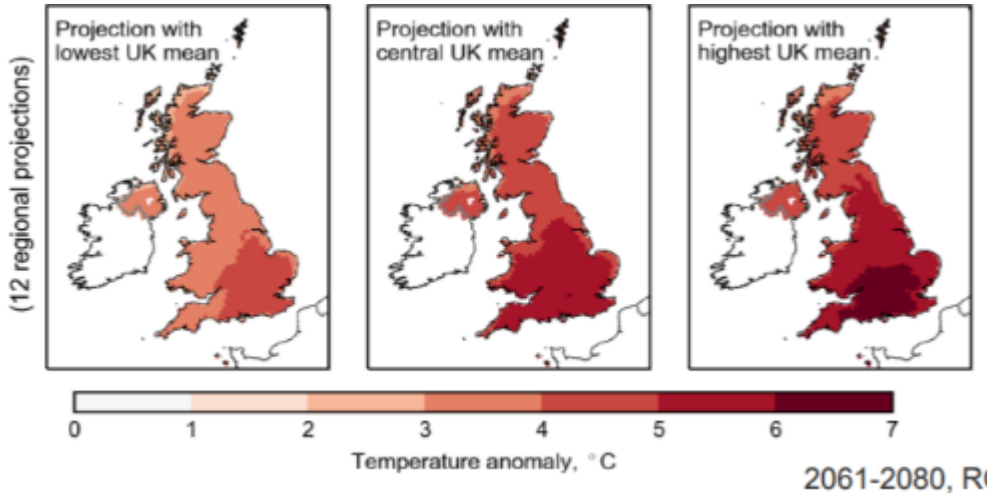
**The transport networks serving the South West Radial Area are vulnerable to the effects of climate change and in many areas are showing signs of poor resilience.**

The wider South East's transport network cuts across several areas that are already vulnerable to flooding and temperature extremes. Some of these "funnel" significant flows over bridges and cuttings that do not have adequate diversionary routes (and creating better routes would be costly). Extreme weather has a particular affect on crossings from the Isle of wight to the mainland. Connections can be particularly affected by poor weather and have a massive impact on those commuting across the Solent.

Climate change is likely to increase the frequency and strength of weather events (and extreme heat in summer). The outcome of this problem is increased operations, maintenance and renewal costs, which will be borne by transport users and wider society. Funding will be needed for this (which is not easy to secure in the current economic climate).

## Examples of climate change resilience challenges

### Projected Mean Temperature Increase in the UK




### Electric power lines overheating


### Flooding of the Strategic Road Network


*Source: BBC*

**With extreme weather events likely to become more frequent and severe in the future, how can we make the transport network more resilient to climate change?**

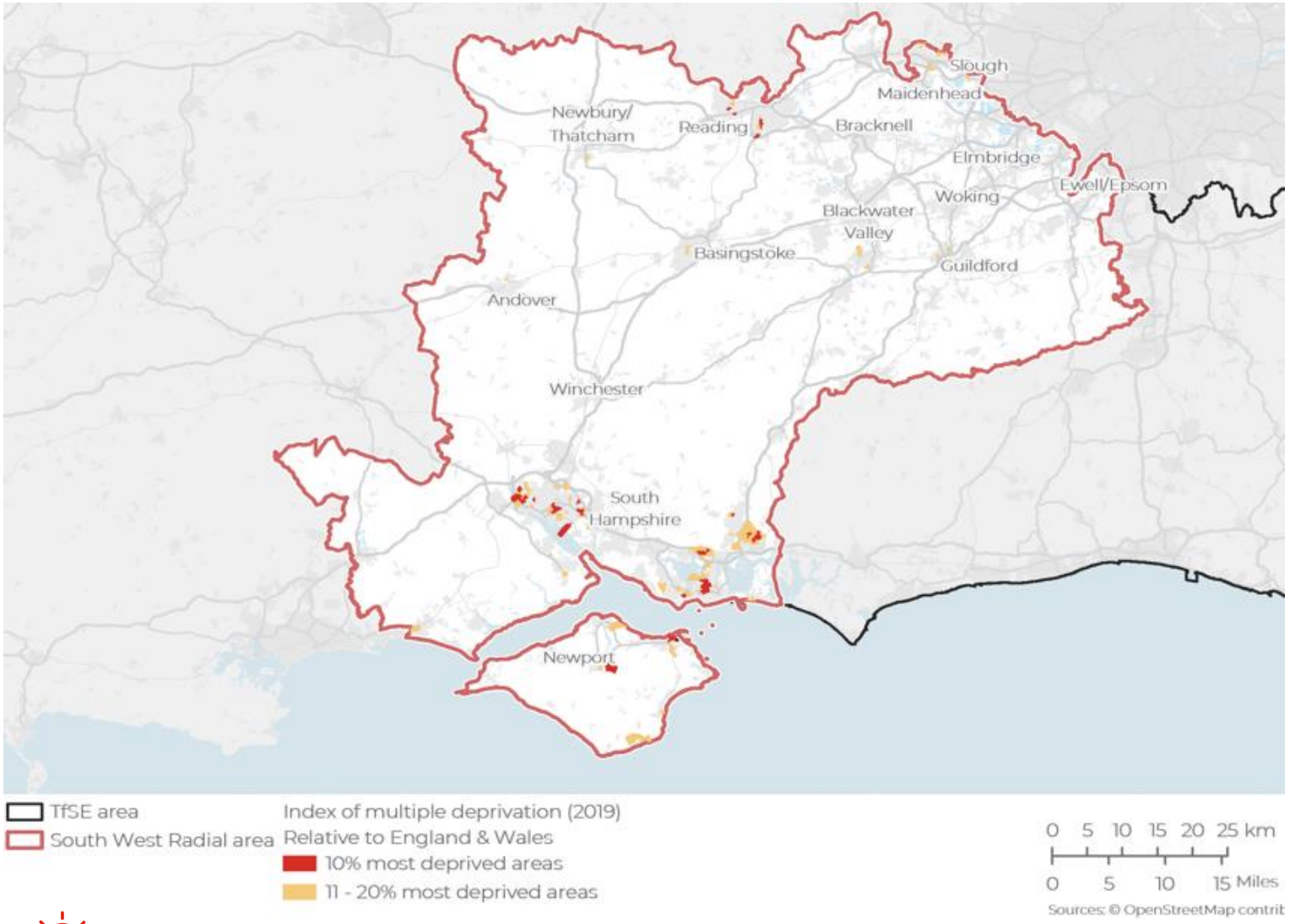
# 3 Parts of the South West Radial area have poor socioeconomic outcomes

**Areas of deprivation exist across the corridor with pockets on the Isle of Wight and in Southampton, Portsmouth and Reading**

Pockets of deprivation exist across the South West Radial area. Most notably areas of deprivation are clustered in the south with areas in Southampton and Portsmouth being in the 10% and 20% most deprived. There are also pockets on the Isle of Wight, these are focused in Newport, Ryde, Ventnor and Cowes, this is particularly pertinent on the Isle of Wight as these areas contain large proportions of the population of the Isle of Wight.

The reduction in deprivation levels in the area is vital for many of these communities to achieve economic growth. The provision of accessible transport networks can help to support the needed reduction in deprivation levels across the area.

## Social deprivation




**How can we "level up" this corridor, ensuring fair and equitable outcomes?**

# 4 There is a significant need for more housing – but it needs to be sustainable

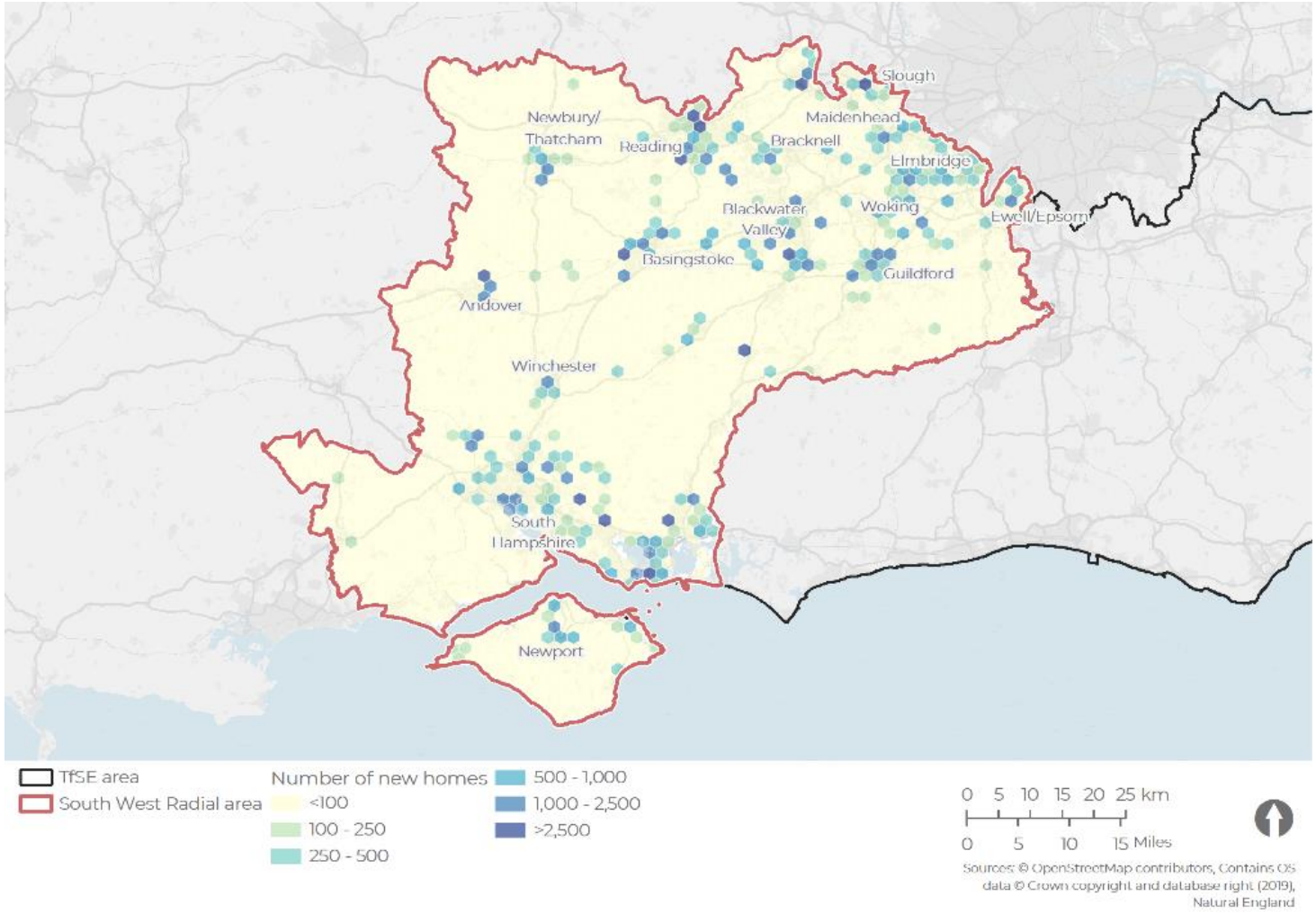
**There is a recognised need for housing and communities in the South West Radial area – but in the right places, supported by the right infrastructure, and planned to deliver sustainable travel outcomes.**

The fragmented nature of the planning system and lack of effective strategic planning makes it difficult to integrate spatial, transport, and economic planning. The area is also heavily constrained by the landscape and layout of urban areas.

To accommodate potentially 360,000 new residents (Figures 2.2 and 2.3) there may be a need for additional housing and employment – and this is planned. Recent discussions with government suggest this figure may grow, albeit with more of a focus on delivery in urban areas.

There is risk that housing growth will result in unsustainable transport patterns as many housing developments are being delivered, some distance away from shops, town/city centres, commercial services, public services, employment sites, and transport hubs.

## Local Plan projections for housing and employment growth




**How can transport investment be focused to enable development in the right places?**
**How can we improve housing affordability across the corridor?**

# 5 Demand for public transport has been negatively affected by COVID-19

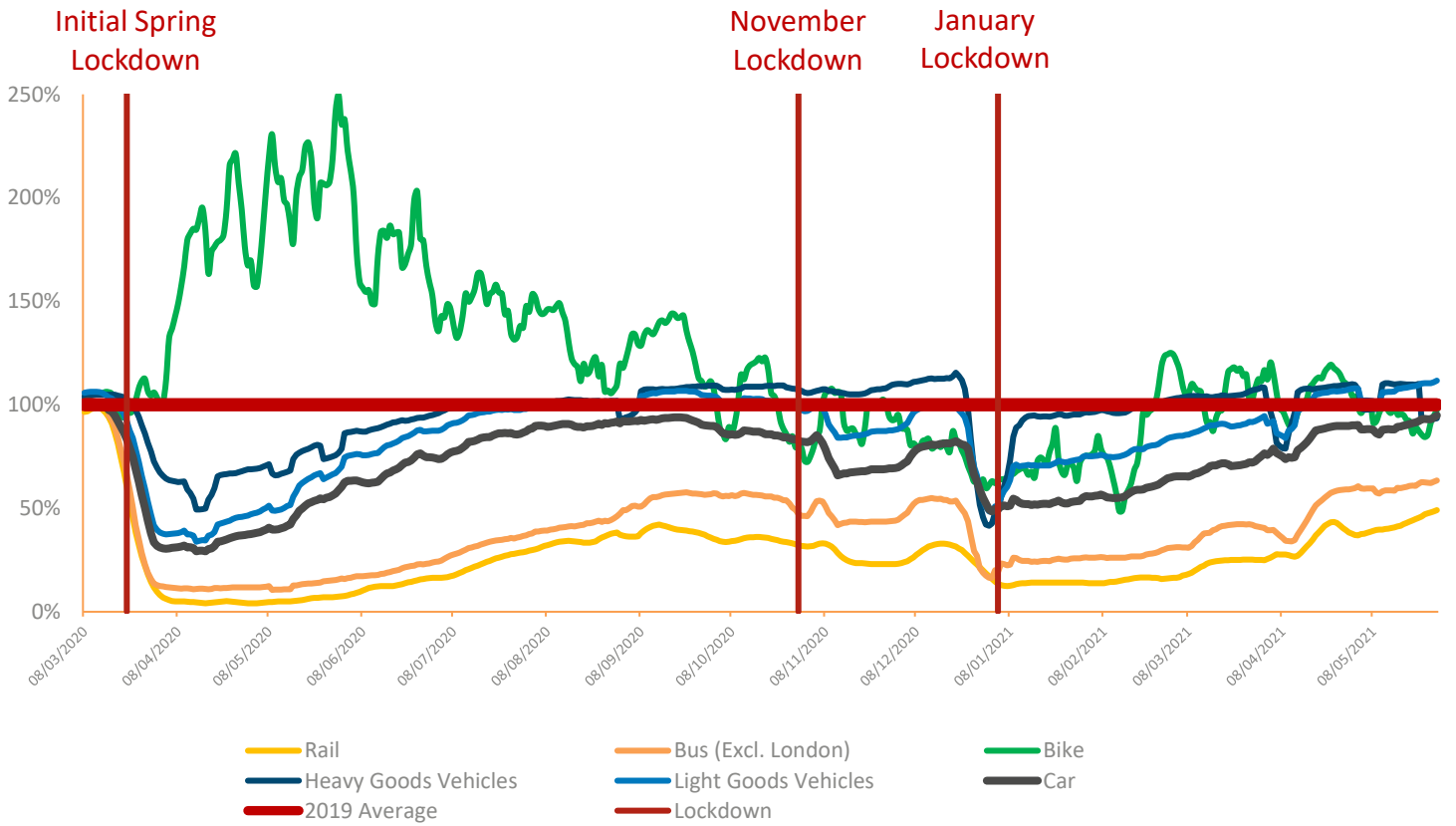
**Public transport patronage dropped significantly due to COVID-19.**

The COVID-19 pandemic caused a seismic affect on public transport usage nationally as well as in the South East. The drop in patronage has led to some operators cutting services and increasing fares. Whilst patronage is increasing slowly, it is not consistent in all areas and across all routes. The level of recovery of public transport use in uncertain in its numbers as well as spatially across routes.

Increasing the patronage on public transport in the area will be vital to ensuring that the area does not suffer from a car-based recovery from the pandemic. The South West Radial area already suffers from congestion (Figure 2.8) and a car-based recovery from the COVID-19 pandemic will exacerbate this situation further.

In addition, there has been a cut in ferry services and usage which particularly affect connectivity to and from the Isle of Wight, meaning the Isle of Wight is no longer as accessible as a day trip for tourists but also less accessible for commuters.

## Indexed transport demand by mode (national)




**How can we support public transport to bounce back following the recovery of COVID-19?**
**How can we influence behavioural change?**
**How can we retain the uptake of cycling?**

# 6 In too many areas bus services do not provide a competitive sustainable alternative to cars

**Even before COVID-19, bus patronage was falling in some areas.**

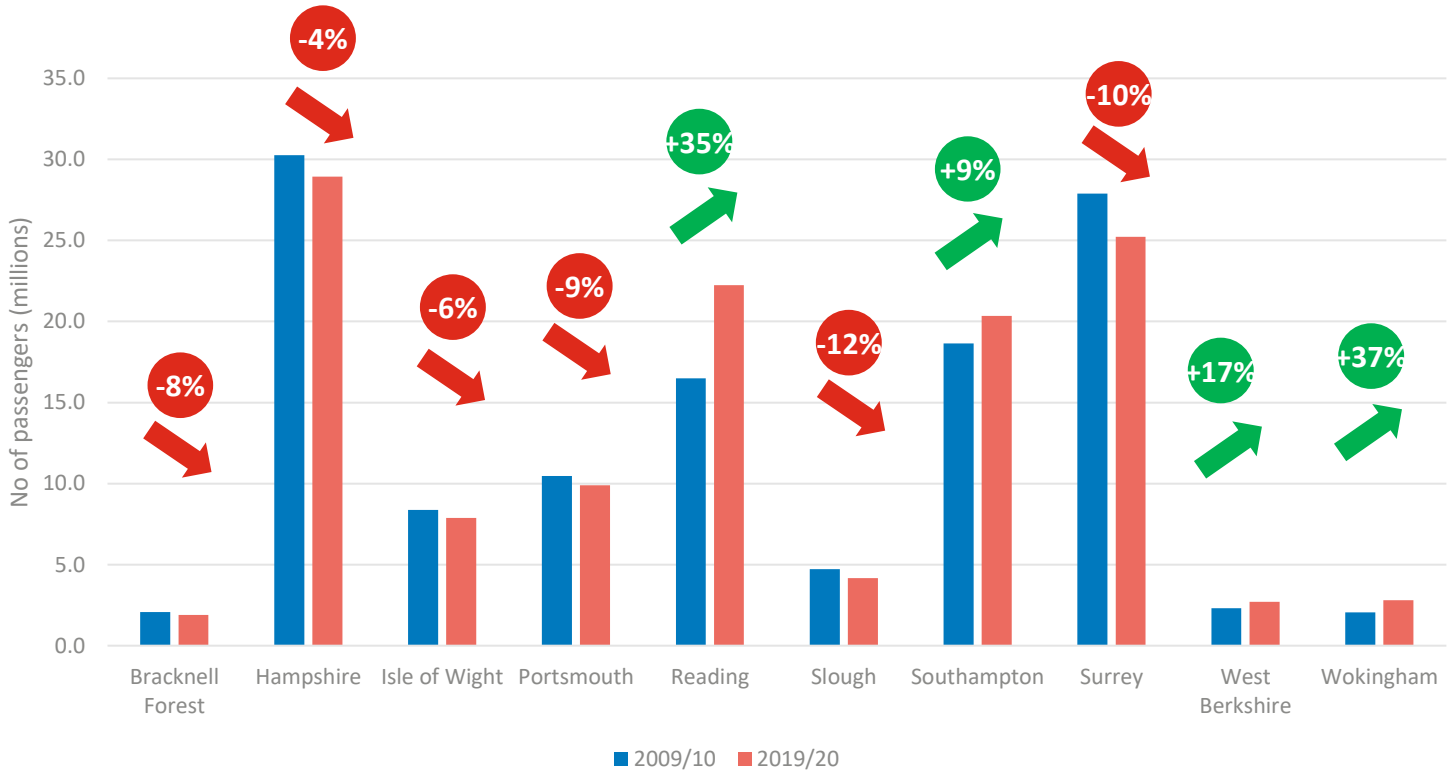
An efficient and integrated bus service is necessary in providing sustainable transport options for residents in the South West Radial area.

Bus patronage has been declining in a number of areas. Bracknell, for example, has suffered from poor bus uptake in recent years, with local stakeholders citing the design of the town as a barrier to implementing commercially viable and effective bus services. Stakeholders highlight the need to challenge the negative perception of bus use and encourage behavioural shift of residents in Bracknell away from private car use.

There are lessons to be learned from areas whose patronage has increased in the study area such as Reading, Southampton, Wokingham and West Berkshire.

It must be noted that the South West Radial encompassed rural and urban centres and so any lessons learned must be used in a context that fits the rurality of each location.

## Annual Local Bus Passengers




**How do we reverse declines where they exist and learn lessons from where bus patronage is on the rise? Is there an opportunity for Demand Responsive Transport?**

# 7 In parts of the area public transport does not adequately provide for strategic local trips

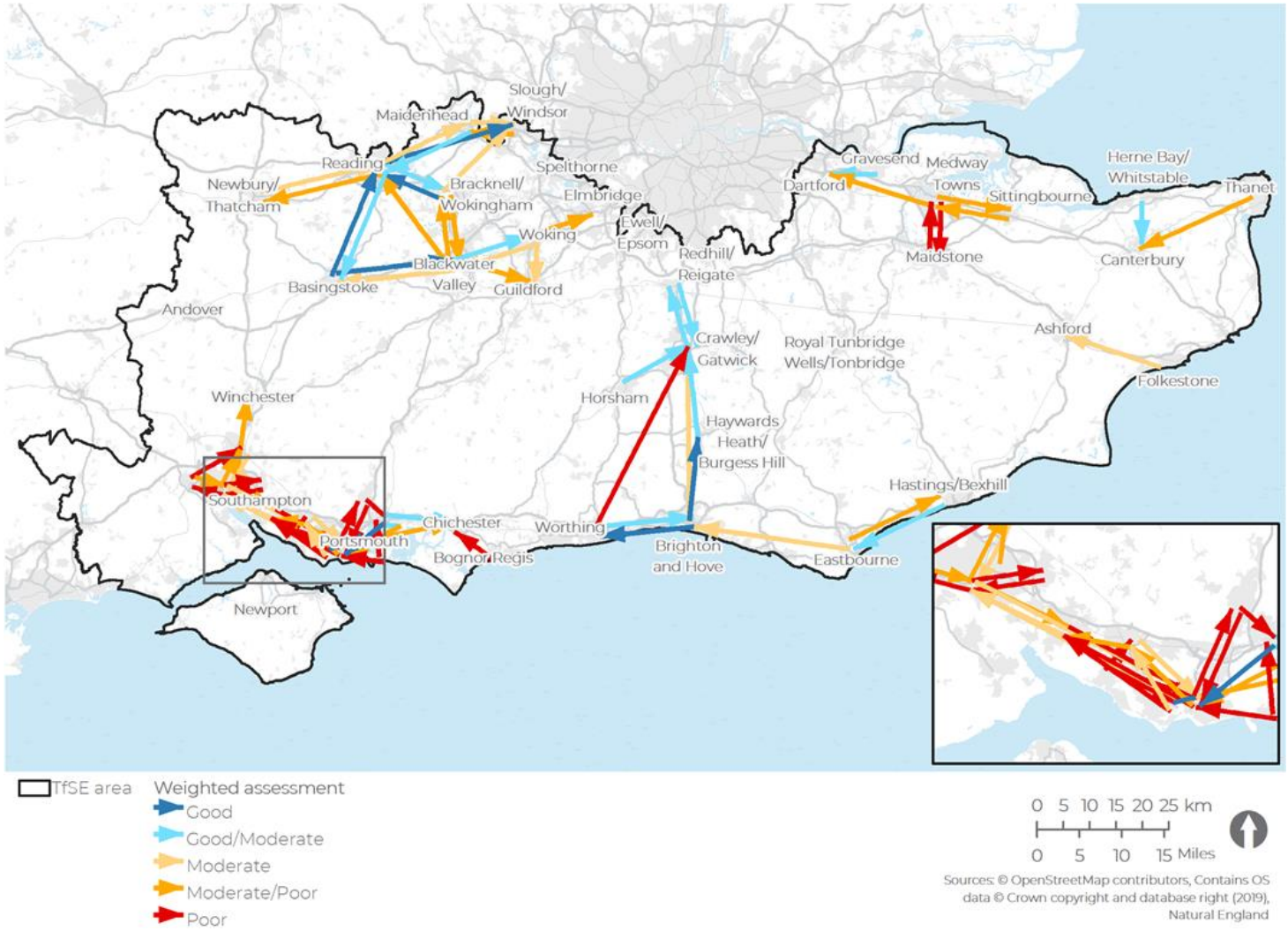
**Public transport provision is relatively poor considering the high number of flows between some of the major economic hubs.**

Flows between some major hubs are high, for example, Southampton, Portsmouth, Winchester and the Isle of Wight. However, public transport between some of these hubs is not adequate and competitive enough to compete with car journey times.

Journeys from the Isle of Wight to the mainland cannot be compared against traffic flows, however the current ferry provision means that it is not conducive for quick unplanned trips to and from the mainland with frequency, price of fares and integration with modes on the mainline providing a barrier without using a car.

Strategic trips in the southern economic hubs in the South West Radial area suffer from a lack of public transport provision compared to the north of the area

## Public Transport provision on largest Travel To Work Flows




**How do we improve strategic local connectivity between Major Economic Hubs?**
**How can we encourage a modal shift to public transport and active modes of travel?**

# 8 Connectivity out of the region is often poor via sustainable modes

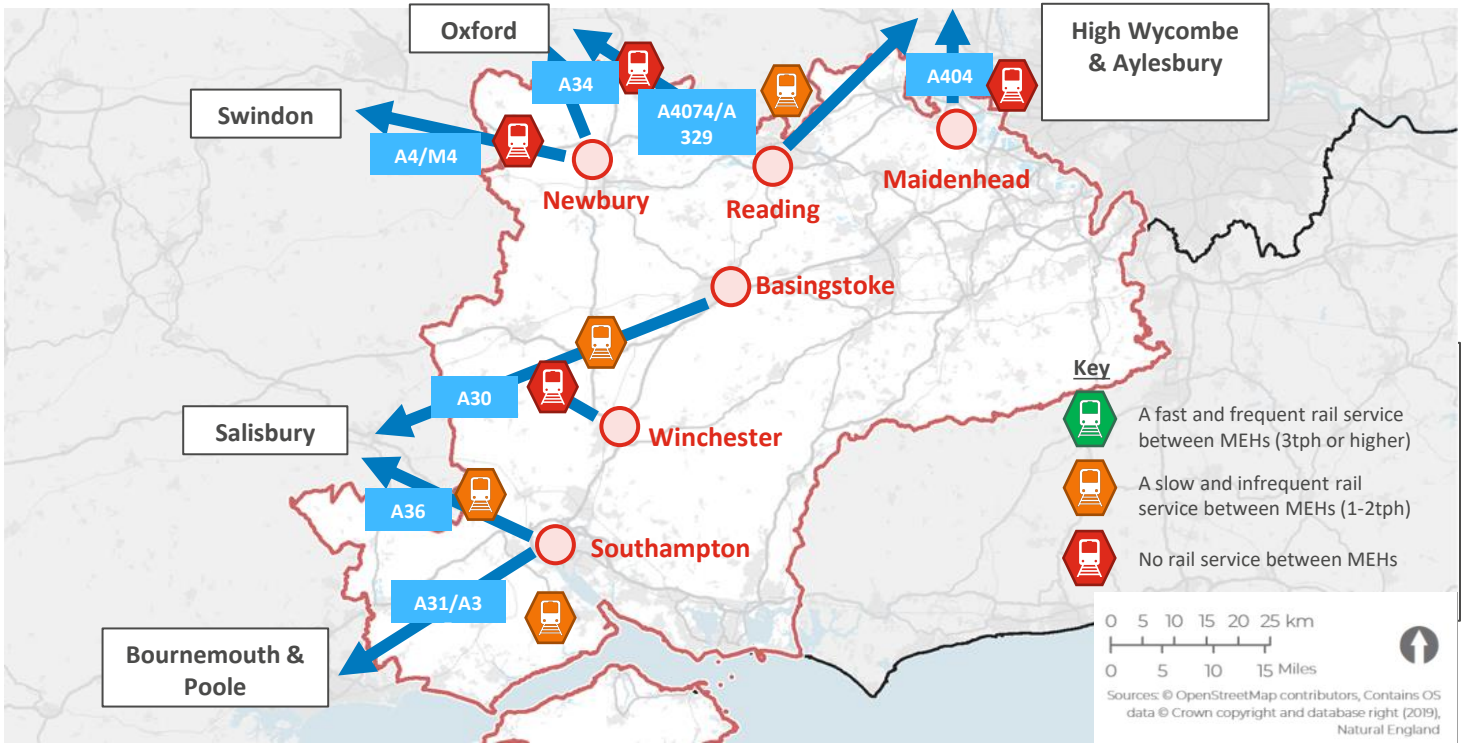
**Connectivity out of the region is vital to supporting growth within the region.**

The South West Radial area study is the only connectivity study which has an outwardly facing border out of the TfSE area. Connectivity in and out of the region is key in ensuring that the area benefits from inward and outward economic opportunities.

Sustainable travel options to areas such as High Wycombe, Aylesbury, Oxford, Swindon, Salisbury, Bournemouth and Poole are important to the growth of the region. Whilst some of these journeys are accessible, some require multiple changes and are not competitive with car travel.

The area relies on accessibility in and out of the area and not just to London. Access to Midlands is a key priority for the economic interests of the South West Radial area, particularly for the port freight from Southampton and Portsmouth.

## Connectivity out of the area




**How can we improve sustainable connectivity to the West Country and into the Midlands?**

# 9 Highway congestion limits public transport connectivity on the Isle of Wight

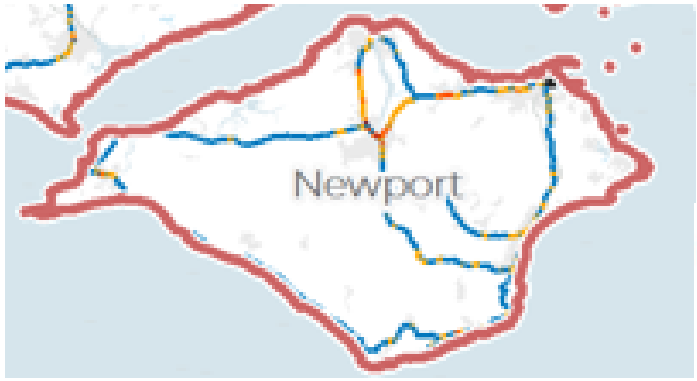
**The Isle of Wight has a relatively comprehensive bus network coverage, but journey times can be slow and unreliable due to highway congestion particularly around Newport.**

Congestion hotspots on the Isle of Wight mean that bus journey times can be less competitive than the car. Hotspots around Newport in particular mean that bus services are competing with car journeys.

The bus route connections between Ryde and Newport and Cowes and Newport also suffer from high levels of congestion, slowing down bus journey times. These are key public transport routes which link the mainland to the Island. The efficiency of these routes are key to ensuring a comprehensive network linking the Isle of Wight to the mainland.

Congestion undermines the efficiency of the transport network and the economy, while poor safety and air quality harms human heath. These hotspots are often hostile environments for vulnerable road users and can act to deter people from choosing to walk or cycle in these areas.

## Bus connectivity and highway congestion on the Isle of Wight


TfSE area
South West Radial area

Congestion
< 40%
41% - 60%
61% - 80%
81% - 100%

**How can we support the use of sustainable transport and reduce congestion on the Island?**

# 10 Ferry connectivity presents a barrier to economic development of the Isle of Wight

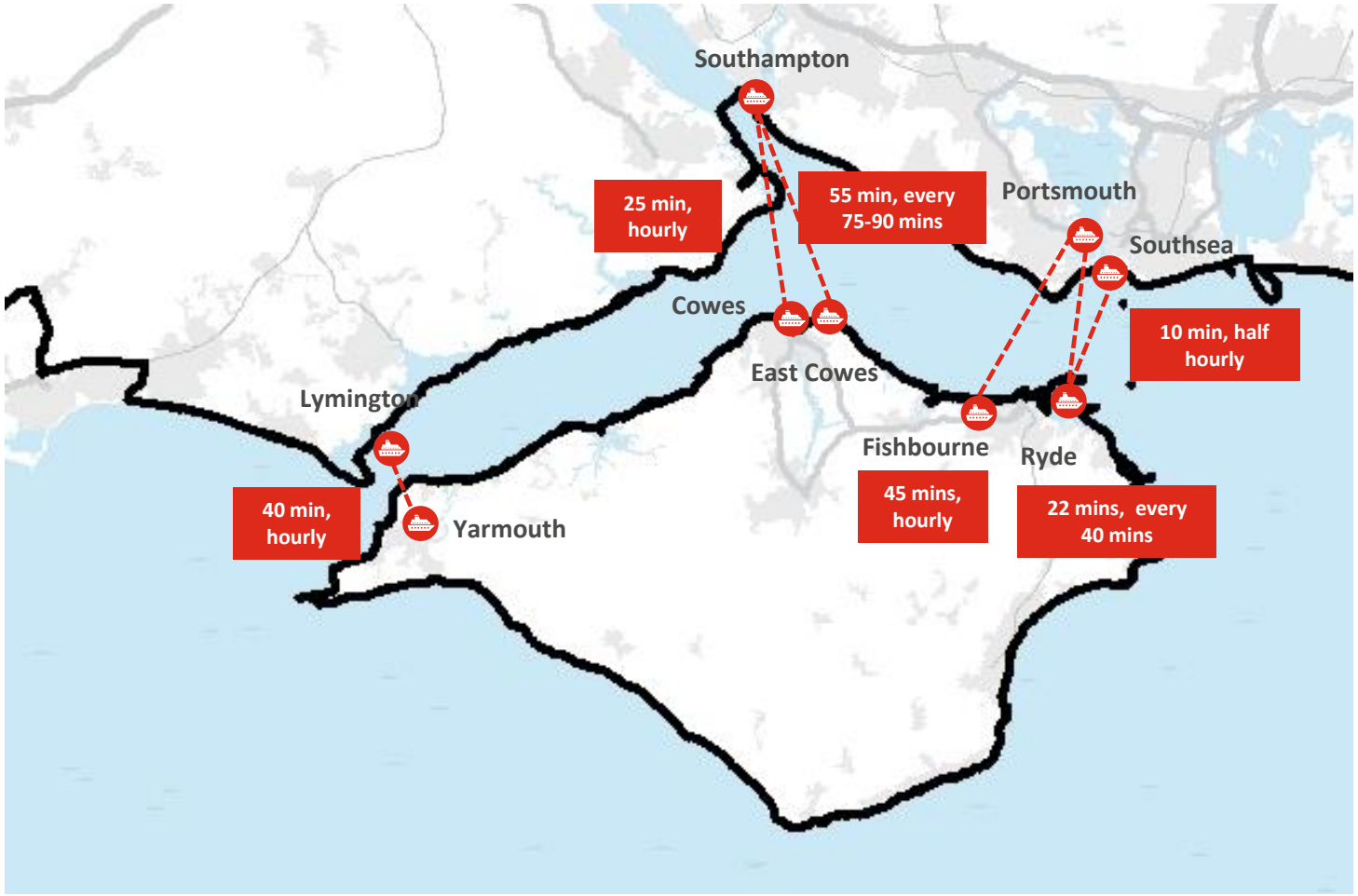
**The Isle of Wight does not have the same access to opportunities, services and jobs as the mainland.**

The Isle of Wight has a unique context in the South West Radial area. Whilst the unique charm of the Island is key to its tourism economy, frequency of ferries to and from the Island mean that access to opportunities for young people, services such as vital medical care and jobs can be highly constricted by the ferry services and their timetabling. The ferries are also key for tourism – a large part of the Isle of Wight's economy

The ferry provision provides roughly an hourly service. Whilst this allows access to and from, there are often breaks of more than two hours in the middle of the day. This can mean that onward journeys on the mainland or vice versa can be lengthy.

The level of ferry service means that timetabling connecting rail journeys on the mainland can be tricky. More frequency in ferry provision would mean any delays wouldn't' affect onward journeys on both sides of the Solent so often.

## Peak connectivity to and from the the Isle of Wight




*These frequencies are based on summer timetabling and are therefore best case of frequency. Timetabling changes throughout the year and will decrease in frequency over less busy periods.

**How can increased social and economic interaction between the Isle of Wight and the mainline be enabled?**

# 11 Ferry fares to the Isle of Wight are high, exacerbating existing poor accessibility to vital services

**Ferry prices to the Isle of Wight are more expensive than comparable ferry journeys in the UK and this has a multiplying effect on the Island's already relatively poor accessibility to vital services.**

The ferry prices to and from the Isle of Wight are high considering the short distance for many of the ferry routes.

Ferries in Scotland are significantly cheaper per mile for all journeys compared to the Isle of Wight. A passenger (foot) crossing of a similar distance to the Southsea to Ryde crossing costs £1.65 per mile compared to £7.72 to cross to the Isle of Wight. The substantial price differential is explained by the fact that ferries in Scotland are subsidized, but the significant expense presents a barrier to increase social and economic interaction with the mainland.

Many stakeholders have discussed the fact that the cost of ferry prices have a material impact on the ability of residents of the Isle of Wight to take up employment or education opportunities, or even to access non-urgent healthcare provision that is not available on the island.

**Example ferry prices per mile to/from the Isle of Wight and to/from Scotland**

| Route | Type | Journey Time | Distance | Price (return price) | Price per mile |
|---|---|---|---|---|---|
| **Example Isle of Wight ferries** | | | | | |
| Portsmouth to Fishbourne | Car | 45 minutes | 7.8 miles | £102 | £13 |
| Southsea to Ryde | Foot, Bike | 10 minutes | 4.4 miles | £34 | £7.72 |
| **Scottish comparator ferries** | | | | | |
| Ardrossan to Portavadie | Car | 25 minutes | 3.5 miles | £18 | £5.14 |
| Tarbert to Portavadie | Foot, Bike | 25 minutes | 3.5 miles | £5.80 | £1.65 |

**How can provide the same accessibility to services, jobs and opportunities to residents of the Isle of Wight as is provided to residents on the mainland?**

# 12 Highway congestion constrains access to Solent Ports

**Both local and strategic access to the Solent ports of Southampton and Portsmouth are too reliant on car journeys.**

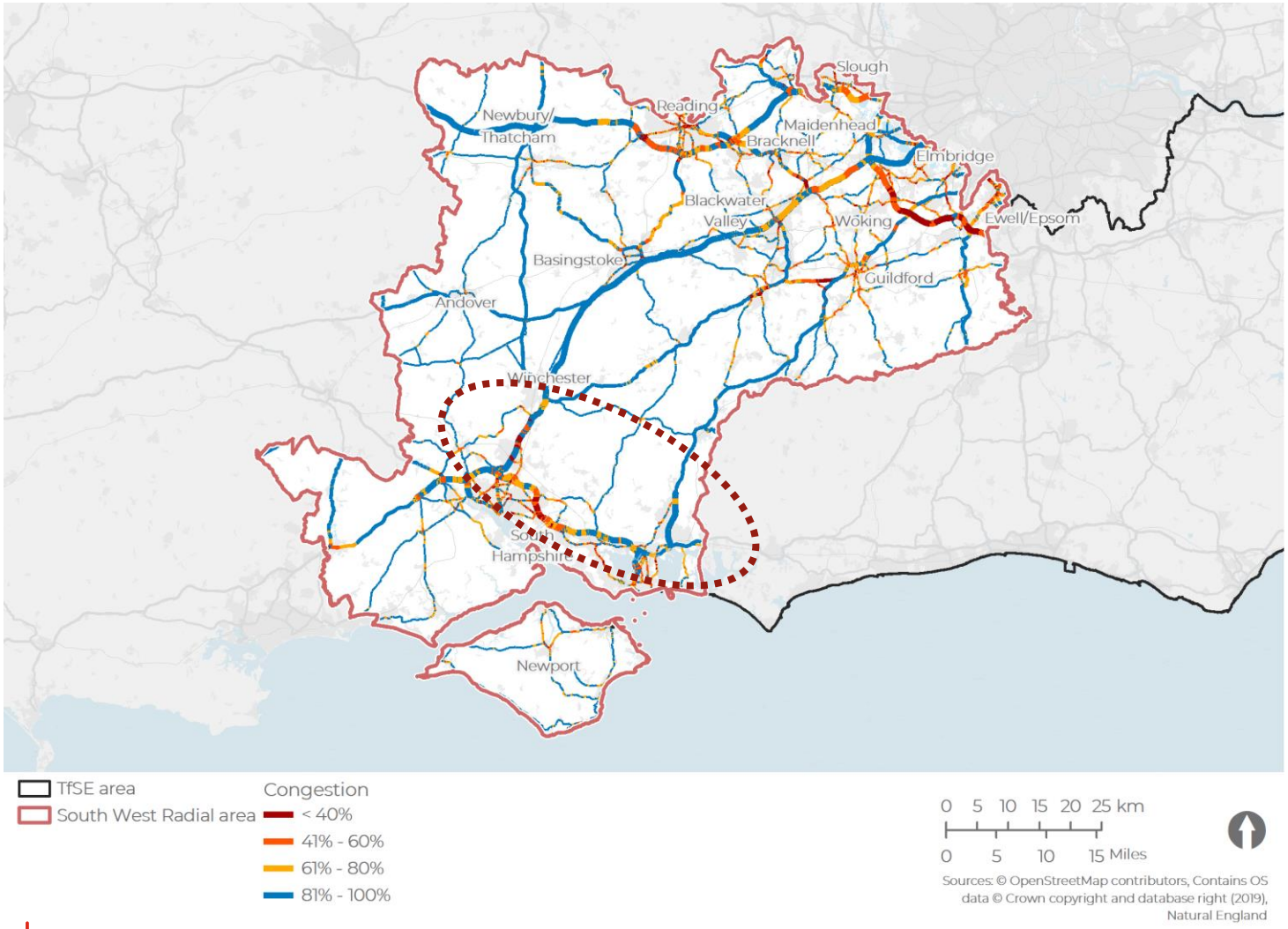
The Solent Ports are likely experience significant growth with the designation of the Solent Free port. While the two ports are different in scale and specialisms efficient local and strategic access is a key driver of growth for both.

Southampton is the second busiest container port in the UK, which means that there is substantial scope for shifting freight from road to rail. This will require freight rail network intervention though.

Unlike Southampton, Portsmouth is not a container port and is not directly linked to the rail network meaning that the potential for increased freight being transport by rail is limited.

In addition to freight, the Solent Ports manage a passenger ferries including cruise liners and vessels to the Isle of Wight which brings further congestion and reduces journey time reliability on the local highway network in Portsmouth and Southampton.

## Congestion levels in Southampton and Portsmouth




**How can we respond to growth aspirations, address congestion and improve local, sustainable access to the Solent Ports?**

# 13 Radial highway corridors close to the M25 South West Quadrant experience considerable congestion

**Even under our Sustainable Route to Growth projections, critical parts of the highway network will continue to be at capacity.**

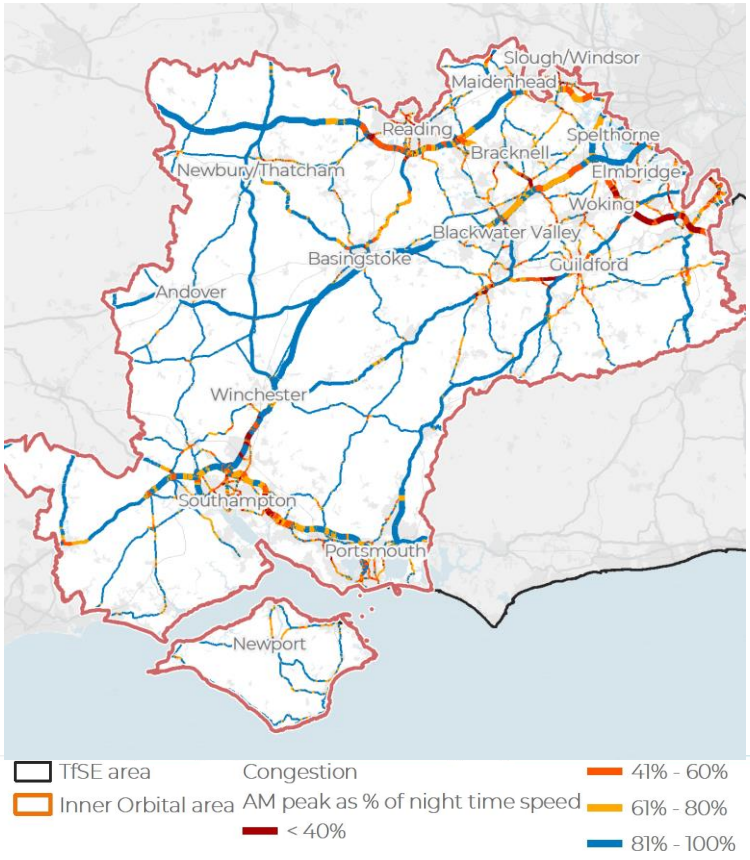
Currently, the A3, M3 and M4, close to the M25 are close to capacity, with traffic flowing at less than 40% of the national speed limit during the morning peak.

The projected future highway traffic shows congestion on these routes is likely to increase, adding further pressure to the local highway network as well as exacerbating journey time reliability issues on the M25 South West Quadrant.

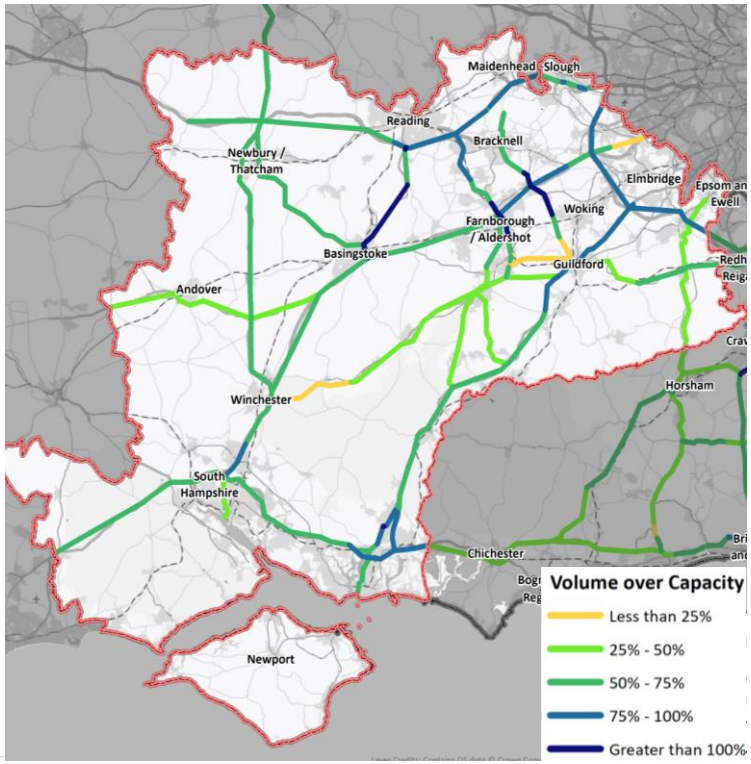
A number of studies have been carried out to identify options for relieving congestion on and around the M25 South West Quadrant and it has been concluded that rather than focusing on providing additional capacity on the M25 and intersecting radial route, the solution may lie in considering local network interventions to mitigate the negative impacts of congestion on the wider network.

## Current and future highway capacity constraints

**Current Highway Congestion hotspots in the South West Radial Area**




**Projected Future Highway Capacity under SEELUM Sustainable Route to Growth Projections**




**How do we address congestion of these corridors? Could demand management, accompanied by suitable public transport alternatives provide a solution?**

# 14 Active travel mode share is low for short journeys in the region

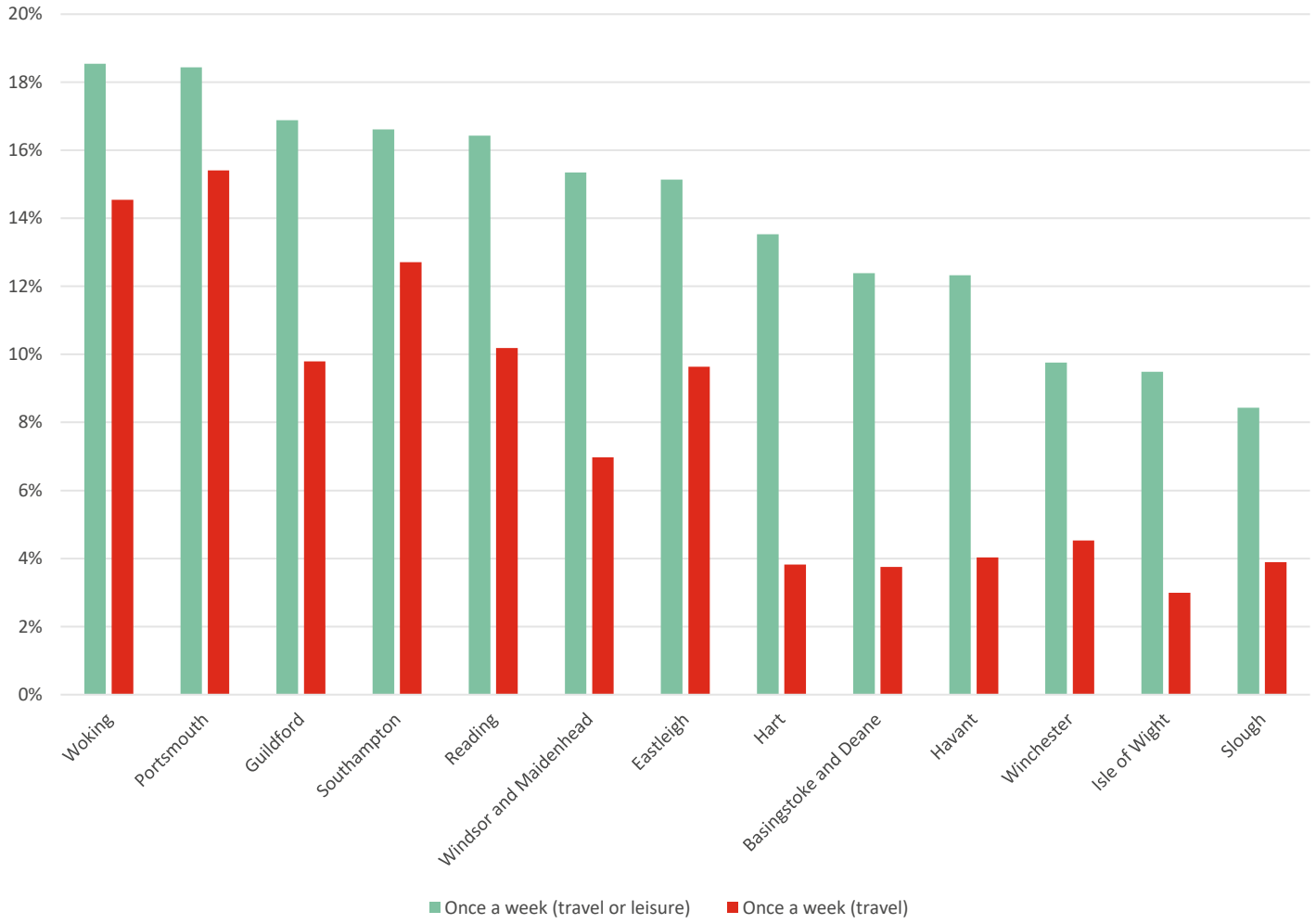
**Active travel is low in the South West Radial Area, especially for shorter trips and journeys to work.**

Every Local Transport Authority on this corridor wants to see a step change in cycling participation in their areas, but the infrastructure is not available to support this ambition. Furthermore, cycling infrastructure is seen as an enabler for new technologies such as electric bikes/scooters. A lack of infrastructure could be holding the region back from the opportunities these technologies offer.

The propensity to commute by bike is correlative with a number of factors including topography, trip length and household income and this explains in part the variance between different parts of the South West Radial area. A key driver of cycling uptake however is the level of cycling infrastructure in place. Woking, for example, benefits from both NCN route 221 and 223 as well as having been a Cycle Demonstration Town.

Improved infrastructure or policy measures could encourage leisure users from other parts of the area to use their bike for local utility trips as well as leisure.

## Proportion of Adults that cycle at least once a week




**What infrastructure or policy developments can increase cycling mode share in this area? What lessons can we learn from Woking, Portsmouth and Southampton?**
**How can we retain the uptake of walking and cycling?**

# 15 Infrastructure could be upgraded to allow more freight to be carried by rail

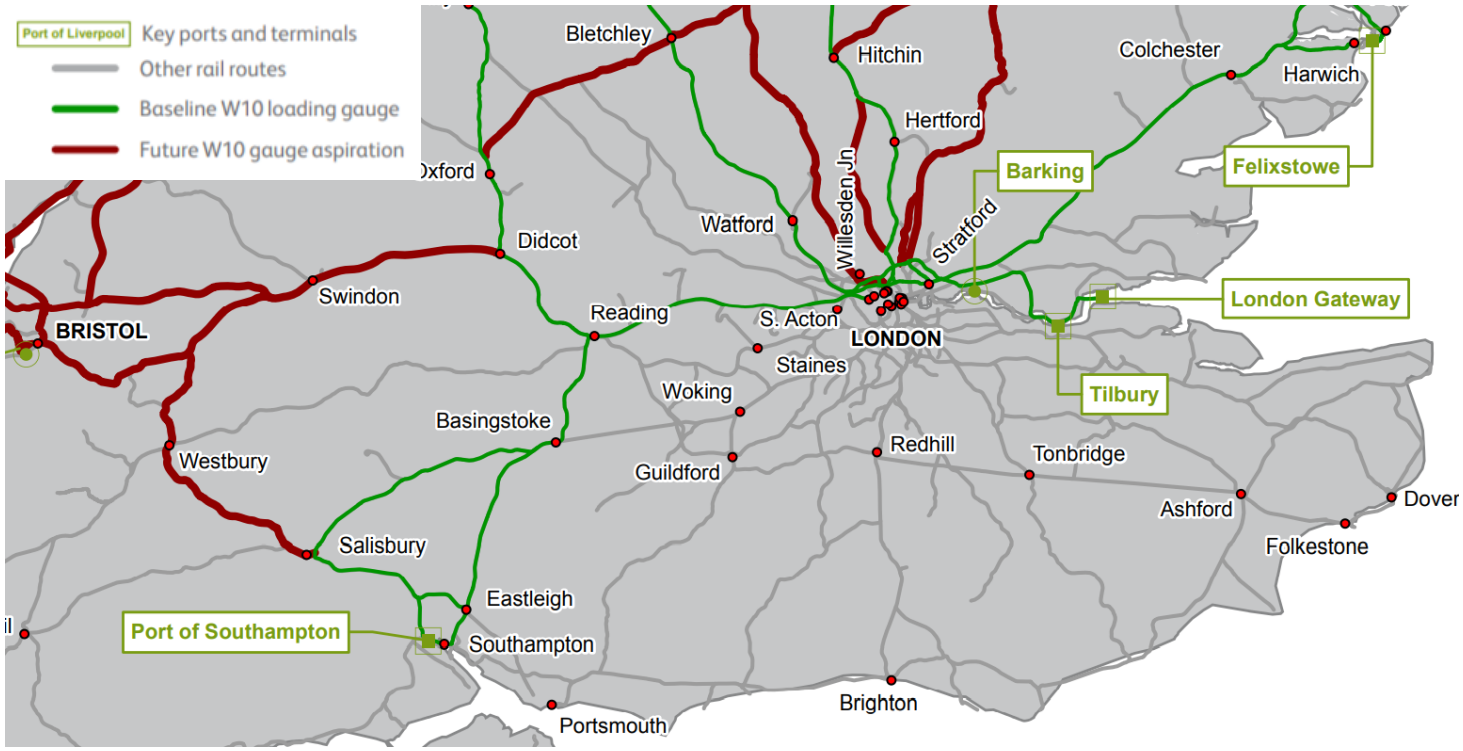
**Despite significant levels of freight being transported by rail to and from Port of Southampton the majority of freight in the area relies on the highway network.**

Nationally, rail freight mode share is low (around 5%, based on tonnage) and, according to ORR data, has declined in terms of freight train movements on the national network. In the South West Radial area, the Port of Southampton aspires to grow its operation while also increasing the proportion of its freight transported by rail. However, there are significant barriers to increasing rail freight in the South West, particularly for routes to/from the Solent Ports heading further north via the Midlands.

There are capacity constraints on the railway line between Southampton and Oxford and the section between Basingstoke and Reading is not yet electrified.

Network Rail is investigating the benefits of addressing constraints on the route between the Solent and the Midlands to accommodate the planned growth which could be fast tracked now with the Solent area recently being successful in a bit to become a free port.

## Rail network gauges (2017)




*Map source: Network Rail, freight Network Study, https://www.networkrail.co.uk/wp-content/uploads/2017/04/Freight-Network-Study-April-2017.pdf*
*Freight statistics source:* https://dataportal.orr.gov.uk/media/1738/freight-rail-usage-performance-2019-20-q4.pdf

**What infrastructure is required to best accommodate rail freight demand growth to and from Port of Southampton?**
**How can we encourage modal shift to rail freight from other major hubs?**

# 16 Portsmouth to London by rail is slower than most radial rail services in the South East area

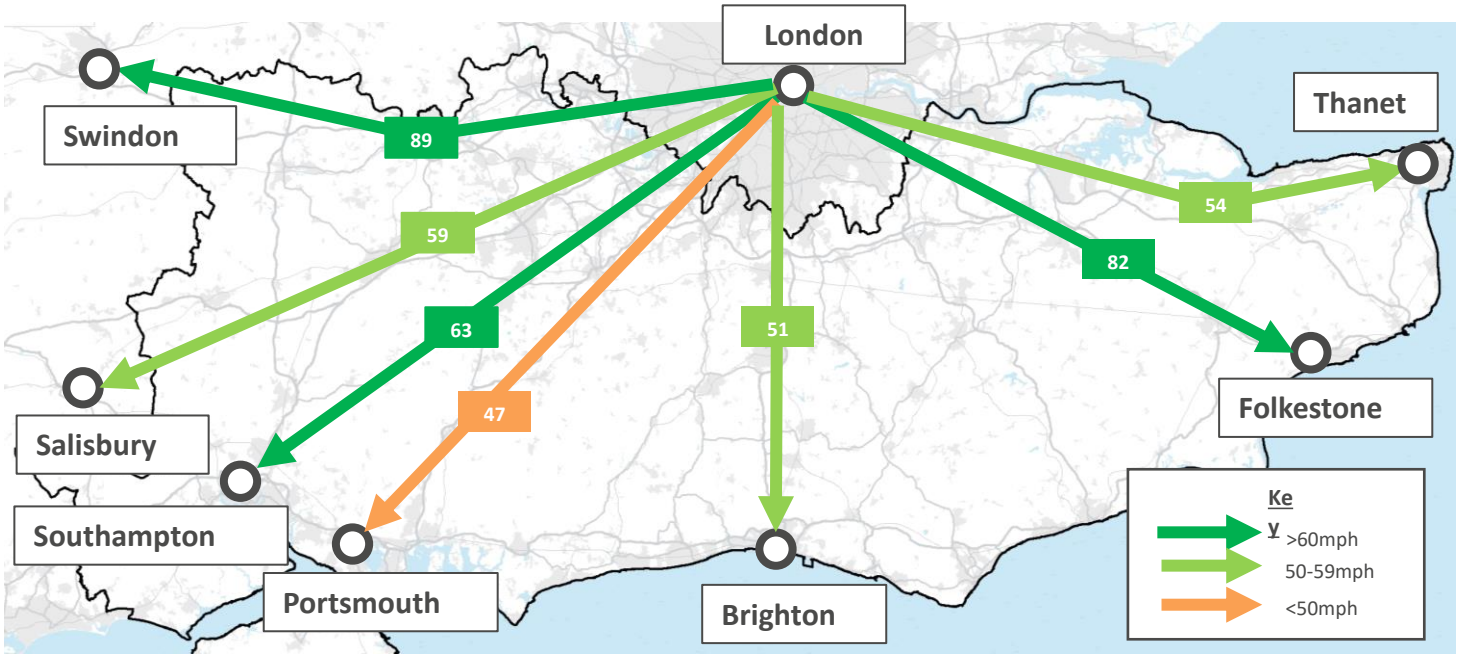
## Portsmouth to London is significantly slower than other radial routes in the South East

The differences in rail speeds for Portsmouth is especially stark when compared to the much faster speeds of other routes, in particular Southampton. Travel time from London to Portsmouth is slower than it was in the early 2000's with a number of stops being added along the route increasing the journey time to London.

It routes through the Surrey Hills and goes through steep gradient changes and so achieving faster journey times is challenging. In order to achieve faster journey times, local stops would need to be removed from the route. It is a two-track route and so there are limited chances for overtaking if a fast service with fewer stops is introduced.

As well as increasing social and economic interaction with between Portsmouth and London, faster journey times could stimulate increased tourism on the Isle of Wight if the train times were well integrated with the Portsmouth to Ryde ferries.

## Rail speeds across the South East region




**How can journey times be improved between Portsmouth and London to support economic development of the Isle of Wight and Portsmouth.**

# 17 The Inner South West Mainline between Woking and London is particularly capacity constrained

**Services from Woking to London are capacity constrained.**

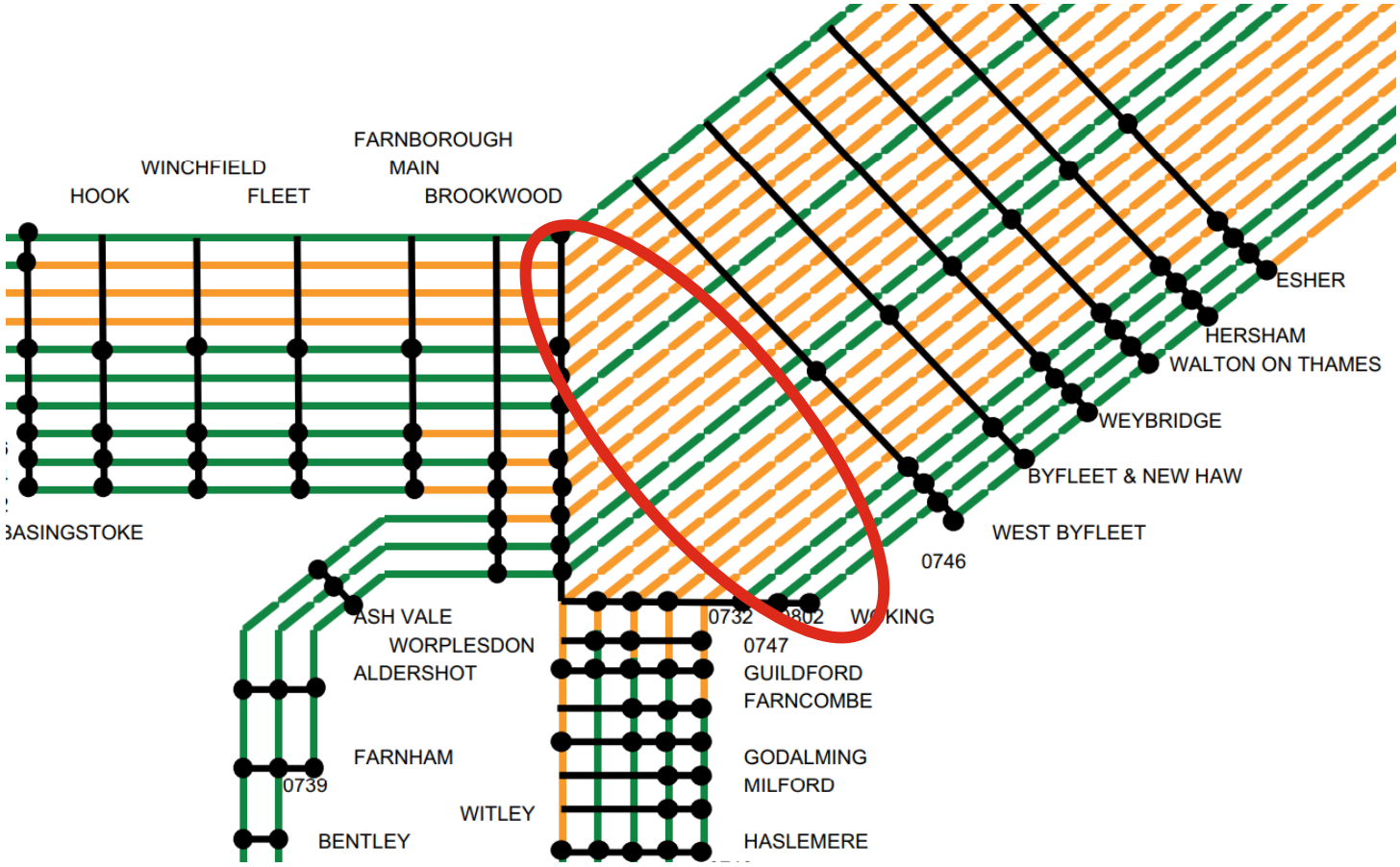
Woking Junction, where the Portsmouth Direct Line meets the South West Main Line, is one of the most utilised at-grade junctions in the country. The current configuration means that trains travelling from Portsmouth or Guildford and heading towards London have to cross the SWML tracks prior to entering Woking station.

A grade separation has been proposed to remove this complication several times, however the local constraints and the high capital costs have, to date been a barrier to work the scheme progressing.

Grade separation provides some relief at Woking, but there are also other constraints on the approach to London Waterloo which need to reduce the resilience and reliability of the services, most notably near Clapham Junction.

With uncertainty around the extent to which peak demand on the South West Mainline will return to the levels seen before Covid-19, there may be an opportunity for a timetable simplification and service pattern changes aimed at improving journey time reliability through incremental and appropriate capacity reduction.

## Woking Typical Service Pattern




*Service Map from 2013-14 Timetable (Note, the service level remains similar today)*

*Source: Network Rail, Wessex Route Study, https://www.networkrail.co.uk/wp-content/uploads/2016/11/Wessex-Route-Study-Final-210815-1-1.pdf*

**How do we ensure that capacity issues can be addressed whilst accommodating further growth? How do we best utilize any capacity that is freed up?**

# 18 There are opportunities to improve rail connectivity between major economic hubs

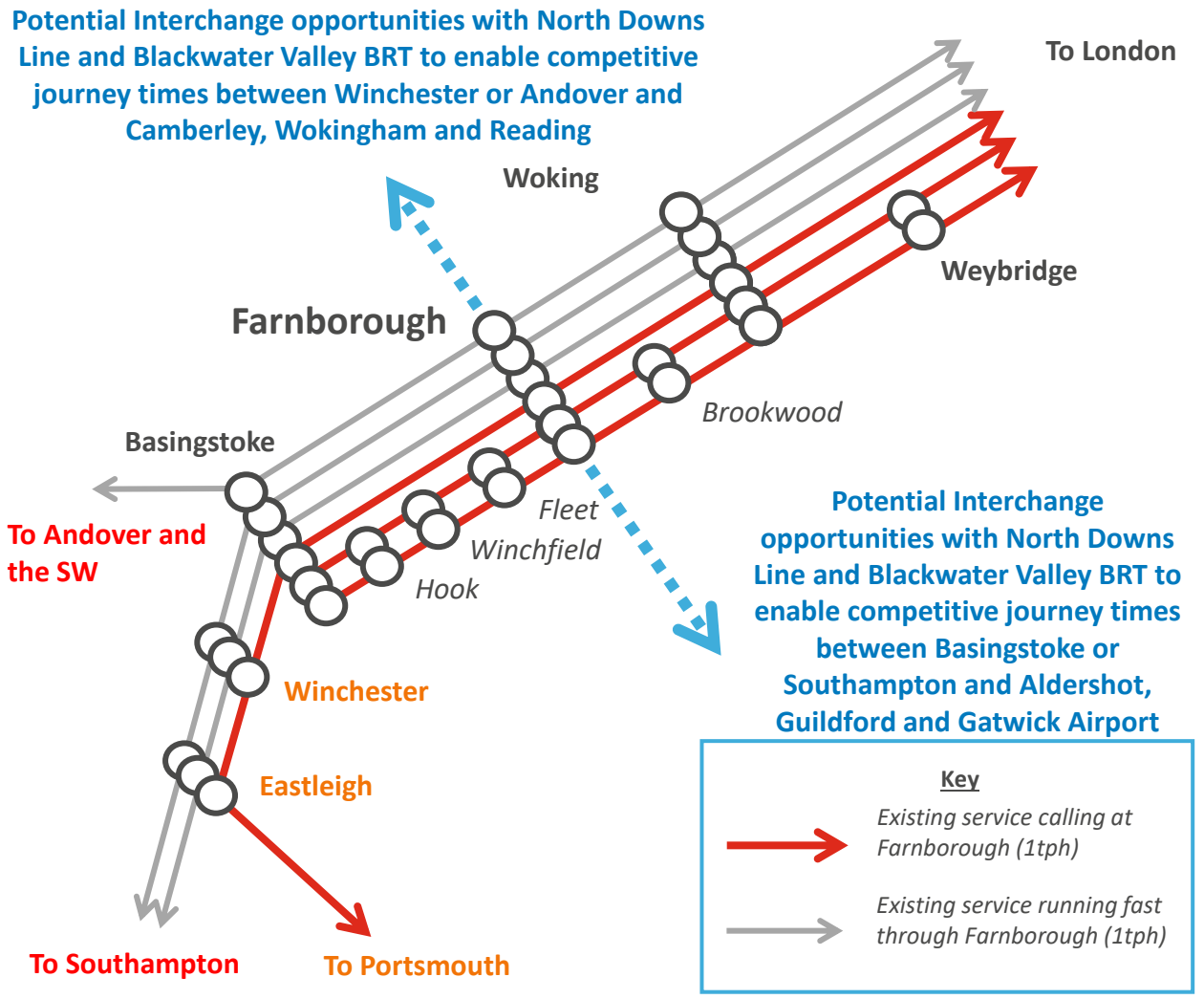
**Rail journeys between intermediate major economic hubs along the South West Mainline do not offer competitive journey times compared to the car.**

Major Economic Hubs along on the same radial corridor, such as Woking, Farnborough, Basingstoke and Winchester, often have infrequent services between them. This is primarily due to the focus of existing services along the South West Mainline past Woking being on delivering faster journey times between Southampton and London.

With planned growth in housing and employment along the corridor, changing working patterns and a reduced reliance on London commuting, there may be a stronger appetite for more local services.

A Strategic Mobility Hub is proposed at Farnborough facilitating interchange between the South West Mainline and North Downs line as well as onward bus and highway connectivity in the Blackwater Valley. This opens up new options for connectivity to Wokingham, Guildford and Gatwick Airport from stations on the South West Mainline which could stimulate more rail demand for these intermediate flows.

## Destinations served by Farnborough Main Railway Station




**How do we better connect major economic hubs major economic hubs through an integrated rail network, supporting and increase in rail mode share?**

# 19 There are opportunities to improve radial rail connectivity to London Heathrow

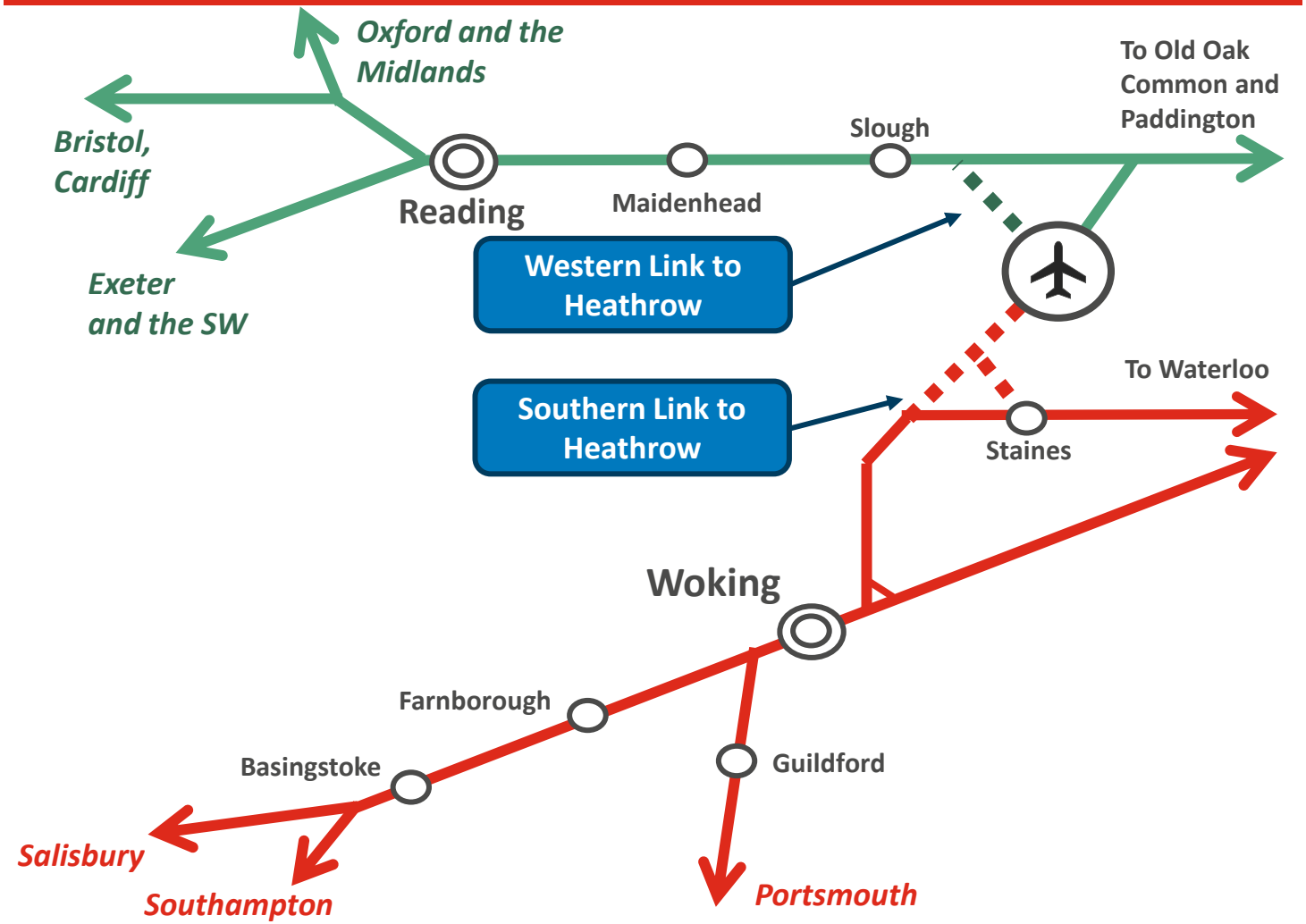
**There is no direct connection between the Great Western Mainline or South Western Main Line and Heathrow**

Two schemes have been proposed to overcome this connectivity gap, Western Rail Access to Heathrow and Southern Rail Access to Heathrow. The schemes can play a dual role: enabling access to the airport for employees and travelers who are relatively closely located to the airport, living in places such as Reading and Woking as well as those from the wider South East, parts of England's Economic Heartland and towards Bristol and the South West.

Many stakeholders in South Hampshire have identified sustainable and fast connectivity to Heathrow as a long term priority. At the same time the scheme could unlock the potential for Heathrow to become a railway hub.

However, both proposed schemes were first envisaged over a decade ago and are still facing barriers which include getting access to funding from HM Treasury / Department for Transport and local stakeholder opposition.

**New long-distance destinations unlocked with the Western and Southern Rail Links to Heathrow**




**How can we provide sustainable connectivity from the south and west into the international airport and multi modal transport hub at Heathrow?**

TRANSPORT FOR THE South East

# Part 4

## Objectives

# Part 4a

## Vision

# Vision

TfSE's Transport Strategy for the South East sets out an ambitious vision for a sustainable, high performing, net-zero carbon transport system. We have applied this vision to the South West Radial Area to develop a vision statement for this area.

## TfSE Vision Statement

By 2050, the South East of England will be a leading global region for net-zero carbon, sustainable economic growth where integrated transport, digital and energy networks have delivered a step change in connectivity and environmental quality.

A high-quality, reliable, safe and accessible transport network will offer seamless door-to door journeys enabling our businesses to compete and trade more effectively in the global marketplace and giving our residents and visitors the highest quality of life.

## South West Vision Statement

The South West Radial area will develop a decarbonised, prosperous, and outward-facing economy to provide opportunities for its residents, businesses, and its visitors to thrive.

The communities of the South West Radial area will be planned to provide affordable housing for all, linked in to an integrated, accessible and comprehensive public transport network, promoting sustainable travel outcomes.

The South West Radial area's role as the key route for international freight to the Midlands and North will continue to grow, resilient to a changing relationship with the EU.

Growing towns and cities, high growth, high value industries, international gateways and sustainable transport connections to the rest of the UK will be leveraged to deliver carbon neutrality, sustainable economic growth and improved opportunities for residents.

# Part 4b

## Objectives

# Objectives

A high performing, multi-modal transport system will ensure this study helps deliver the following six objectives:

**Climate Change**

Minimise disruption from climate change and move to net zero carbon by:

- Reducing the need to travel;
- Enabling and growing active travel;
- Shifting passenger and freight travel from fossil fuel traction to zero emission traction;
- Improving transport network energy efficiency; and
- Improving transport network resilience to climate events.

**Economy**

Reduce poverty and boost prosperity for all residents by:

- Attracting investment in high growth, high value opportunities;
- Boosting productivity through better skills matching, knowledge sharing and agglomeration;
- Reducing costs for businesses; and
- Improving transport network resilience.

**Natural and Historic Environment**

Protect and enhance the natural and historic environment by:

- Adopting the principles of biodiversity net gain / no-net loss;
- Avoiding interventions that adversely impact protected environments;
- Reducing the impact of transport operations on protected and historic environments; and
- Improving public and active mode transport to protected environments.

**Society**

Enable the "levelling up" of socioeconomic outcomes by:

- Increasing access to employment opportunities;
- Enabling residents to access affordable housing and services;
- Improving access for all members of society, especially individuals of reduced mobility; and
- Enabling deprived communities to attract investment and achieve more equitable socioeconomic outcomes.

**Cross boundary interaction**

Maintain and strengthen economic and social relationships with locations outside of the Transport for the South East area by:

- Working with neighbouring sub-national transport bodies to enable sustainable cross boundary connectivity between major economic hubs; and
- Improving access between the area's international gateways and the rest of the UK.

**Freight**

Support sustainable and efficient movement of goods through the region, to and from the wider UK by:

- Improving freight connectivity through sustainable modes, including electric rail freight;
- Strengthen resilience of transport corridors serving freight markets in the area; and
- Balancing the needs of passenger and freight demand.

# Part 4c

## Next Steps

# Next Steps

**This report provides a summary of the work undertaken in the second of the five stages underpinning the South West Radial Area Study.**

**Figure 4.1** shows the stages and steps that are being delivered for this study.

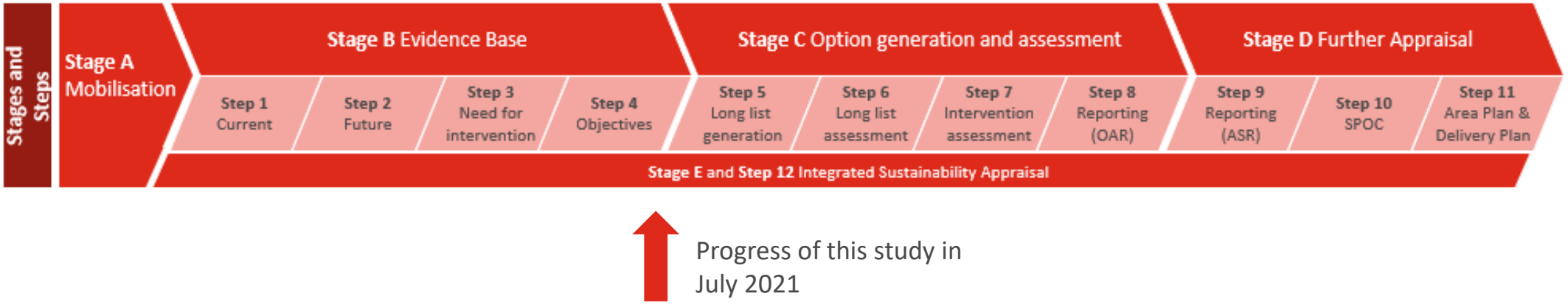
This report concludes **Stage B,** which provides a common understanding of the current and future context, demonstrates a need for intervention in the area, and defines objectives for the South West Radial Area Study.

The next stage for this study is **Stage C**. The purpose of this stage is to generate a long list of options in response to the SWOCs and need for intervention identified in **Stage A**, describe them in a consistent way, and assess them informed by the evidence base, against the criteria included in the Multi Criteria Assessment Framework (MCAF) tool that was developed for the Transport Strategy. This stage is expected to mobilise in July 2021 and report in October 2021.

The purpose of **Stage D** will be is to produce outputs to make the case (to government and others) for investment in the South East's transport networks. This will mobilise in the autumn 2021.

Finally, to ensure that each area study meets the vision, goals and priorities of the Draft Transport Strategy, an Integrated Sustainability Appraisal (ISA) will be developed for each of the five Area Studies – shown below as **Stage E** – which will also report by the end of February 2022.

**Figure 4.1:** Overview of the South West Radial Area Study stages and steps



TRANSPORT FOR THE South East

# Part 5

## Appendices

# Appendix A

## Policy Review

# Policy Context Tables

This section summarises the policy documents that have been reviewed for this study, and are presented as follows:

1. National Transport Policy
2. National Non-Transport Policy
3. Sub-National Transport Policy
   i. Local Transport Plans
   ii. Other Transport Policy
4. Sub-National Non-Transport Policy
   i. LEP Policy
   ii. Other Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Bus Back Better – National Bus Strategy for England (2021) | The strategy sets out the vision outlining how to deliver better bus services for passengers across England, through ambitious and far-reaching reform of how services are planned and delivered. The strategy aims to revolutionise the customer experience, promoting a simplified ticketing system, integration with other modes and supporting the goal for an inclusive transport system that attracts older and disabled people to use buses. The strategy sets out a roadmap to improve services for passengers and communities, urban and rural, and be fully informed by local needs, by increasing the role of Local Transport Authorities in designing and operating local bus services. Aligned with other national decarbonisation policy, the strategy also sets out an ambitious road map to a zero-emission bus fleet. |
| National Infrastructure Commission – Natural Capital and Environmental Net Gain (2021) | This document outlines the two-way relationship between infrastructure and natural capital. It highlights how infrastructure can have both a positive and negative impact on natural capital assets such as fresh water and clean air as well as how changes in the environment can increase of costs of infrastructure (such as flooding). Infrastructure developers should consider the impact of infrastructure development on natural capital assets and take the opportunities to contribute to the environment and biodiversity as part of development. Infrastructure projects should target environmental net gain, ensuring that infrastructure developers leave the environment in measurably better state than they found it. |
| Decarbonising Transport, Setting the Challenge (2020) Department for Transport | Provides an overview of transport modes and their current contributions to carbon emissions. It then summarises the current policies which are in place to help them decarbonise and provides forward projections of how effective these policies will be for bringing the transport network to net zero. The plan also considers the importance of incorporating 'place-based' solutions, providing geographically specific answers to the challenge. Ultimately, the policy comes up with six strategic priorities which reflect 'the core areas we believe plans are needed for delivery of the TDP [Transport Decarbonisation Plan]', which are:<br>• Accelerating modal shift to public and active transport – making public transport and active travel the first choice for daily activities, reducing car use, and exploring how to make use of how to use vehicles differently.<br>• Decarbonisation of road vehicles – requiring major changes to the vehicles we drive and the way we use our roads, driven by investing in innovative technology solutions and developing sustainable supply chains.<br>• Decarbonising how we get our goods – transforming 'last' mile deliveries, ensuring an integrated, clean and sustainable delivery system, making use of digitally-enabled solutions, data-sharing and collaborative platforms.<br>• Place-based solutions for emissions reduction – understanding where, how and why emissions occur in specific locations, will enable development of a tailored response, addressing how management at a local level can best address emissions at a local level.<br>• UK as a hub for green transport technology and innovation – utilising the UK's world-leading scientists, business leaders and innovators, positioning the UK as an internationally recognised leader in environmentally sustainable technologies. |

# Policy Context Tables - National Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Traction Decarbonisation Network Strategy (2020) | TDNS has been established to recommend which of three traction technologies (battery, electric and hydrogen) would need to be deployed where and when on the GB rail network in order to remove diesel trains and support the end of CO2 emissions from rail. Network Rail have calculated a need to provide:<br>- 11,700 STKs of electrification<br>- Battery operation over 400 STKs of infrastructure.<br>- Hydrogen operation over 900 STKs of infrastructure.<br>- 2,300 STKs where there is no clear technical choice. |
| Gear Change: A Bold Vision for Walking and Cycling (2020) Department for Transport | This policy document sets out how the government plans to make a step change in walking and cycling over the coming years. It comes as an update to the 2017 Cycling and Walking Investment Strategy and was released after the onset of the COVID19 pandemic, looking to capitalise on the dramatic changes to travel behaviours it has caused. The strategy provides several key reasons for making this change, ranging from improvements to public health, to addressing inequalities, to tackling congestion, to improving air quality, to slowing climate change, and boosting the economy. |
| Draft Road Investment Strategy 2 (2018) Department for Transport | The Draft Road Investment Strategy 2 (RIS2), published by the Department for Transport in October 2018, sets out the Government's strategic vision for the Strategic Road Network (SRN) – the UK's motorways and principal A-roads – covering the years 2020 to 2025.<br>RIS2 emphasises the need to ensure the SRN is safe, serviceable, and free-flowing. It also highlights the need for the SRN to be 'smart' and build on new technologies, increase the level of accessibility and integration with the wider transport network (including the newly identified Major Road Network), and demonstrate how the SRN supports economic development and how investment can improve the environment. |
| Inclusive Transport Strategy (2018) Department for Transport | Government wants people with disabilities to have the same access to transport as all other users by 2030. The document outlines a wide ranging series of interventions which it will employ to achieve this aim, from raising awareness to providing better physical infrastructure. It also describes how the government will hold itself accountable for the delivery of this strategy, including processes for monitoring and evaluation specifying key output indicators. |
| Clean Growth Strategy (2017) UK Department for Business Energy and Industrial Strategy | Outlines the government's method for ensuring that the UK continues to grow economically, whilst reducing its emissions. The strategy sets out how £2.5bn of funding will be invested by the government to support low carbon innovation from 2015 to 2021. The strategy notes that changes to the transport network will be fundamental for reducing emissions and describes in depth how it expects to encourage a shift to low carbon transport. |
| The Clean Growth Strategy (2017) | This Strategy sets out a comprehensive set of policies and proposals that aim to accelerate the pace of "clean growth", i.e. deliver increased economic growth and decreased emissions.<br>Key Policies and Proposals in the Strategy:<br>• Develop world leading Green Finance capabilities;<br>• Develop a package of measures to support businesses to improve their energy productivity, by at least 20 per cent by 2030;<br>• Improving the energy efficiency of our homes;<br>• Rolling out low carbon heating;<br>• Accelerating the shift to low carbon transport;<br>• Delivering clean, smart, flexible power emissions; and<br>• Enhancing the benefits and value of our natural resources |

# Policy Context Tables - National Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Transport Investment Strategy (2017) Department for Transport | The Transport Investment Strategy, published in July 2017 by the Department for Transport, describes the UK government's priorities for investment in transport. These are:<br>• To create a more reliable, less congested, and better-connected transport network that works for the users who rely on it. The TIS notes UK transport systems are ageing and are facing increasing demands. In many places, the current transport network does not provide the right levels of connectivity for people and business.<br>• To build a stronger, more balanced economy by enhancing productivity and responding to local growth priorities. The TIS notes the UK's national productivity is lower than other G7 countries (e.g. 36% behind Germany), and describes transport as one way of boosting productivity. It is also acknowledged that prosperity hasn't been shared evenly between different places, leaving some communities feeling left behind.<br>• To enhance the UK's global competitiveness by making Britain a more attractive place to trade and invest. Britain is globally renowned as a leader in Research and Innovation, and Scientific fields. Foreign investment in these areas is significant and relies upon good national and international transport links. Retaining the UK's pre-eminence in these areas will require continued investment in the transport network, enhancing "city clusters" and "international connectivity". The TIS therefore views transport as a means of attracting job-creating investment, leveraging the UK's industrial strengths and enabling it to trade with partners with as few frictions as possible.<br>• To support the creation of new housing. The TIS acknowledges parts of the UK face a significant challenge to provide the houses that people need in the places they wish to live. Furthermore, the Government's Housing White Paper recognises that investing in transport infrastructure is one of the best ways of unlocking development in places that are currently poorly served by our transport system. |
| Road to Growth (2017) Highways England | The Road to Growth sets out Highways England's strategic economic growth plan. It sets out how the economic impact of the Strategic Route Network can be optimised. The paper focusses on the SRN, specifically economic roles which it can play in supporting the economy which are:<br>• Supporting business productivity and competitiveness, and enabling the performance of SRN-reliant sectors<br>• Providing efficient routes to global markets through international gateways<br>• Stimulating and supporting the sustainable development of homes and employment spaces |
| Highways England Route Strategies | "The Government's priorities for investment in the SRN in South East England is described in Highways England's Route Strategies. In total, Highways England has published 18 Route Strategies covering the whole SRN in England, seven of which are relevant for the South East. These are<br>•South Coast Central (A23 and A27); and<br>•London Orbital and M23 to Gatwick<br>Each strategy provides a description of the key centres of population and industry, international gateways served by the route, the type of road, and its current performance and constraints. Each strategy outlines options for maintaining, operating and/or enhancing roads. Where appropriate, this could include influencing driver behaviour or considering other modes of travel. " |
| "Department for Transport, National Policy Statement for National Networks (2014)" | Paragraph 4.38 of the NN NPS states that "New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure."<br>The NN NPS also requires carbon impacts to be considered as part of the appraisal of scheme options, and an assessment of any likely significant climate factors in accordance with the requirements in the EIA Directive. It goes on to state that "it is very unlikely that the impact of a road project will, in isolation, affect the ability of Government to meet its carbon reduction plan targets." |

# Policy Context Tables - National Non-Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| National Planning Policy Framework (2019) | Biodiversity<br>Paragraphs 170 and 174 to 177 of the NPPF require development to protect and safeguard biodiversity, and advise that development should aim to conserve, restore and enhance biodiversity adequately through mitigation or, as a last resort, using compensation.<br>Recognise the wider benefits of ecosystem services; minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures. Paragraph 170 of the NPPF requires that planning decisions should be taken to enhance the natural environment by recognising the wider benefits from natural capital and ecosystem services.<br>Further, Paragraph 171 requires plans to take a strategic approach to maintaining and enhancing green infrastructure networks and improving natural capital at a catchment or landscape scale. "<br>Landscape & Historic Environment<br>Paragraph 170 of the NPPF requires developments to protect and enhance valued landscapes and recognise the intrinsic character and beauty of the countryside.<br>Paragraph 172 of the NPPF states that great weight should be given to conserving and enhancing landscape and scenic beauty in National parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection. The scale and extent of development within these designated areas should be limited, planning permission for major developments should be refused other than in exceptional circumstances where it can be demonstrated that the development is in the public interest.<br>Water Environment<br>"…appropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere".<br>"… if there is no reasonably available site in Flood Zones 1 or 2, then national networks infrastructure projects can be located in Flood Zone 3, subject to the Exception Test. Both elements of the test will have to be passed for development to be consented…"<br>"Any project that is classified as 'essential infrastructure' and proposed to be located in Flood Zone 3a or 3b should be designed and constructed to remain operational and safe for users in times of flood; and any project in Zone 3b should result in no net loss of floodplain storage and not impede water flows".<br>"… impacts on the water environment should be given more weight where a project would have adverse effects on the achievement of the environmental objectives established under the Water Framework Directive".<br>Air Quality and Climate Change<br>Paragraph 150 of the NPPF states that "New development should be planned for in ways that:<br>• a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and<br>• b) can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards."<br>Noise<br>Paragraph 180 state planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life." |

# Policy Context Tables - National Non-Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| 25 Year Environment Plan (2018) | Biodiversity<br>The 25 Year Environment Plan outlines the Government's ambition to leave our environment in a better state than we found it and the steps proposed to take to achieve that ambition. The Plan includes ten key targets of which two focus on biodiversity.<br>Thriving plants and wildlife:<br>• Restoring 75% of our one million hectares of terrestrial and freshwater protected sites to favourable condition, securing their wildlife value for the long term;<br>• Creating or restoring 500,000 hectares of wildlife-rich habitat outside the protected site network, focusing on priority habitats as part of a wider set of land management changes providing extensive benefits;<br>• Taking action to recover threatened, iconic or economically important species of animals, plants and fungi and where possible to prevent human-induced extinction or loss of known threatened species in England and the Overseas Territories;<br>• Increasing woodland in England in line with our aspiration of 12% cover by 2060: this would involve planting 180,000 hectares by end of 2042.<br>Enhancing biosecurity:<br>• Managing and reducing the impact of existing plant and animal diseases; lowering the risk of new ones and tackling invasive non-native species;<br>• Reaching the detailed goals to be set out in the Tree Health Resilience Plan of 2018;<br>• Ensuring strong biosecurity protection at our borders, drawing on the opportunities leaving the EU provides; and<br>• Working with industry to reduce the impact of endemic disease.<br>Landscape<br>Goal 6: Enhancing beauty, heritage and engagement with the natural environment, is to "safeguard and enhance the beauty of our natural scenery and improving its environmental value while being sensitive to considerations of its heritage."<br>Climate<br>Goal 7 of the 25 Year Environment Plan, 'Mitigating and adapting to climate change', is to "take all possible action to mitigate climate change, while adapting to reduce its impact" by "continuing to cut greenhouse gas emissions including from land use, land use change…" and "making sure that all policies, programmes and investment decisions consider the possible extent of climate change this century".<br>With regards to the transport sector, the 25 Year Environment Plan identifies four 'early' priorities through the 'Future of Mobility Grand Challenge'. These include encouraging new modes of transport; addressing the challenges of moving from hydrocarbon to zero emission vehicles; and Preparing for a future of new mobility services, increased autonomy, journey-sharing and a blurring of the distinctions between private and public transport.<br>Water Environment<br>Goal 2 - Clean and plentiful water:<br>"Improve at least three quarters of our waters to be close to their natural state as soon as is practicable by: […] Reaching or exceeding objectives for rivers, lakes, coastal and ground waters that are specially protected, whether for biodiversity or drinking water". . |

# Policy Context Tables - National Non-Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| National Networks National Policy Statement (NN NPS) (2014) | Noise<br>Paragraph 5.193 states that developments must be undertaken in accordance with statutory requirements for noise. Due regard must have been given to the relevant sections of the Noise Policy Statement for England, National Planning Policy Framework and the Government's associated planning guidance on noise.<br>Paragraph 5.192 states that the Secretary of State should not grant development consent unless satisfied that the proposals will meet, the following aims, within the context of Government policy on sustainable development:<br>• Avoid significant adverse impacts on health and quality of life from noise as a result of the new development;<br>• Mitigate and minimise other adverse impacts on health and quality of life from noise from the new development; and<br>• Contribute to improvements to health and quality of life through the effective management and control of noise, where possible.<br>Air Quality<br>Paragraph 4.38 of the NN NPS states that "New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure."<br>The NN NPS also requires carbon impacts to be considered as part of the appraisal of scheme options, and an assessment of any likely significant climate factors in accordance with the requirements in the EIA Directive. It goes on to state that "it is very unlikely that the impact of a road project will, in isolation, affect the ability of Government to meet its carbon reduction plan targets."<br>Soils, waste and materials<br>"Evidence of appropriate mitigation measures (incorporating engineering plans on configuration and layout, and use of materials) in both design and construction should be presented".<br>Landscape and Historic Environment<br>Paragraph 5.149 states that when judging the impact of a project on landscape, the decision is dependent on the nature of the existing landscape likely to be affected and the nature of the effect likely to occur. The project should aim to avoid or minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.<br>Water<br>"… if there is no reasonably available site in Flood Zones 1 or 2, then national networks infrastructure projects can be located in Flood Zone 3, subject to the Exception Test. Both elements of the test will have to be passed for development to be consented…"<br>"Any project that is classified as 'essential infrastructure' and proposed to be located in Flood Zone 3a or 3b should be designed and constructed to remain operational and safe for users in times of flood; and any project in Zone 3b should result in no net loss of floodplain storage and not impede water flows".<br>"… impacts on the water environment should be given more weight where a project would have adverse effects on the achievement of the environmental objectives established under the Water Framework Directive".<br>Biodiversity and Geodiversity<br>NN NPS states that development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation to counteract impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought.<br>Paragraphs 3.2 to 3.5 of the NN NPS state that not only should national road and rail networks be designed to minimise social and environmental impacts, but that they should also seek to improve quality of life. In part this may be achieved by "reconnecting habitats and ecosystems […] improving water quality and reducing flood risk, […] and addressing areas of poor air quality."<br>Paragraph 5.162 recognises the potential for developments to provide positive environmental and economic benefits through the provision of green infrastructure.<br>Paragraph 5.175 of the NN NPS highlights that green infrastructure identified in development plans should be protected and, where possible, enhanced. |

# Policy Context Tables - National Non-Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| The Environment Bill (2020) | The Environment Bill 2020 sets out how the Government plan to protect and improve the natural environment in the UK and is a key vehicle in the delivery of the 25 Year Environment Plan. It sets a new and ambitious domestic framework for environmental governance on a number of measures including the clean air strategy; biodiversity net gain; trees; conservation covenants; extended producer responsibility for packaging; recycling; a deposit return scheme for drinks containers and water. |
| The State of Natural Capital, Natural Capital Committee (2020) | In the report, the Natural Capital Committee sets out:<br>• Despite some improvements, only limited progress has been made towards the 25 Year Environment Plan's goals.<br>• Its advice to Government that biodiversity net gain should be expanded to environmental net gain.<br>• Its advice that an England wide baseline of natural capital assets should be established to measure progress towards environmental goals.<br>Natural capital should be seen as infrastructure in its own right, in recognition of its contribution to economic wellbeing. |
| Planning for the Future (White Paper) August 2020 | As part of the government's drive to reform national planning regulations, they have recently released a white paper for consultation. It focusses on digitalisation (moving to a 'data-driven' form of planning) removing 'red tape' around planning policies, and improving the sustainability of housing stock. Key pillars include:<br>• 'First, we will streamline the planning process with more democracy taking place more effectively at the plan-making stage, and will replace the entire corpus of plan-making law in England<br>• Second, we will take a radical, digital-first approach to modernise the planning process. This means moving from a process based on documents to a process driven by data.<br>• Third, to bring a new focus on design and sustainability.<br>• Fourth, we will improve infrastructure delivery in all parts of the country and ensure developers play their part, through reform of developer contributions.<br>• Fifth, to ensure more land is available for the homes and development people and communities need, and to support renewal of our town and city centres.' |
| Clean Air Strategy (2019) | Addresses action to reduce emissions from transport "as a significant source of emissions of air pollution", in-particular oxides of nitrogen (NOx) – which is responsible for high levels of NO2 in ambient air, especially in urban areas - and particulate (PM10 and PM2.5) emissions. |
| Government Clean Air Strategy (2019) Department for Environment and Rural Affairs | Explains how the government will tackle all sources of air pollution. It sets out potential future legislation around transport, and broad measures to help drive a switch to zero-emissions transport modes. |
| Our Waste, Our Resources: A Strategy for England (2018) | This Strategy is the first significant government statement in this area since the 2011 Waste Review and the subsequent Waste Prevention Programme 2013 for England. It builds on this earlier work but also sets out fresh approaches to long-standing issues like waste crime, and to challenging problems such as packaging waste and plastic pollution.<br>The strategy is framed by natural capital thinking and guided by two overarching objectives:<br>1. To maximise the value of resource use; and<br>2. To minimise waste and its impact on the environment.<br>The Strategy has five key principles:<br>1. To provide the incentives, through regulatory or economic instruments if necessary and appropriate, and ensure the infrastructure, information and skills are in place, for people to do the right thing;<br>2. To prevent waste from occurring in the first place, and manage it better when it does;<br>3. To ensure that those who place on the market products which become waste to take greater responsibility for the costs of disposal – the 'polluter pays' principle;<br>4. To lead by example, both domestically and internationally; and<br>5. To not allow our ambition to be undermined by criminality. |

# Policy Context Tables - National Non-Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Industrial Strategy White Paper (2017) Department for Business Energy and Industrial Strategy | The Industrial Strategy White Paper, published by the UK government in November 2017, sets out the government's over-arching industrial policy. This White Paper describes how the government will work to boost the productivity of the UK by helping "businesses create better, higher-paying jobs in every part of the United Kingdom with investment in the skills, industries and infrastructure of the future". The White Paper describes five "foundations of productivity":<br>• ideas;<br>• people;<br>• infrastructure;<br>• business environment; and<br>• places. |
| Air Quality Plan (2017) Department for Environment and Rural Affairs | Describes how the government plans to improve air quality by ending the sale of new, conventional petrol and diesel cars and vans by 2040. This policy has had a significant impact on the automotive industry and has already resulted in significant changes in consumer behaviour. |
| Housing White Paper (2017) (Fixing our broken housing market) Ministry for Communities Housing and Local Government | Sets out how the government intends to boost housing supply and create a more efficient housing market. The government wishes to ensure the housing market delivers outcomes that are more closely matched to the needs and aspirations of all households, and support wider economic prosperity. This policy is particularly pertinent to the South East as the region is characterised by relatively low levels of housing affordability. |
| The Paris Agreement (2015) | Aims to limit the global warming change to well below 2°C above pre-industrial levels. However, countries aim to limit the increase to 1.5°C to reduce the impacts of global warming. The EU has committed to a binding target of a reduction of at least 40% in greenhouse gas emissions by 2030 compared to 1990. |
| Transforming our World: the 2030 Agenda for Sustainable Development (2015) | Sets a plan of action for people, planet and prosperity. It also seeks to strengthen universal peace in larger freedom. It sets 17 Sustainable Development Goals (SDGs)<br>and 169 targets. Applicable goals include:<br>• Goal 6 - Ensure availability and sustainable management of water and sanitation for all<br>• Goal 7 - Ensure access to affordable, reliable, sustainable and modern energy for all<br>• Goal 9 - Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation<br>• Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable<br>• Goal 12 - Ensure sustainable consumption and production patterns<br>• Goal 13 - Take urgent action to combat climate change and its impacts<br>• Goal 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development<br>• Goal 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss |
| Strategic Economic Plans (SEPs) (2014) | Outline each LEP's vision and strategic priorities for their region up to 2020/21. The first round of SEPs were published by each LEP in 2014. These are currently being updated to reflect the emerging Industrial Strategy (described under "National Policy Context"). The next round of SEPs will outline a vision to 2030. The regions which currently have SEPs in the South East are: Coast to Capital, Enterprise M3, Solent, South East and Thames Valley Berkshire.<br>The SEPs also outline the industrial and sectoral priorities for their region, which are based on each region's perceived economic strengths and stated growth ambitions. Please note that not all of the SEPs cover all of the areas highlighted to the right - they are selected based on what is representative of the 'general' SEPs in the South East. |

# Policy Context Tables - National Non-Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| A 2030 Framework for Climate and Energy Policies Green Paper (2013) | The framework sets three key targets for the year 2030:<br>• At least 40% cuts in greenhouse gas emissions (from 1990 levels);<br>• At least 27% share for renewable energy; and<br>• At least 27% improvement in energy efficiency. |
| EU Adaptation Strategy (2013) | • Promoting action by member states and supporting adaptation in cities;<br>• Promoting adaptation in vulnerable sectors and ensuring Europe's infrastructure is more resilient; and<br>• Better informed decision making by addressing gaps in knowledge about adaptation. |
| Green Infrastructure: An integrated approach to landscape use. Landscape Institute Position Statement (2013) | The Landscape Institute's most recent position statement, 'Green Infrastructure LI Position Statement 2013' sets out why GI is crucial to our sustainable future. The publication showcases a range of successful GI projects and shows how collaboration is key to delivering multifunctional landscapes. It also illustrates why landscape professionals should take the lead on the integration of GI. |
| EU Biodiversity Strategy to 2020 – towards implementation (2011) | Aimed at halting the loss of biodiversity and ecosystem services in the EU by 2020, the strategy provides a framework for action over the next decade and covers the following key areas:<br>• Conserving and restoring nature;<br>• Maintaining and enhancing ecosystems and their services;<br>• Ensuring the sustainability of agriculture, forestry and fisheries;<br>• Combating invasive alien species; and<br>• Addressing the global biodiversity crisis. |
| Noise Policy Statement for England (2010) | The long-term vision for the Noise Policy Statement for England is to "promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development." |
| Accessible Natural Green Space Standards in Towns and Cities: A review and Toolkit for their Implementation (2003) and Nature Nearby: Accessible Green Space Guidance (2010) | English Nature (now Natural England) recommends that provision should be made of at least 2ha of accessible natural greenspace per 1000 population according to a system of tiers into which sites of different sizes fit:<br>• no person should live more than 300m from their nearest area of natural greenspace;<br>• there should be at least one accessible 20ha site within 2km from home;<br>• there should be one accessible 100ha site within 5km; and<br>• there should be one accessible 500ha site within 10km. |
| Ambient Air Quality Directive (2008) | The Ambient Air Quality Directive provides the current framework for the control of ambient concentrations of air pollution in the EU. The control of emissions from mobile sources, improving fuel quality and promoting and integrating environmental protection requirements into the transport and energy sector are part of these aims. |
| The Climate Change Act, 2008 | • Improve carbon management and help the transition towards a low carbon economy in the UK.<br>• Demonstrate strong UK leadership internationally, showing the commitment to taking shared responsibility for reducing global emissions in the context of developing negotiations on a post-2012 global agreement at Copenhagen in 2009.<br>• Greenhouse gas emission reductions through action in the UK and abroad of at least 80% by 2050, and reductions in CO2 emissions of at least 26% by 2020, against a 1990 baseline. However, more ambitious targets are being set under the Paris Agreement. |

# Policy Context Tables - National Non-Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Directive 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste | Waste management in the EU should be improved and transformed into sustainable material management, with a view to protecting, preserving and improving the quality of the environment, protecting human health, ensuring prudent, efficient and rational utilisation of natural resources, promoting the principles of the circular economy, enhancing the use of renewable energy, increasing energy efficiency, reducing the dependence of the Union on imported resources, providing new economic opportunities and contributing to long-term competitiveness. |
| Future Water<br>The Government's water strategy for England (2008) | The vision for water policy and management is one where, by 2030 at the latest, England has:<br>• improved the quality of our water environment and the ecology which it supports, and continued to provide high levels of drinking water quality from our taps;<br>• sustainably managed risks from flooding and coastal erosion, with greater understanding and more effective management of surface water;<br>• ensured a sustainable use of water resources, and implemented fair, affordable and cost reflective water charges;<br>• cut greenhouse gas emissions; and<br>• embedded continuous adaptation to climate change and other pressures across the water industry and water users. |
| Directive 2000/60/EC of the European Parliament - "The Water Framework Directive" (2000) | The main aims of the Water Framework Directive (WFD) are to:<br>• prevent deterioration and enhance status of aquatic ecosystems, including groundwater<br>• promote sustainable water use<br>• reduce pollution<br>• contribute to the mitigation of floods and droughts<br>The WFD requires the creation of River Basin Management Plans (RBMPs). |
| Conservation of Natural Habitats and Wild Fauna & Flora (the 'Habitats Directive') (1992) | The identification of a European network of Sites of Community Importance (SCIs) to be designated as Special Areas of Conservation (SACs). A SEA would need to report on any potential effects on SACs and all development plans should aim to avoid adverse effects on them. |
| Planning (Listed buildings and Conservation Areas) Act 1990 | This is an Act relating to special controls in respect of buildings and areas of special architectural or historic interest. |
| Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979) | The convention has three main aims which are stated in Article 1:<br>• to conserve wild flora and fauna and their natural habitats;<br>• to promote cooperation between states; and<br>• to give particular attention to endangered and vulnerable species including endangered and vulnerable migratory species. |
| 1979 Ancient Monuments and Archaeological Areas Act | Where Ancient Monuments occur on agricultural land the following Act influences the extent of public control to ensure the protection of scheduled ancient monuments. |

# Policy Context Tables – Sub-National Transport Policy – Local Transport Plans

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Surrey LTP (2018) | • Facilitate end-to-end journeys for residents, business and visitors by maintaining the road network, delivering public transport services and, where appropriate, providing enhancements.<br>• Improve road safety and the security of the travelling public.<br>• Provide an integrated transport system that protects the environment, keeps people healthy and provides for lower carbon transport choices.<br>• None have been identified in the Local Transport Plan. The Districts and Boroughs are producing Local Transport Strategies which identify priorities at a spatial level. |
| Hampshire LTP (2013) | Priorities:<br>• Support economic growth by ensuring the safety, soundness and efficiency of the transport network.<br>• Provide a safe, well-maintained, and more resilient road network and continued casualty reduction.<br>• Manage traffic to maximise the efficiency of existing network capacity, improving journey time reliability and reducing emissions.<br>• Improving international gateways (Southampton, Portsmouth and Southampton International Airport).<br>• Public transport (BRT) to assist delivery in planned developments such as New Community North Fareham, Basingstoke and Whitehill-Bordon<br>• Improved access to Heathrow Airport.<br>• Securing investment to improve capacity |
| Bracknell Forest LTP (2011) | • Reduce delays associated with traffic congestion and improve reliability of journey times.<br>• Encourage and promote accessibility by sustainable modes.<br>• Protect and enhance the quantity and quality of natural resources including water, air quality and the natural environment.<br>• Reduce greenhouse gas emissions from transport.<br>• Reduce casualties and improve safety on local transport.<br>• Enhance the street environment. |
| Reading LTP (2011) | • Facilitate more physically active travel for journeys in a healthy environment.<br>• Improve personal safety on the transport network.<br>• Ensure that the transport network operates safely and efficiently to meet the needs of all users.<br>• Align transport and land use planning to enable sustainable travel choices, improve mobility, reduce the need to travel and preserve the natural environment.<br>• Offer sustainable transport choices for the Travel to Work Area and beyond, integrating within and between different types of transport.<br>• Improve journey times, journey time reliability and the availability of information.<br>• Reduce carbon emissions from transport, improve air quality and create a transport network which supports a mobile, affordable low-carbon future. |
| Slough LTP (2011) | • Make sustainable transport options accessible to all.<br>• Enhance social inclusion and regeneration of deprived areas.<br>• Minimise the noise generated by the transport network.<br>• Achieve better links between neighbourhoods and access to the natural environment.<br>• Reduce the number of traffic collisions involving death or injury.<br>• Minimise the opportunity for crime, anti-social behaviour and terrorism and maximise personal safety of the PT network.<br>• Reduce transport's C02 emissions and make the PT network resilient to the effects of climate change.<br>• Minimise effects of transport on natural environment, heritage and landscape.<br>• Ensure that the transport system helps Slough sustain its economic competitiveness and retain its position as an economic hub of the South East.<br>• Facilitate the development of new housing in accordance with the LDF. |

# Policy Context Tables – Sub-National Transport Policy – Local Transport Plans

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| West Berkshire LTP (2011) | • To improve travel choice and encourage sustainable travel;<br>• To support the economy and quality of life by minimising congestion and improving reliability on West Berkshire's transport networks;<br>• To maintain, make best use of and improve West Berkshire's transport networks for all modes of travel;<br>• To improve access to services and facilities;<br>• To improve and promote opportunities for healthy and safe travel;<br>• To minimise energy consumption and the impact of all forms of travel on the environment |
| Windsor and Maidenhead LTP (2012) | • Improve access to everyday services and facilities for everyone.<br>• Improve road safety and personal security for all transport users.<br>• Support sustainable economic growth.<br>• Improve quality of life and minimise the social, health and environmental impacts of transport.<br>• Mitigate and adapt to the effects of climate change. |
| Wokingham LTP (2012) | • Have a resilient, safe highway network that balances capacity for all users, enhances the economic prospects of the Borough, and promotes sustainable travel.<br>• Work with partners to promote walking and cycling for all residents.<br>• Promote an integrated and inclusive public transport network that provides a convenient, acceptable, reliable and affordable alternative to car travel.<br>• Manage the demand for travel to ensure that people have a high level of access to different destinations, with sufficient choice, whilst minimising the adverse effects of congestion. |
| Isle of Wight LTP (2011) | • Maintain and improve journey time reliability and predictability for all road users<br>• Protect and enhance the environment and quality of life.<br>• Improve road safety and health.<br>• Provide improvements to a series of key bottlenecks on the road network. |
| Connected Southampton - Transport Strategy for 2040 (LTP4 - 2019) | The strategy ensures that any transport policies, strategy and delivery plans better reflect and support the bold and ambitious plans for sustainable and clean growth over the next twenty years. Connected Southampton will become the umbrella transport planning document for the city, and it consists of a number of component parts that together combine as a new LTP for Southampton, including the Joint South Hampshire Strategy, the Issues and Options evidence base, and the shorter-term implementation plans.<br>The LTP changes its approach to transport planning from seeking to maximise the movement of vehicles to instead focus on improving the efficiency of transport corridors and places and making it easier for people to get about by a range of different travel choices. The LTP includes a strategic and place-based approach.<br>The main ideas for 2040 proposed in the strategy include an integrated Mass Rapid Transit System for the city, creation of Active Travel Zones, a network of Park and Ride sites and a comprehensive cycle network. |
| Southampton City Council Green City Plan 2020-30 (2020) | The Green City Plan 2030 sets out an ambitious vision for a cleaner, greener, healthier and more sustainable council and how it will contribute to tackling some of the most challenging environmental issues in our city. It includes more than 60 specific actions which we will undertake to deliver this, outlines the progress that has already been made and how ongoing progress will be measured. In response to the climate emergency, the plan sets out five themes which commit to achieving net zero emissions in council commercial buildings by 2030, increasing the proportion of renewable energy generated, delivering clean air, protecting the natural environment and promote sustainable travel. Specifically on the fifth theme, the plan sets out the following targets:<br>- 15% of journeys into the city will be by bike by 2027<br>- Be in the top 10% UK cities for number of public electric vehicle charging units by 2025<br>- Deliver two Active Travel Zones in the city by 2025 |

# Policy Context Tables – Sub-National Transport Policy – Local Transport Plans

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Portsmouth Transport Strategy 2020–2036 (2020) | The strategy sets out the vision for how Portsmouth transport between now and 2036. The strategy is supported by an implementation plan that includes the individual schemes that deliver the vision. The strategy and implementation plan are supported by a wider set of documents that taken together will guide transport decision making in the city. The plan will build on the excellent partnership working and ensure we work strategically with neighbours in Solent. The LTP includes 20 policies, focusing on delivering cleaner air, prioritizing walking and cycling, transforming public transport, and supporting businesses and protecting key assets. Policy 11 promotes the development of a rapid transit network that connects key locations in the city with South East Hampshire, and facilitates future growth. Policy 12 aims to prioritise local bus services over general traffic to make journeys by public transport quicker and more reliable and support demand-responsive transport services. Other policies include working with public transport operators to deliver integrated, efficient and affordable services promoting local and regional connectivity; expanding the Portsmouth Park & Ride to reduce pollution and congestion in the city centre. |

# Policy Context Tables – Sub-National Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| SELEP COVID19 Economic Statement (2020) South East Local Enterprise Partnership | SELEP's LIS is currently on hold while the economic challenges from COVID19 are being assessed. In the interim, a COVID19 economic statement has been released, which explains SELEP's response to the crisis and the economic support it is providing. It notes that they are providing more than £90m of investment to accelerate the recovery effort, focussing on delivering key infrastructure which will provide jobs now, and long-term positive economic benefits in the future. It also notes a number of areas where SELEP will focus its attention in the coming months in order to aid the recovery, including:<br>• Supporting businesses to adapt, recover and grow.<br>• Re-skilling the workforce, supporting people back into the labour market<br>• Driving forward innovation, research and development to help stimulate the economy and increase productivity<br>• Promoting and enabling clean recovery in the future planning of our towns and communities<br>• Addressing gaps in digital connectivity<br>• Accelerating planned growth through investment in £85m Getting Building Funds<br>• Tackling the implications of BREXIT<br>• Continuing a strong dialogue with government as a LEP |
| Logistics and Gateway Review (2019) Transport for the South East | The aim of this study was to provide a consistent view of current and future patterns of freight activity and key cross-cutting issues relating to freight logistics and gateways across the TfSE area. Recommends developing a comprehensive freight strategy, which sets out the interventions and management actions required across the TfSE area, as well as the cost of undertaking these. Second, thought should be provided about how the promotion of best practice can be undertaken. Third, the strategy must incorporate local freight planning, including consolidation centres, land use, and retiming. |
| Future Mobility Review (2018) WSP on behalf of Transport for the South East | This paper examined how future mobilities have the potential to change the transportation and provide opportunities in the South East area. The study provides a number of key recommendations for TfSE, which include;<br>• Energy – develop a sufficient and reliable supply of energy across all sectors<br>• Communications – provide consistently fast and reliable digital coverage in all communities/corridors<br>• Spatial Planning – integrate spatial planning, economic development, and transport policy. Plan new developments that prioritise major trip generators in the most accessible locations.<br>• Health – improve health and social care outcomes through comprehensive and consistent access to services.<br>• Education – consider the implications of future mobility trends upon the skills and education sector, in particular those associated with automotive, AI and robotics.<br>• Environment – reduce emissions related to poor air quality, and wider environmental impacts from transport. |
| TfSE Economic Connectivity Review (2018) Transport for the South East | Highlights the unique position of the South East as a powerful driver of the UK economy and as the nation's major international gateway for people and business. It provides the evidence that underlines the South East's competitiveness in the maritime, defence, advanced engineering, biosciences, and connected digital sectors. These strengths are all supported by digital enabling technologies and other high growth sector specialisms in finance, professional services, transport and logistics. The study estimates the South East's high-growth priority sectors and their economic assets could deliver as much as £500 billion per year to the UK economy by 2050. However, it concludes that the region needs a period of sustained investment in infrastructure if it is to maintain its competitiveness in the face of intensifying global competition. and realise its full economic potential. |

# Policy Context Tables – Sub-National Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Network Rail Local Studies | Local Studies, which bring together the suggested outputs for all the market sectors of a part of the network. These studies evaluate the trade-offs between the suggested outputs for the different sectors, form a view of the likely long-term allocation of different sectors, and use these findings to inform decisions on the appropriate capability of the network. In total, there are five Local Studies in the South East:<br>• London and South East<br>• South East (Sussex)<br>• South East (Kent)<br>• Wessex<br>• Western |
| Solent CMSP (2020) Network Rail | This study has been completed as part of the Continuous Modular Strategic Planning (CMSP) approach adopted under the Long-Term Planning Process (LTPP). Solent is the largest growth area on Network Rail's Wessex route outside of greater London, with over 100,000 new homes planned to be built by the mid-2030s, as well as having several nationally important economic assets, most notably the Ports of Southampton and Portsmouth. Makes specific reference to the outer orbital study, noting that: In the Draft Transport Strategy for the South East (2019), TfSE emphasised the importance of developing the cross-regional passenger rail offer for journeys that avoid London in order to provide an alternative to the equivalent road journey. We are recommending that the Outer Orbital Area Study take forward and appraise the infrastructure options and the shortlisted train service options set out in this study as well as examining/developing complementary interventions covering the following:<br>• Line speed improvements to improve east-west journey times;<br>• Consistent spacing of train service intervals within the timetable;<br>• Optimising the mix of long-distance and stopping services;<br>• Increasing the volume of services between Brighton and Southampton/Bristol;<br>• Encapsulating the recommendations of the West Coastway study. |
| Transport Delivery Plan (2013) Transport for South Hampshire | This TDP identifies a set of schemes for the period up to 2026, framed by an overall approach to delivery, for the Transport for South Hampshire Area (Portsmouth to Southampton incl. Isle of Wight). It provides a comprehensive review of the area, and the schemes which are considered significant for its future development. Overall, it notes that 'The evidence shows that there is a need for transport intervention to support sustainable economic growth. In the absence of transport intervention, transport will act as a constraint on sustainable economic growth.' |

# Policy Context Tables – Sub-National Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| London Mayors Transport Strategy (2018) | There are several aspects of the London Mayoral transport strategy which link to the South East. Notes that it is important, if London is to be a car-free city, that the wider economic region remains economically successful. It notes that "Economic growth and the provision of new housing in London and the Wider South East – the economic powerhouse of the country – depend on improvements to the connectivity and capacity of the strategic transport network. Improvements to the rail network are particularly important, as they support more active, efficient and sustainable travel." It also notes the particular importance of orbital networks to reduce pressure on London's congested system. |
| London South East Market Study (2013) Network Rail | This study quantifies the importance of rail travel in South East England (nearly half of all trips to Central London are by rail) and forecasts that demand for off-peak travel and commuting into regional centres is expected to grow. The strategic goals identified for this market are:<br>• to enable economic growth;<br>• to reduce carbon emissions and the transport sectors' impact on the environment;<br>• to improve the quality of life for communities and individuals; and<br>• to improve affordability.<br>Long term conditional outputs developed from the study include accommodating peak demand on short distance services and improving services between regional centres. |
| Freight Market Study (2017) Network Rail | The study brings together the strategic freight recommendations from individual routes and also provides an outline of the wider non-route specific priorities for rail freight capacity and capability. The study notes that there has been a recent growth in rail freight, a geographical shift in freight flows towards busier rail corridors, and a growth in passenger numbers. All of these trends are placing additional capacity constraints on the freight sector. This market study identifies future requirements on individual corridors and highlights capacity gaps. It also considers the need for increased capability (e.g. speed improvements and train length). |
| London South East Market Study (2013) Network Rail | This study quantifies the importance of rail travel in South East England (nearly half of all trips to Central London are by rail) and forecasts that demand for off-peak travel and commuting into regional centres is expected to grow. The strategic goals identified for this market are:<br>• to enable economic growth;<br>• to reduce carbon emissions and the transport sectors' impact on the environment;<br>• to improve the quality of life for communities and individuals; and<br>• to improve affordability.<br>Long term conditional outputs developed from the study include accommodating peak demand on short distance services and improving services between regional centres. |

# Policy Context Tables – Sub-National Non-Transport Policy – Local Enterprise Partnership Strategy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Coast2Capital Build Back Stronger, Smarter and Greener (2020) | Coast to Capital regional economic output is estimated to have declined by up to 22% in the same year. The Coronavirus (COVID-19) Economic Impact Assessment examines in detail how the pandemic will bring major shocks to many parts of our region, particularly those towns with economies that are closely linked to Gatwick airport. Build Back Stronger, Smarter and Greener sets out a compelling case for a series of place based, transformational infrastructure projects for the area that will speed recovery and accelerate growth. They will address long term productivity challenges in our economy as well as the significant short-term impacts of the Coronavirus pandemic, identified in the Coronavirus (COVID-19) Economic Impact Assessment. The goals of the strategy are:<br>• To build back stronger, Coast to Capital will support Crawley with a plan to grow and evolve the UK's most COVID-19 impacted town into a more economically diverse and dynamic place.<br>• To build back smarter, we will build upon the knowledge and innovation community which already exists in Brighton.<br>• To build back greener, we will draw on the talented workforce and local business specialisms, to lead a green recovery across the whole region.<br>Headline transformational projects to facilitate recovery and future productivity include:<br>• Innovation Centre – to foster a new innovation ecosystem in Crawley which will connect international advanced engineering companies with local supply chains and skills.<br>• Quantum equity investment fund – to support commercialisation of ideas from the Quantum Technology Lab at University of Sussex.<br>• Natural Capital Investment Company – to create an investment vehicle to develop a long-term pipeline of biodiversity increase and carbon offsetting investment opportunities.<br>• Digital infrastructure delivery – to improve digital infrastructure across our area and align skills provision with industry specialism to create new jobs.<br>• Croydon Area Upgrade Scheme – to address the bottleneck on the Brighton Main Line at Croydon, increasing rail capacity across our region. |
| Coast to Capital Rural Statement (2016) | The purpose of the Rural Statement is highlight the contribution of the unique rural area to the future economic, social and environmental success of Coast to Capital and to identify the priorities for action which will be included in the action plan which is to follow. The key to improving rural competitiveness is not only to recognise<br>the interdependencies between rural and urban areas but also to develop strong rural areas in their own right which reflect the varied and rapidly changing nature of the rural economy and communities. The evidence suggests that: high-performing rural areas have five essential attributes:<br>1. A highly skilled workforce<br>2. An innovative economic base serving both national and global markets<br>3. A physical environment that provided the basis of a high quality of life<br>4. A strong sense of place and identity<br>5. Good access to urban employment centres. |
| Thames Valley Berkshire LIS | Vision that "Berkshire should grow with ambition and intent."<br>Priorities:<br>• Enhancing productivity within Berkshire's enterprises<br>• Ecosystems which are maturing and evolving and extend beyond Berkshire<br>• International trade, connections, collaborations and investments<br>• Vibrant places and a supportive infrastructure<br>• Making Berkshire an inclusive area where aspirations can be realized |

# Policy Context Tables – Sub-National Non-Transport Policy – Local Enterprise Partnership Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Energy South 2 East, Local Energy Strategy (2019) | This local energy strategy has been developed to enable the Coast to Capital, Enterprise M3 and South East Local Enterprise Partnerships (LEPs) of England to achieve clean growth from now until 2050 in energy across the power, heat and transport sectors. The strategy has five priority themes:<br>• Low Carbon heating - district heat networks, off-gas grid homes, hydrogen injection into the natural gas grid, new-build homes on hydrogen grid<br>• Energy Saving and efficiency - off gas grid homes, energy efficiency in homes, SME support programme<br>• Reducing carbon in a global economy – international aspects of transportation – shipping and aviation – are vital to the UKs economy; the UK must become a centre of expertise to drive low carbon transport, boosting the UK economy and helping to lead the change internationally.<br>• Renewable generation - offshore wind, solar and microgrid on landfill sites, biomass fuel supply chain, solar energy for network rail, car park solar potential, biofuel evolution<br>• Smart energy system - housing and community microgrids, EV charging and hydrogen fuelling infrastructure, setup of ESCO/MUSCO infrastructure, support developments in CO2 capture<br>• Transport Revolution - port modernisation, EV charging, CNG fleet fuelling |
| Coast to Capital LIS Logic Chains (2019) Coast to Capital | The Coast to Capital LEP have submitted a set of 'logic chains' to the Government's LIS Analytical Panel for review, presenting the rationale behind a set of draft interventions for the LIS (which is now on hold due to the COVID-19 pandemic) which were identified through extensive engagement with partners and in response to the findings from the evidence base. These logic chains cover the following areas;<br>• People: local talent pipeline<br>• Business environment: business growth<br>• Business environment: business space<br>• Places: sustainable growth<br>• Place: natural capital<br>• Infrastructure: 5G digital region<br>• Infrastructure: smart, clean mobility<br>• Ideas: innovation acceleration |
| Solent Local Industrial Strategy Development (2019) Solent Local Enterprise Partnership | The Solent LIS is also under development, and will aim to define priorities for how the region will maximise its contribution to UK productivity, through harnessing its distinctive strengths. It will ultimately set out a long-term roadmap aligned to the UK Industrial Strategy, backed by a robust and open evidence base. The developing LIS will explore the following components:<br>• Iconic Brand - A distinctive offer for residents, businesses and investors and a strong and credible vision about what makes the Solent unique.<br>• Keystone Assets - An economy anchored by national and international keystone assets, which range from education institutes to world-class industry clusters and knowledge-intensive assets.<br>• Commercial Culture - A commercial culture which allows entrepreneurship, investment and innovation to flourish.<br>• Liveable Place - A balance between jobs and income, health, housing, transport connections and the environment.<br>• World Class Talent - A hub that trains, attracts and retains world - class talent, as well as nurtures the talent of its own residents and encourages aspiration.<br>• Strong Financing - Financing available for supporting innovation, scaling spin-outs and investing in infrastructure. |

# Policy Context Tables – Sub-National Non-Transport Policy – Local Enterprise Partnership Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Coast to Capital Rural Statement (2016) | The purpose of the Rural Statement is highlight the contribution of the unique rural area to the future economic, social and environmental success of Coast to Capital and to identify the priorities for action which will be included in the action plan which is to follow. The key to improving rural competitiveness is not only to recognise<br>the interdependencies between rural and urban areas but also to develop strong rural areas in their own right which reflect the varied and rapidly changing nature of the rural economy and communities. The evidence suggests that: high-performing rural areas have five essential attributes:<br>1. A highly skilled workforce<br>2. An innovative economic base serving both national and global markets<br>3. A physical environment that provided the basis of a high quality of life<br>4. A strong sense of place and identity<br>5. Good access to urban employment centres. |

# Policy Context Tables – Sub-National Non-Transport Policy

| Plan or Policy | Relevant Aims/Objectives/Key Messages |
|---|---|
| Future water resource requirements for South East England (2020) | The plan will take a long-term view, looking ahead to 2100 and consider the water needed in homes and at work, and that required by industry, agriculture, electricity generation and the water needs of the environment. The plan will seek to:<br>• Ensure there is enough water to serve the growing population and support growth in the economy<br>• Address the impacts of climate change on water availability<br>• Improve the environment by leaving more water in the region's rivers, streams and underground sources<br>• Increase the region's resilience to drought and other events. |
| Surrey Hills AONB Management Plan (2019) | Key objectives of the plan include:<br>- Improve/influence the preparation of Local Plans and Major Developments influencing the AONB<br>- Landscape Conservation and Enhancement<br>- Improve Access, Enjoyment and Understanding<br>- Grow the Surrey Hills Economy<br>- Improve Partnership and Coordination |
| Portsmouth Local Flood Risk Management Strategy (2017) | The Strategy include nine strategic objectives:<br>• We seek to improve the knowledge and understanding of all sources of flood risk across Portsmouth, to include (in no particular order of importance):<br>-Surface water and run-off<br>-Groundwater<br>-Ordinary watercourses<br>-Fluvial (main rivers)<br>-Coastal<br>-Reservoir<br>-Sewer overload<br>-Mains water supply bursts<br>• Identify and work in partnership with other authorities, stakeholders and the community who have a role in flood risk management.<br>• Increase public awareness of all flood risk across Portsmouth.<br>• Ensure that planning decisions are properly informed by flooding issues, by avoiding development at inappropriate locations and reducing flood risk wherever possible.<br>• Maintain, and improve where necessary and affordable, flood risk management infrastructure and systems to reduce flood risk.<br>• Identify through an action plan, appropriate measures, and schemes to manage flood risks providing balanced community and environmental benefits, and establish who is responsible for delivery of these measures.<br>• Compile a funding plan for schemes listed on the action plan<br>• For identified schemes, demonstrate compliance with the EU Water Framework Directive through a Strategic Environmental Assessment and Habitats Regulations Assessment<br>• Detail all procedures in place to mitigate a flood event, including flood response and recovery |

# Appendix B

## Socioeconomic Indicators

| Area | GVA (2018, £m) | GVA (2008, £m) | GVA Growth (%) | GVA per capita (£) | Jobs Available | Eligible workforce (16-64) | Jobs minus workers | Jobs / Workforce (%) | Priority Sectors Jobs | Priority Sectors Jobs (%) | Priority Sector Quotient | Population (2019) | Population (2009) | Population Growth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Outer Orbital** | **81,031** | **62,686** | **29%** | **23,405** | **1,373,870** | **2,088,000** | **(714,130)** | **66%** | **160,965** | **11.7%** | **0.41** | **3,462,171** | **3,210,710** | **7.8%** |
| South West (Outer Orbital) | 42,060 | 32,359 | 30% | 25,907 | 694,725 | 986,000 | (291,275) | 70% | 102,545 | 14.8% | 0.51 | 1,623,484 | 1,521,374 | 6.7% |
| South Central (Outer Orbital) | 31,437 | 24,359 | 29% | 22,281 | 546,285 | 846,600 | (300,315) | 65% | 50,985 | 9.3% | 0.32 | 1,410,944 | 1,298,734 | 8.6% |
| South East (Outer Orbital) | 15,734 | 12,699 | 24% | 18,355 | 293,780 | 504,200 | (210,420) | 58% | 23,795 | 8.1% | 0.28 | 857,216 | 789,620 | 8.6% |
| **Inner Orbital** | **140,517** | **107,337** | **31%** | **35,906** | **1,846,655** | **2,400,100** | **(553,445)** | **77%** | **227,435** | **12.3%** | **0.43** | **3,913,426** | **3,614,802** | **8.3%** |
| South West (Inner Orbital) | 94,225 | 70,973 | 33% | 42,018 | 1,134,900 | 1,383,100 | (248,200) | 82% | 141,950 | 12.5% | 0.43 | 2,242,472 | 2,092,937 | 7.1% |
| South Central (Inner Orbital) | 22,773 | 19,300 | 18% | 35,813 | 317,550 | 380,600 | (63,050) | 83% | 48,135 | 15.2% | 0.53 | 635,882 | 591,488 | 7.5% |
| South East (Inner Orbital) | 32,424 | 24,518 | 32% | 24,533 | 520,825 | 803,100 | (282,275) | 65% | 48,075 | 9.2% | 0.32 | 1,321,668 | 1,200,989 | 10.0% |
| **South Central Radial** | **54,210** | **43,659** | **24%** | **26,485** | **863,835** | **1,227,200** | **(363,365)** | **70%** | **99,120** | **11.5%** | **0.40** | **2,046,826** | **1,890,222** | **8.3%** |
| **South West Radial** | **136,285** | **103,332** | **32%** | **35,253** | **1,829,625** | **2,369,100** | **(539,475)** | **77%** | **244,495** | **13.4%** | **0.46** | **3,865,956** | **3,614,311** | **7.0%** |
| **South East Radial** | **45,169** | **34,892** | **29%** | **22,046** | **758,315** | **1,227,100** | **(468,785)** | **62%** | **66,695** | **8.8%** | **0.31** | **2,048,852** | **1,874,915** | **9.3%** |
| **South East** | **226,759** | **174,429** | **30%** | **29,545** | **3,325,155** | **4,656,700** | **(1,331,545)** | **71%** | **399,585** | **12.0%** | **0.42** | **7,675,038** | **7,108,836** | **8.0%** |

| Area | Current Dwellings (2019) | Planned Dwellings (up to 2050) | % Dwelling Growth | Current Jobs (2017) | Planned Jobs (up to 2050) | % Job Growth | Number of LSOAs in Planning Authority | Number of LSOAs in Most Deprived Areas | % of Total LSOAs | In Scope Population | Population NVQ4+ | NVQ Level 4+ (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Outer Orbital** | **1,541,926** | **200,309** | **13%** | **1,373,870** | **129,332** | **9%** | **2,038** | **415** | **20%** | **2,081,200** | **834,300** | **40%** |
| South West (Outer Orbital) | 714,661 | 74,984 | 10% | 694,725 | 33,725 | 5% | 970 | 195 | 20% | 983,300 | 392,300 | 40% |
| South Central (Outer Orbital) | 632,893 | 76,507 | 12% | 546,285 | 26,256 | 5% | 822 | 121 | 15% | 843,400 | 376,400 | 45% |
| South East (Outer Orbital) | 386,842 | 77,261 | 20% | 293,780 | 92,066 | 31% | 497 | 144 | 29% | 503,300 | 166,300 | 33% |
| **Inner Orbital** | **1,646,633** | **278,783** | **17%** | **1,846,655** | **294,760** | **16%** | **2,293** | **243** | **11%** | **2,396,900** | **1,077,400** | **45%** |
| South West (Inner Orbital) | 951,399 | 135,195 | 14% | 1,134,900 | 104,511 | 9% | 1,334 | 82 | 6% | 1,381,200 | 673,900 | 49% |
| South Central (Inner Orbital) | 283,964 | 31,714 | 11% | 317,550 | 38,166 | 12% | 368 | 16 | 4% | 379,600 | 193,000 | 51% |
| South East (Inner Orbital) | 551,581 | 125,003 | 23% | 520,825 | 169,010 | 32% | 757 | 150 | 20% | 802,800 | 302,900 | 38% |
| **South Central Radial** | **916,857** | **108,221** | **12%** | **863,835** | **64,422** | **7%** | **1,190** | **137** | **12%** | **1,223,000** | **569,400** | **47%** |
| **South West Radial** | **1,666,060** | **210,179** | **13%** | **1,829,625** | **138,237** | **8%** | **2,304** | **277** | **12%** | **2,364,500** | **1,066,200** | **45%** |
| **South East Radial** | **884,030** | **186,359** | **21%** | **758,315** | **232,760** | **31%** | **1,176** | **282** | **24%** | **1,225,900** | **437,500** | **36%** |
| **South East** | **3,326,636** | **491,630** | **15%** | **3,325,155** | **418,491** | **12.6%** | **4,504** | **691** | **15.3%** | **4,646,700** | **1,980,700** | **42.6%** |

| Area | Average Workplace Earning | % South East Average | Average Resident Earning | % South East Average | Average House Price (2019) | Affordability Ratio (2019 - %) | Total Carbon Emissions (2018) kTCO2 | Transport Carbon Emissions (2018) kTCO2 | Minor Road Carbon Emissions (2018) kTCO2 | Carbon Emissions per capita TCO2 | Transport Carbon Emissions per capita TCO2 | Minor Road Carbon Emissions per capita TCO2 | Transport as % of total Carbon emissions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Outer Orbital** | **28,642** | **96%** | **30,701** | **93%** | **290,389** | **9.5** | **13,737** | **6,017** | **2,178** | **4.0** | **1.7** | **0.63** | **44%** |
| South West (Outer Orbital) | 29,144 | 98% | 30,847 | 93% | 273,147 | 8.9 | 6,959 | 3,183 | 1,046 | 4.3 | 2.0 | 0.64 | 46% |
| South Central (Outer Orbital) | 28,247 | 95% | 31,525 | 95% | 326,031 | 10.3 | 5,181 | 2,223 | 924 | 3.7 | 1.6 | 0.65 | 43% |
| South East (Outer Orbital) | 27,363 | 92% | 29,831 | 90% | 260,757 | 8.7 | 3,285 | 1,305 | 449 | 3.8 | 1.5 | 0.52 | 40% |
| **Inner Orbital** | **30,907** | **104%** | **35,231** | **106%** | **360,162** | **10.2** | **19,669** | **9,368** | **2,118** | **5.0** | **2.4** | **0.54** | **48%** |
| South West (Inner Orbital) | 31,038 | 100% | 36,506 | 110% | 395,787 | 10.8 | 11,086 | 5,231 | 1,298 | 4.9 | 2.3 | 0.58 | 47% |
| South Central (Inner Orbital) | 31,879 | 100% | 35,202 | 106% | 406,076 | 11.5 | 3,125 | 1,523 | 381 | 4.9 | 2.4 | 0.60 | 49% |
| South East (Inner Orbital) | 30,236 | 100% | 33,181 | 100% | 295,557 | 8.9 | 6,640 | 3,134 | 613 | 5.0 | 2.4 | 0.46 | 47% |
| **South Central Radial** | **29,582** | **99%** | **32,665** | **99%** | **350,822** | **10.7** | **8,306** | **3,746** | **1,305** | **4.1** | **1.8** | **0.64** | **45%** |
| **South West Radial** | **30,318** | **102%** | **34,151** | **103%** | **343,180** | **10.0** | **18,045** | **8,414** | **2,344** | **4.7** | **2.2** | **0.61** | **47%** |
| **South East Radial** | **29,155** | **98%** | **31,912** | **96%** | **281,902** | **8.8** | **9,327** | **4,123** | **987** | **4.6** | **2.0** | **0.48** | **44%** |
| **South East** | **£29,807** | **100.0%** | **£33,108** | **100.0%** | **£324,890** | **9.8** | **34,496** | **15,764** | **4,462** | **4.5** | **2.1** | **0.58** | **46%** |

# Appendix C

## Development Opportunities and Challenges

# Development Opportunities and Challenges (1 of 2)

| Major Economic Hub | Main location of housing growth | Main location of employment growth | Strategic and Major Road Network risks | Public Transport opportunities | Active Transport opportunities |
|---|---|---|---|---|---|
| **Elmbridge** | Around Walton-on-Thames e.g. the Bridge House development (35 homes) and near the South West Main Line e.g. 118 Ashley Road (50 homes). | Around Hersham and Weybridge. | Fair: Development risks adding more strain to the A305. This road sees congestion near major intersections in the AM peak. | Good: Most development will be located close to Weybridge and Walton-on-Thames. | Good: Most development is planned in built up urban areas and will therefore have good walking and cycling access to the public transport network and/or local amenities. |
| **Ewell/Epsom** | Focused around Epsom e.g. the TK Maxx store development (65 homes). | N/A | Poor: Developments will centre around the A24, which risks adding strain here. This road already sees major congestion in the AM peak. | Good: Most development planned around Epsom railway station. | Good: Future developments will be situated within walking/cycling distance of Epsom train station. |
| **Guildford** | South and west of the town centre. | Mostly in the city centre, with a large site to the west. | Poor: May add some strain to the A3, particularly are there are several large job sites to the west. The A3 sees some significant congestion in the AM peak near major junctions. | Good: Most development is planned around Guildford railway station. | Good: Most housing development planned close to future major employment sites, the town centre and public transport sites. |
| **Maidenhead** | A significant development is planned for Maidenhead Golf Club, which is located just to the south of the railway station (2,000 homes). | Employment growth is focused on the outskirts of the town near the A404/M4 interchange. | Fair: The employment development is likely to result in additional pressure on the A404 and M4, although these roads currently perform relatively well, even during peak hours. | Fair: The housing development is located close to a major railways station and along a busy bus corridor. The employment development is somewhat more remote, however. | Fair: The housing development is within walking distance of Maidenhead Town Centre. The employment development is further out of town. |
| **Newbury/Thatcham** | Close to the town centre e.g. Newbury Racecourse (1,500 homes) and to the south e.g. Sandleford (1,500 homes). | In the town centres. | Poor: May add some strain to the A339 and the A4. Both of these roads already see some congestion in the AM peak. | Fair: Most development close to Newbury station, except for one major development site 2.5km to the south. | Good/fair: Most development planned close to future major employment sites and the public transport network. Some development North of the River Medway beyond reasonable walking/cycling distance. |
| **Newport** | Focused in a small geographical area around the town e.g. land west of Sylvan Drive (200 homes). | Focused in a small geographical area. | Fair: Will not affect the Strategic Road Network but will add some pressure to the Major Road Network. | Fair: The largest site is located on a bus route. There are no rail stations near the developments. | Good: Most future development within walking/cycling distance of the town centre. |

# Development Opportunities and Challenges (2 of 2)

| Major Economic Hub | Main location of housing growth | Main location of employment growth | Strategic and Major Road Network risks | Public Transport opportunities | Active Transport opportunities |
|---|---|---|---|---|---|
| **Portsmouth** | Majority around Tipner island (1800 homes) the city centre. | Focussed on Horsea island, and around Eastney. | Fair: This may add some traffic to the M275 and the M27. | Fair: The development in the city centre will be well accommodated, while development around Tipner will be poorly connected. | Fair: The development in the city centre provides good opportunities for active transport, while development at Tipner will be more challenging. |
| **Reading** | In the town centre and to the south of the town on its periphery e.g. Broad Street Mall *250 homes). | In the town centre and to the south of the town on its periphery. | Poor: Development to the south may add strain to the A33. This road is relatively uncongested, with the exception of some points around major junctions. | Fair: Development in the centre is close to Reading railway station. Development to the south is far from the nearest public transport hubs. | Fair: Most housing development planned close to future major employment sites in the town centre. Developments to the south of the city centre may be forced to use private car to reach the city centre. |
| **Slough/Windsor** | In the centre e.g. Lion House, Petersfield Avenue (155 homes). | Minor employment growth near Langley station. | Poor: Unlikely to add significant strain to the A4. | Good: Most development will occur at sites which are located close to railway stations. | Good: Most future development is planned within walking and/or cycling distance of employment sites, amenities and public transport hubs. |
| **Southampton** | Focused in Southampton and Portsmouth city centres e.g. Westquay Watermark, (260 homes), and Centenary Quay (853 homes). There are several other developments across the wider South Hampshire. | Focused in Southampton town centre. | Poor: Likely to add strain to the M27 and other strategic and major roads in this area, which already experience serious congestion, notably around major intersections. | Good: Most development will occur on public transport corridors and near public transport hubs (such as Southampton railway station). There is also a significant level of brownfield site regeneration in Portsmouth. | Good: Most future development is planned within walking and/or cycling distance of employment sites, amenities and public transport hubs. |
| **Spelthorne** | The majority of development will happen around Staines upon Thames and Egham. | Majority immediately to the West of Staines upon Thames. | Good: Unlikely to add too much strain to the M25. | Fair: The majority will happen around Staines station. | Fair: Development will mostly happen in peri-urban settings, where access to jobs and amenities should be possible by active travel. |
| **Winchester** | In the centre e.g. Silver Hill (307 homes), with some development to the north e.g. Barton Farm (2,000 homes). | N/A | Good: Should add limited strain to the strategic highway network. | Good: Most development will occur around Winchester railway station. | Good: Most development will occur in locations with are within a reasonable distance of the town centre/public transport hubs. |
| **Woking** | Around the South West Main Line e.g. the Car Park Oriental Road (250 homes). | Around the South West Main Line. | Poor: May add some strain to the A320 and the A324. Both of these roads already see significant congestion. | Good: Development is almost exclusively around Woking railway train station. | Good: Most future development is planned within walking and/or cycling distance of employment sites, amenities and public transport hubs. |

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