



# Solent and Sussex Coast Strategic Programme Outline Case

Version 5  
June 2022



# Part 1

## Introduction

# Background

Transport for the South East (TfSE) developed a Transport Strategy which was adopted in 2020. They are currently delivering a programme of Strategic Studies that will prioritise interventions to deliver TfSE's vision for the South East. This is a key step towards developing a Strategic Investment Plan to secure funding for the South East's transport network.

## Geographic Scope

The Strategic Studies focus on the key transport corridors that serve and connect the South East's Major Economic Hubs and international gateways. They also play an important national role in connecting the rest of the UK to some of the busiest ports in the country.

The map overleaf in **Figure 1.1** shows the areas covered by each SPOC. The areas are defined as follows:

- **Solent and Sussex Coast** – encompassing the strategic corridors that serve and connect the two largest conurbations in the South East, covering an area from the New Forest in Hampshire to Hastings in East Sussex.
- **London to Sussex Coast** – encompassing the corridors that share the London-Gatwick corridor in the north and fan out in the south to connect much of the Sussex coastline to the capital.
- **South East** – encompassing the transport corridors connecting the Channel Tunnel and Port of Dover to London, as well as serving Kent, Medway, and East Sussex.
- **Wessex Thames** – encompassing the strategic corridors and Major Economic Hubs in Berkshire, North Hampshire, and West Surrey.

Through development of the evidence base for each study; option identification; and option assessment, the emerging packages of shortlisted intervention were more coherent when assessed and described at a place based level, rather than describing orbital components of a package in one study and radial components in another. Whilst there is no 'perfect' geography, a more place-based approach has been endorsed for the Strategic Programme Outline Case, reducing the levels of geographical overlap.

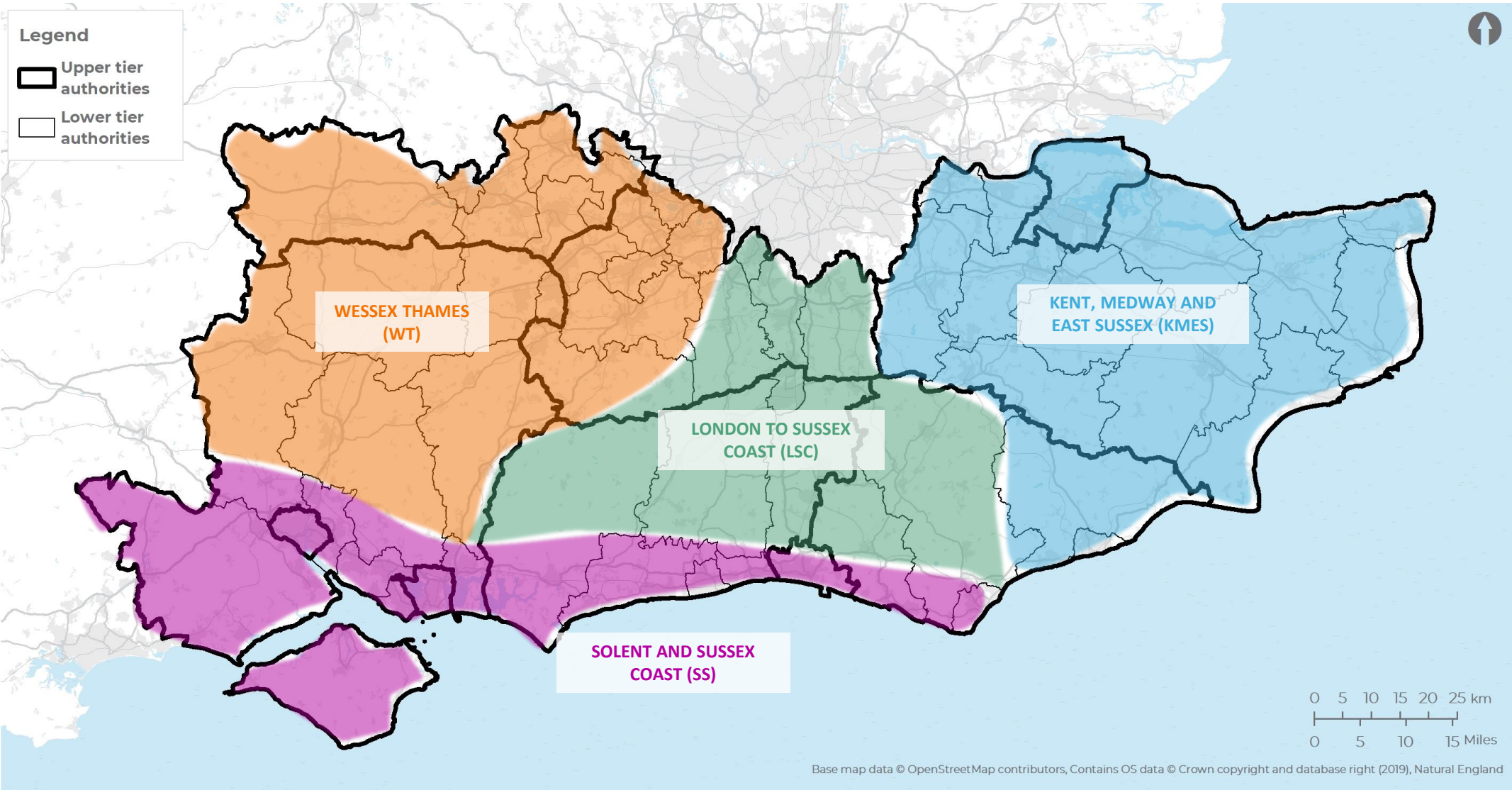
## Changes in Geographic Scope

The geographical scope of the technical programme of work underpinning this study is slightly different in Stage D compared to Stages B and C. In summary

- The **Outer Orbital Area Study** has become the **Solent and Sussex Coast**. The Isle of Wight (IoW) is now within the scope of this study, whereas East Kent is no longer in scope.
- The **Inner Orbital Area Study** has been merged with the **South West Radial Area Study** to create the **Wessex Thames Study**. The Upper Tier Authorities are largely the same as for the South West Radial Area Study (minus Kent and IoW).
- The **South Central Radial Area Study** has remained the same area, but been renamed the **London to Sussex Coast Study**, but Kent is no longer in scope.
- The **South East Area Study** remains unchanged in geographical scope, but has been renamed **Kent, Medway and East Sussex Study**.

# Geographic scope of the four SPOC Areas

Figure 1.1: Geography of Area Study programme's four Strategic Programme Outline Cases





# Technical Scope and Structure

## Technical Scope

This document is the **Strategic Programme Outline Case (SPOC)** for the **Solent and Sussex Coast**. The business case set out in this document is for a programme of interventions which has been developed to a level of detail aligned with a conventional ‘single-scheme’ Strategic Outline Case or pre-Strategic Outline Business Case. For this reason it has been given the description of Strategic Programme Outline Case (SPOC).

This document sets out the key issues, challenges and opportunities relevant to their scope, and show how targeted interventions will enable TfSE and its partners to deliver TfSE’s Transport Strategy for the South East. It describes how the Project Team has worked with stakeholders to develop Packages of Interventions that are designed to make life better for people, for businesses and, for the environment of the South East.

The Strategic Programme Outline Case has been developed in line with business case guidance set out in HM Treasury’s Green Book and Department for Transport Projects Analysis Guidance (TAG). The level of detail provided is proportionate to the current stage of programme and scheme development. The strategic dimension is at a particularly well progressed stage, with the other four dimensions being at earlier stages of development. Further detail on how this document aligns with TAG requirements is provided in a check list at the beginning of each chapter.

The outcome of these Area Studies will form the ‘blueprint’ for TfSE’s Strategic Investment Plan. This will influence and help shape investment decisions by government and national bodies, such as Network Rail and National Highways, and local bodies, including Local Transport Authorities.

## Structure and Contents

**The rest of this report follows the Five Case Model for Business Cases:**

- **The strategic dimension (Part 2)** sets out the evidence and need for intervention and objectives. This shows clear alignment with the Transport Strategy and vision for the area.
- **The economic dimension (Part 3)** outlines the impacts of the SPOC Packages of Interventions and describes the overall costs and benefits of the whole programme.
- **The financial dimension (Part 4)** presents the funding requirement for the delivery of the programmes, their affordability and funding sources.
- **The commercial dimension (Part 5)** describes the commercial viability of the Packages of Interventions and outlines the procurement options to ensure good value for money in their delivery.
- **The management dimension (Part 6)** sets out the considerations for the effective delivery of the Packages of Interventions, including governance and risk management.

# Process

This Strategic Programme Outline Case is a key deliverable for the Solent and Sussex Coast Technical Programme of work. **Figure 1.2** below shows the stages and steps that are being delivered as part of this programme of work to date.

The programme comprises five Stages, which in turn are formed of twelve steps.

The first stage, **Stage A (Mobilisation)**, was completed in September 2020. This stage helped define the leadership team, partners, Subject Matter Experts, methodology and a Delivery Plan for the technical programme.

This led onto **Stage B (Evidence Base)**, which undertook an in-depth review of the current and future issues and opportunities in the Solent and Sussex Coast. This covered a wide range of economic, social and environmental issues and opportunities.

Stage B also identified corridor specific transport issues and defined the study’s Vision, Objectives, and Problem Statements. The findings of Stage B have been published on the TfSE website alongside this report.

An **Options Assessment Report (OAR)** was then prepared at the end of **Stage C**, which describes how a Long List of intervention options was prioritised to develop Packages of Interventions for the Solent and Sussex Coast Area.

This SPOC is a key deliverable of **Stage D**, which will also deliver a **Delivery Plan**.

**Stage E (Integrated Sustainability Appraisal)**, which runs concurrently with all stages, will seek to ensure objectives, problem statements and interventions can be achieved through sustainable measures.

**Figure 1.3** overleaf shows the relationship between the SPOC and its partners SPOCs for different geographies, as well as their relationship to the underpinning evidence bases and Options and Assessment Reports, and how the feed into the Strategic Investment Plan.

**Figure 1.2: Overview of the Solent and Sussex Coast Technical Programme**

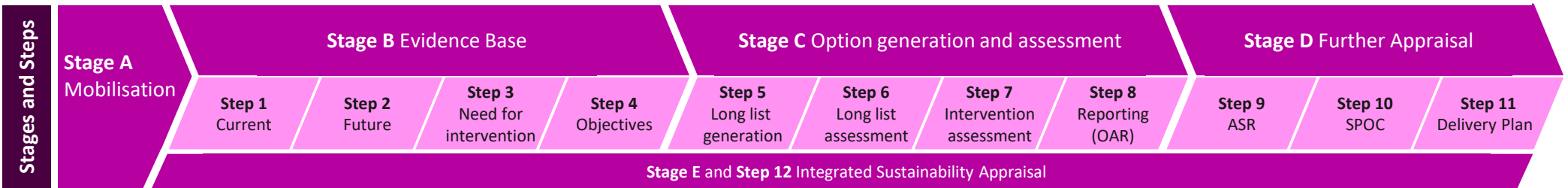
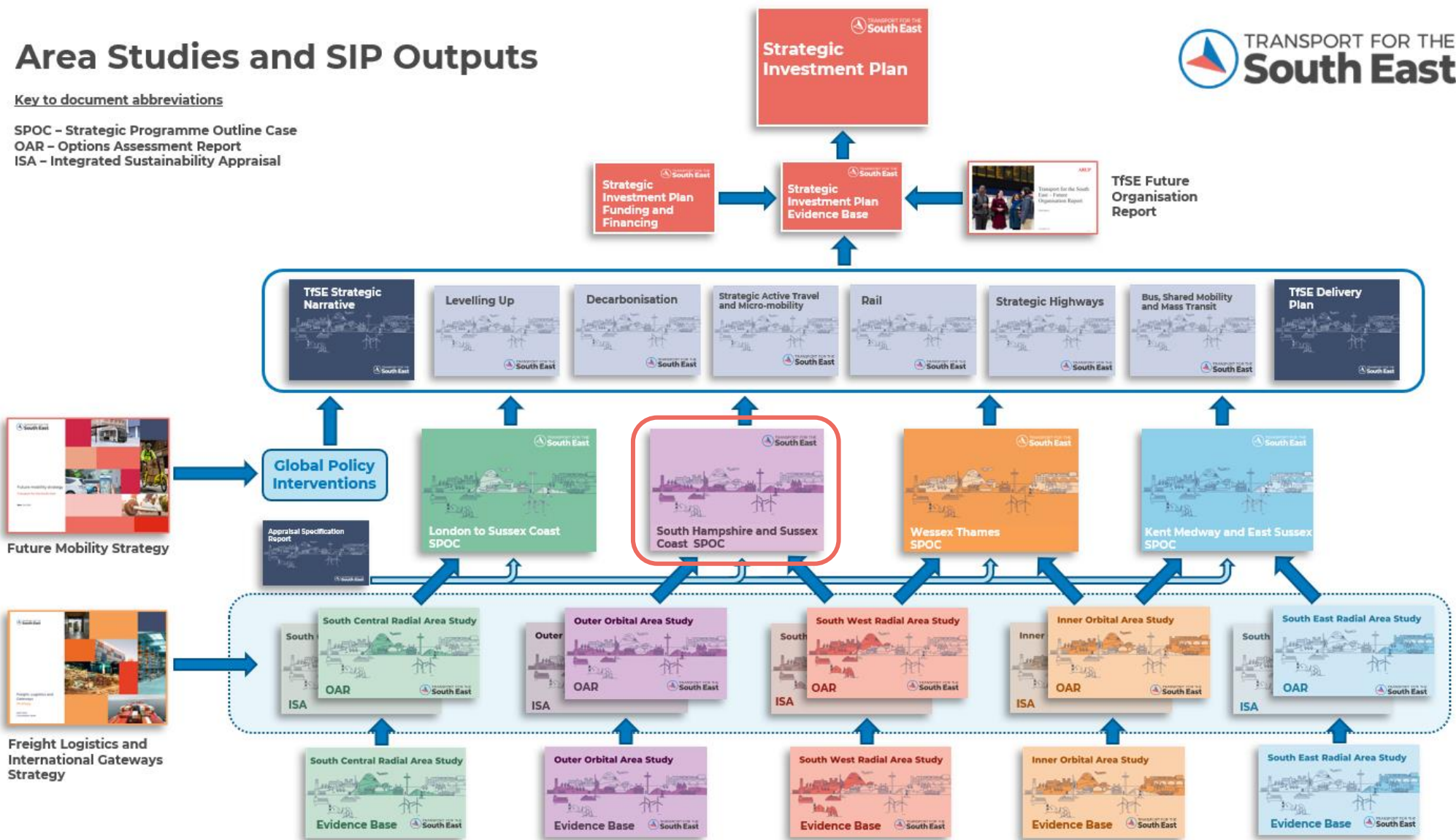


Figure 1.3: Area Studies programme and Strategic Investment Plan document hierarchy



# Key Actors in this Study

## Project Team

The Solent and Sussex Coast technical programme is led by a TfSE Project Management Office and is supported by a Technical Advisor Team.

The Technical Advisor Team is led by **Steer**, who led the development of the Evidence Base (Stage B of this project).

Steer is supported by:

- **Atkins**, who led the Options Stages of the project (Stage C); and
- **WSP**, who provide significant support to the Delivery (Stage D) and Integrated Sustainability Appraisal (Stage E) stages.

Most of the technical work and content delivered for the SPOC was developed by Steer and WSP. Atkins has supported this work through developing the Multi Criteria Assessment Framework (MCAF) that was used to qualitatively assess proposed interventions.

For the purposes of this report, TfSE's Project Management Office and the Steer/Atkins/WSP Technical Advisor Team are referred to as the 'Project Team'.

## Stakeholders

On the mobilisation of this study, TfSE and the Technical Advisor team undertook a stakeholder mapping exercise for the Solent and Sussex Coast area to categorise key organisations and individuals according to their interest and influence.

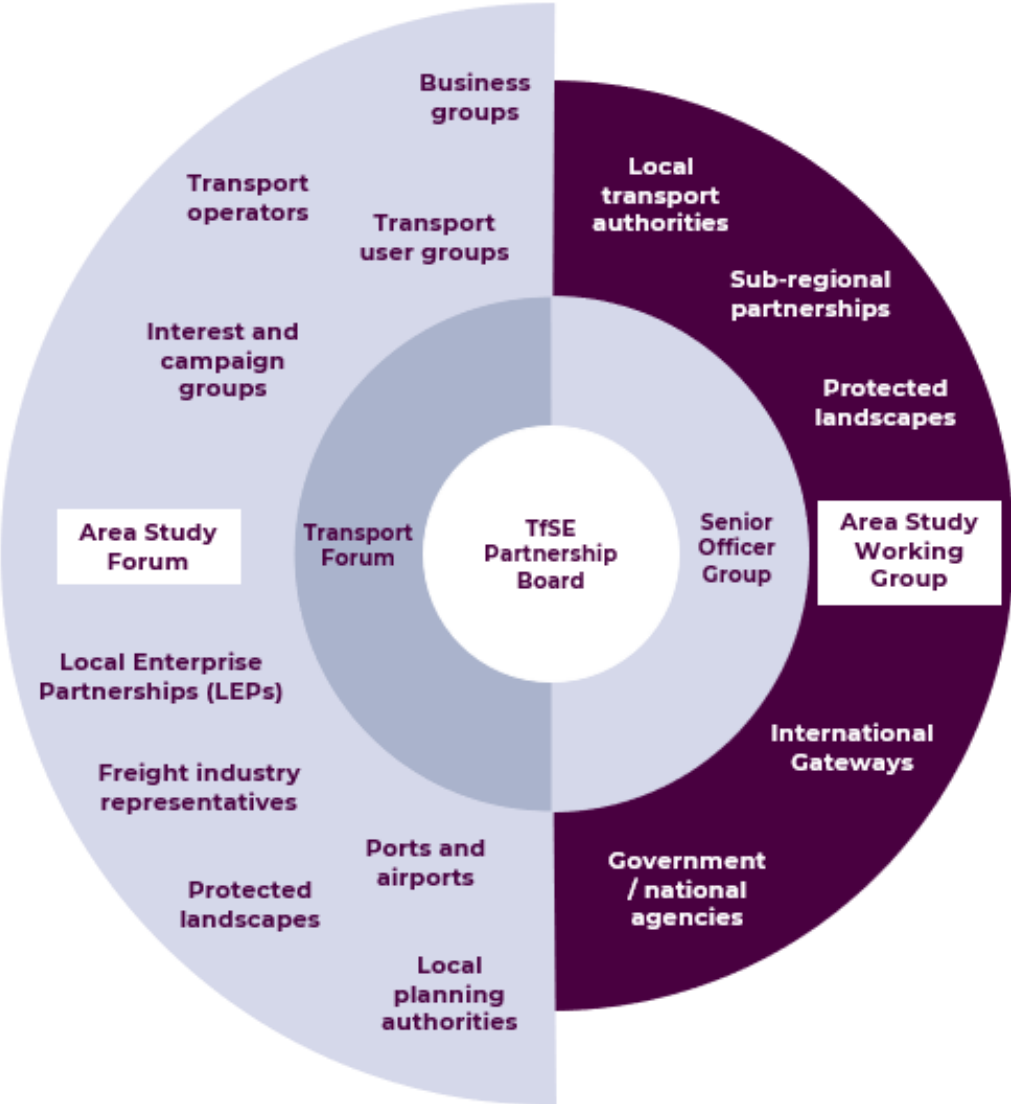
- **Tier 1 Stakeholders** have a direct interest and involvement in leading and supporting investment in the Solent and Sussex Coast Area. These stakeholders include Local Transport Authorities (County Councils and Unitary Authorities), National Highways, Network Rail, a representative from a Local Enterprise Partnership, and the South Downs National Park.
- **Tier 2 Stakeholders** potentially have a direct influence over the success of the Area Studies via their development process or contents of the studies. This group includes Local Planning Authorities (Districts and Boroughs) operators, International Gateways, other statutory bodies (e.g. Homes England and Environmental/Heritage bodies), and special interest groups such as environmental groups.
- **Tier 3 Stakeholders** are those parties that may influence Tier 1 and 2 Stakeholders through their activities, including through the media/social media and public affairs. These include Town and Parish Councils, residents' groups, education and health providers, and representatives from youth councils.
- **Tier 4 Stakeholders** are any other stakeholders who have limited interest and/or influence in this work and will therefore not be directly engaged in the Area Study programme.

Most Tier 1 stakeholders at an "officer-level" have been engaged, among other channels, through an **Area Study Working Group** to help steer the direction and content of each study. The membership of this group is shown in **Figure 1.4** overleaf.

Most Tier 2 stakeholders at an "officer-level" have been engaged, among other channels, through an **Area Study Forum**, to provide input and "check and challenge". The membership of the forum is shown in **Figure 1.5** overleaf.



Figure 1.4: Solent and Sussex Coast - Area Study Working Group membership



The role of the Working Group is to provide technical leadership to the Area Study, to drive the area study and make key decisions to allow the study to progress to schedule.

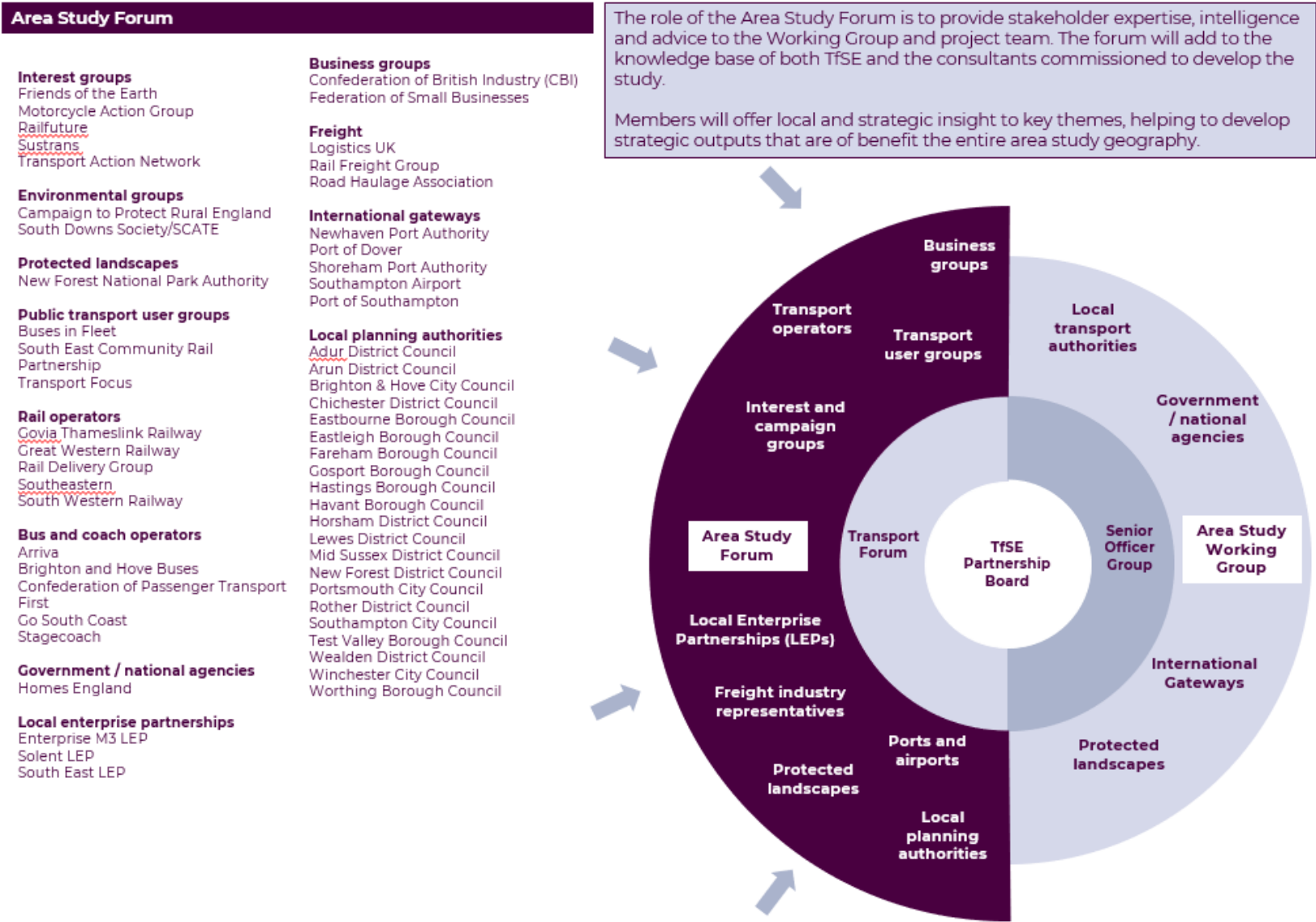
The group will provide professional, technical and strategic insight to TfSE and the consultants commissioned to develop the study.

**Area Study Working Group**

- Local transport authorities**  
East Sussex County Council  
Brighton & Hove City Council  
West Sussex County Council  
Hampshire County Council  
Portsmouth City Council  
Southampton City Council  
Isle of Wight Council
- Sub-regional partnerships**  
Solent Transport
- Protected landscapes**  
South Downs National Park Authority
- International Gateways**  
Port of Southampton
- Government / national agencies**  
Department for Transport  
Network Rail  
National Highways

# Stakeholder Engagement

Figure 1.5: Solent and Sussex Coast - Area Study Forum membership



# Stakeholder Engagement

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## Tier 1 Stakeholders

**Most Tier 1 Stakeholders were invited to join this study's Area Study Working Group (see Figure 1.4) and play a direct role in leading and shaping the study.**

These stakeholders have helped TfSE develop the Vision, Objectives, and Problem Statements for the study.

These stakeholders provided significant input into the development of the long list of interventions that were assessed using the MCAF and have moderated the initial results from the MCAF long list assessment.

They also supported the strategic assessment of each intervention and advised on the extent to which each long listed intervention aligns with their organisation's priorities.

## Tier 2 Stakeholders

**Further (remaining) Tier 1 Stakeholders and all Tier 2 Stakeholders were invited to join a Stakeholder Forum (see Figure 1.5).**

This Forum has met three times:

The first workshop focussed on identifying stakeholder aspirations for the studies and understanding their perceptions of the strengths, weaknesses, opportunities, and challenges of the area.

The second workshop focussed on validating/amending the Vision, Objectives, and Problem statements developed by the Area Study Working Group. It also provided these stakeholders with an opportunity to contribute to the long list of interventions.

A third workshop focussed on validating packages and delivery.

## Members of Parliament (MPs)

**MPs have been further engaged through a bespoke process led by TfSE.**

This process has engaged MPs on the Area Studies at two stages. Firstly, a questionnaire was sent to all MPs within the TfSE Area where they had the chance to identify issues, opportunities and key schemes. Any insights drawn from these discussions (e.g. whether an MP supports or does not support a particular intervention) was incorporated into the policy alignment scores.

In the latter stages of the project MPs have been invited to briefing sessions for each of the SPOC areas, where packages of interventions have been presented and feedback has been invited.

## Tier 3 and 4 Stakeholders

**Any other stakeholders were not directly engaged in this part of the study.**

Any organisation that subscribes to TfSE's newsletter has received regular updates about study progress. These stakeholders will also have an opportunity to engage with TfSE when the Draft Strategic Investment Plan is published for consultation.



## Part 2

# Strategic Dimension



# Introduction

## Overview of the Strategic Case

**The Strategic Case makes the case for change in the Solent and Sussex Coast Area.**

The Strategic Case includes:

- An overview of the SPOC's geographical and policy context and key challenges and opportunities for the SPOC area;
- The Vision, Objectives, and Problem Statements to be addressed by the SPOC;
- Articulation of the case/need for intervention;
- A description of the Interventions developed for the SPOC;
- Commentary on how the Packages were developed and sifted;
- Commentary on how the Packages align with the Vision, Objectives, Problem Statements, and National/Local/Policy alignment; and
- Evidence of local support for each Package of Interventions.

## Contents

**Part 2a describes the key challenges and opportunities identified for this study.**

These include:

- an analysis of **socioeconomic outcomes** in the Solent and Sussex Coast Area;
- opportunities for **better mass transit** systems in the largest conurbations;
- opportunities for **better inter-urban and intra-urban rail services** in the area; and
- a discussion of long-standing challenges with the existing **Strategic Road Network** between the two largest conurbations on the South Coast.

**Part 2b outlines Problem Statements this study aims to address:**

- **Problem Statements** are also important as they describe the challenges the area faces today that key stakeholders wish to see addressed.

**Part 2c describes the impact of doing nothing and the “baseline” for this study.**

**Part 2d describes the Strategic Vision and Objectives for this study.**

**Part 2e describes the Packages this study proposes for the Solent and Sussex Coast.**

This includes:

- a description of the **Packages** of Interventions that have been developed for the Solent and Sussex Coast.

**Part 2f shows how the interventions outlined in Part 2e deliver the vision and objectives of the Solent and Sussex Coast SPOC.**

This includes:

- a description of the inputs, outputs, outcomes, and impacts of the packages - in line with the Theory of Change Framework; and
- commentary showing how the Packages, when combined, deliver the Vision and Objectives of this study, and address the study's Problem Statements.

# Alignment with Department for Transport Business Case Guidance

The table below sets out the DfT's requirements for the Strategic Dimension and the level of detail expected at Strategic Outline Case stage. The final column of the table shows where the Strategic Dimension addresses each requirement

TAG Issue	TAG Requirement	Progress at SPOC	Reference
Organisation overview	An outline of the strategic priorities and responsibilities of the organisation(s) responsible for the proposal (for example DfT, National Highways, or the Local Authority)	Complete	Introduction (Background)
Business strategy and wider strategies	Determine the strategic fit of the proposal to the priorities of relevant organisations, the government (for example, the ambition to achieve net zero greenhouse gas emissions by 2050) and the regional, combined and local authorities in scope	Complete	Introduction (Policy Context)
Interdependencies	Set out the strategic portfolios, programmes and projects that the investment may interact with or link to: do they contribute towards achieving the same outcomes? Where does the intervention sit within this hierarchy?	Complete	Part 2a, Part 2b
Existing arrangements and the impact of not changing	Provide a clear picture of the current service model that serves as the baseline from which to measure future improvements. If applicable, set out the geographical scope of the investment and the economic, social and environmental context of the area: what is the impact of not intervening?	Complete	Part 2a, Part 2b
Business needs and service gaps	Determine the organisation's business needs: these are internal and external factors that are needed for the transport intervention to fulfil its objectives	Complete	Part 2a, Part 2b
Problem identification	Describe the problem(s) identified to determine the rationale: what is the evidence base underpinning the problem? Does it justify the need for a transport intervention?	Complete	Part 2a and 2b
SMART spending objectives	Establish SMART objectives for what the investment sets out to achieve: these should be specific, measurable, achievable, relevant and time-constrained. SMART objectives should align to the strategic priorities identified and provide clear measures of success	Complete	Part 2d
Scope	Explain the scope of the intervention: what will it deliver? What is out-of-scope?	Complete	Part 2e
Measures of success and planning for delivery	Set out what constitutes a successful delivery of the SMART spending objectives and determine the delivery arrangements. This can be conducted via workshops as per the HM Treasury business case guidance	Outline	Part 2f
Strategic assessment of investment options	Evaluate the longlist and shortlist of options against the SMART objectives and assess their impact on wider strategic priorities: options that do not contribute to achieving these priorities should be discounted	Outline	OAR
Strategic benefits	Describe, using evidence, the strategic benefits this proposal will provide through achieving the SMART spending objectives. Identify a clear theory of change that provides a comprehensive description of how the transport investment will result in those outcomes and impacts	Outline	Part 2d and 2e
Risks and constraints	Specify the main risks to achieving the SMART objectives: how will risks be mitigated and managed? Outline the constraints that could impact the successful delivery of the proposal including any relevant legislation and legal obligations that the investment engages with	Outline	Financial and management cases
Stakeholders' views and requirements	Outline the main stakeholder groups and their contribution to the development of the proposal, including their views and any conflicts between groups	Outline	Introduction (Stakeholders) Seeking views through public consultation Summer 2022

# The Solent and Sussex Coast Area

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The Solent and Sussex Coast Area encompasses the strategic corridors that run along the South Coast from the New Forest in the west to Hastings in the east. It includes some of the largest and most dynamic conurbations in the South East and boasts varied landscapes protected by two national park authorities.

## Profile

The Solent and the Sussex Coast Area is socially, economically, and environmentally diverse. It has some of the highest areas of deprivation in the country as well as areas of high economic productivity and prosperity. It is home to some of the country's most iconic natural and historic environments and some of the UK's most iconic cities.

The varied strengths and weaknesses of the Solent and Sussex Coast make planning a challenge. There are complex interdependencies, constraints, and in some cases, conflict, between competing pressures and aspirations in the area.

There are significant opportunities for this area. Investment in transport can help support the government's levelling up agenda for deprived communities, and enhance air quality, safety, and improve wider health and wellbeing outcomes.

## Transport Networks

The Solent and Sussex Coast Area is served by a transport network that, at present, provides better quality infrastructure to and from London, and less developed infrastructure along the South Coast.

Strategic highway connectivity along the South Coast is mixed. While there is good provision in the Solent area, there are significant gaps in West and East Sussex.

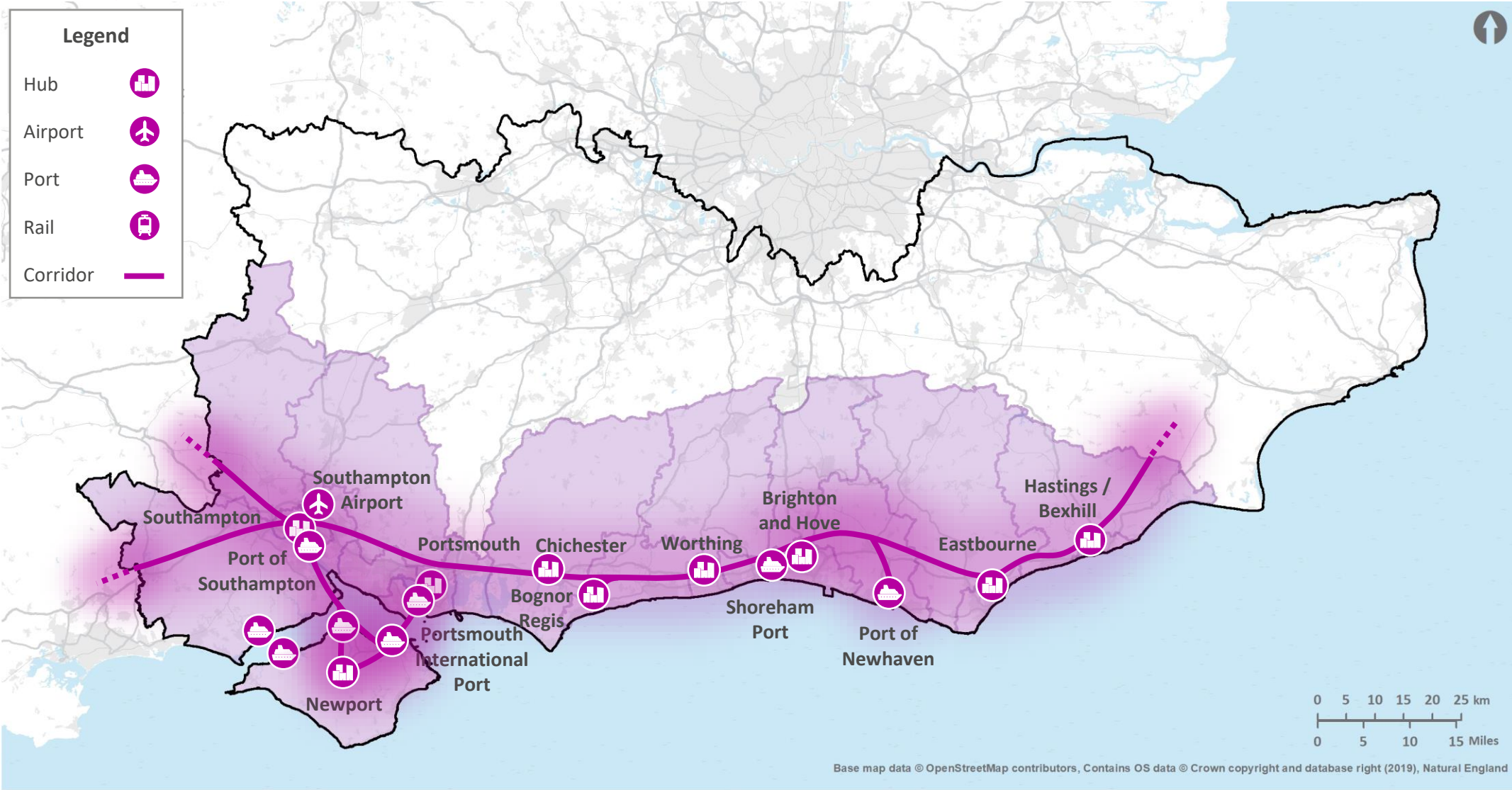
The area is served by a relatively dense railway network. However, the level of service provided on east-west routes is generally slower and less frequent than on radial routes.

The area has several important ports, including the Port of Southampton, Portsmouth International Port, Shoreham Harbour, and Newhaven Port. It also is home to Southampton International Airport.

Some of the area's cities benefit from high quality bus services. However, in general, public transport provision is currently not equitable between urban areas across the South East. Public transport provision for the largest Travel To Work flows in the area's largest conurbations is generally poor.

# Solent and Sussex Coast – Corridors, Major Economic Hubs and International Gateways

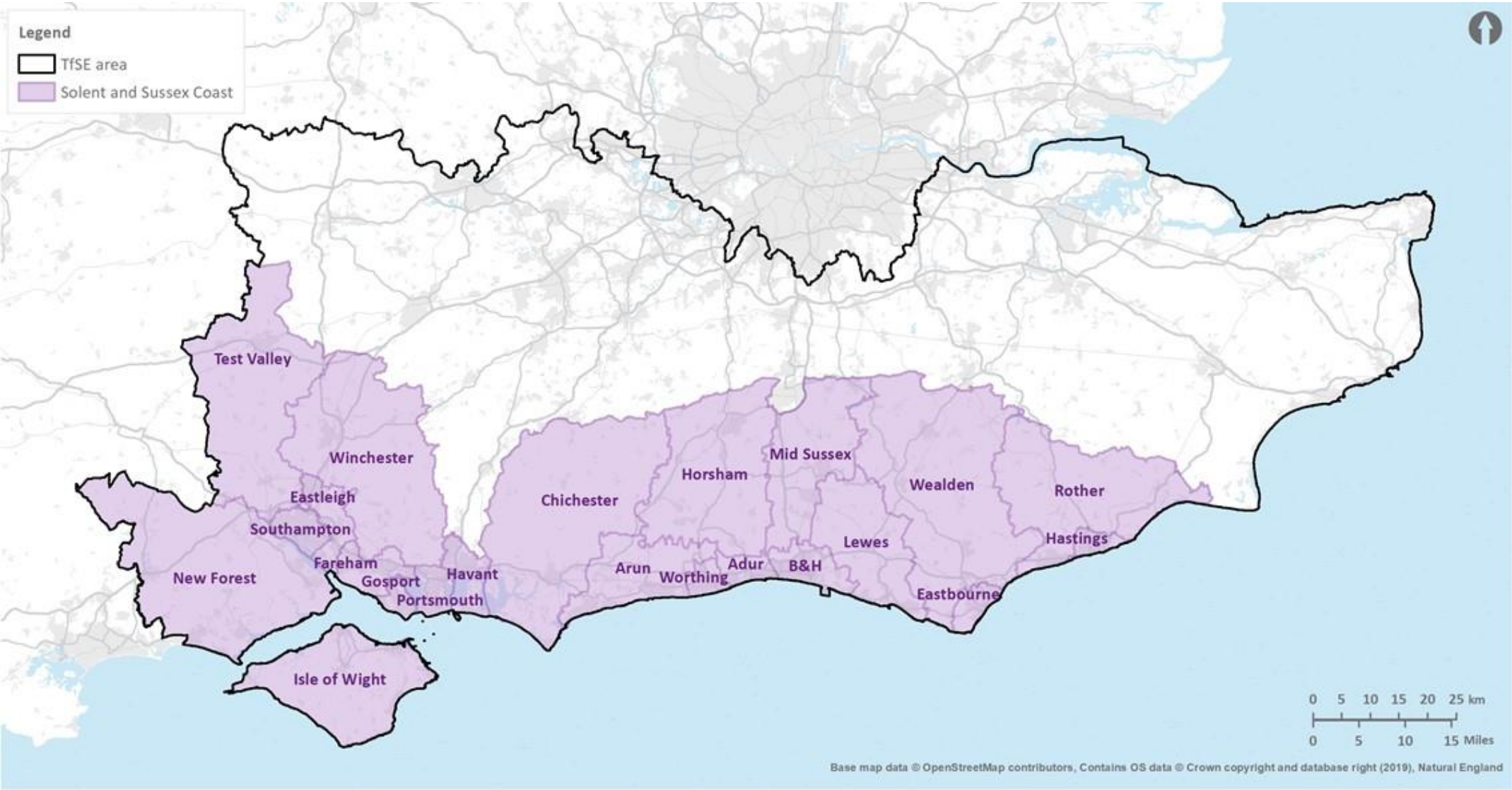
The Solent and Sussex Coast Area contains the strategic corridors that run along the South Coast from the New Forest in the west to Hastings and Rother in the East. The largest Major Economic Hub in the geography is the Solent conurbation, which includes Southampton, Portsmouth and the surrounding areas. The other prominent Major Economic Hub is Brighton and Hove, which, with Worthing, forms the second largest conurbation. Other Major Economic Hubs include Newport, Chichester, Bognor Regis, Eastbourne, and Hastings/Bexhill.





# Solent and Sussex Coast – Local Authorities

The Solent and Sussex Coast Area encompasses the Local Transport Authority areas of Isle of Wight, Southampton, Portsmouth, East Sussex, and large parts of Hampshire and West Sussex. The Local Planning Authorities shown in the map below. The area is also served by four Local Enterprise Partnerships (LEPs) – running from west to east – Enterprise M3 LEP, Solent LEP, Coast to Capital LEP, and South East LEP.



# National and International Policy Context

A policy review was conducted to determine the **strategic fit of the proposal** to the priorities of relevant organisations. Firstly, national and international policies, which 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.

## 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 policies (e.g. the **Clean Growth Strategy (2017)**). National Highways have set out their **Road Map to Net Zero (2021)** (by 2050) with Network Rail setting out its goal for Net Zero by 2050 in their **Environmental Sustainability Strategy (2020)**. Understanding of how these changes will be delivered is provided in policies such as **Gear Change (2020)**, which aims to deliver significant improvements to cycling infrastructure, and **Bus Back Better (2021)**, 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.

## Levelling-up and Planning Reform

In 2022, the Department for Levelling-up, Housing and Communities launched its long-awaited **Levelling-up White Paper (2022)**. Identifying 12 "Missions" for the UK to raise socio-economic outcomes of left behind communities, transport is one of the priorities and has a key role in supporting a further 10 Missions.

Planning in England is governed at a national level by a **National Planning Policy Framework (2021)**, which promotes sustainable development and has several environmental themes. This framework guides 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, laid out 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)**.

## 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 (2017)** and the latest **Road Investment Strategy (2020)**, National Highways have emphasised the importance of using new technology across our highway network.

The DfT's policy document **Future of Mobility: Urban Strategy (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, for example, **TfSE's Economic Connectivity Review (2018)** 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 National Highways **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, such as in the **London South East Market (2016)** Network Rail study and the **West Sussex Connectivity Modular Strategic Study (2020)**.

Many stakeholders in the South East wish to see its own major economic hubs, which include some of the largest conurbations in England, establish themselves as self-contained, high-performing, cities. 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 Solent and Sussex Coast area.

This is a key theme of the recently developed **TfSE Transport Strategy for the South East (2020)**, 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 local highways schemes may be needed to support immediate housing needs and congestion hotspots in the Solent and Sussex Coast area.

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

## Local Policy

As part of the Area Studies programme, all Local Transport Plans have been reviewed along with Local Planning Authorities Local Plans. This has helped ensure alignment of vision and objectives. It has also informed both log-list development of Interventions, as well as the assessment of Interventions against their fit with local policy.

## Local Response to COVID-19

The COVID-19 pandemic has clearly caused a significant rise in uncertainty around local planning. Local budgets are coming under increased pressure, and behavioural changes mean that traditional planning approaches have rapidly become obsolete.

Overall, 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. However, efforts are being made to ensure Local Planning documents are updated to consider recent conditions and the likely future impacts.



## Part 2a

# Challenges and Opportunities



# Current Challenges and Opportunities

## Socioeconomic Outcomes

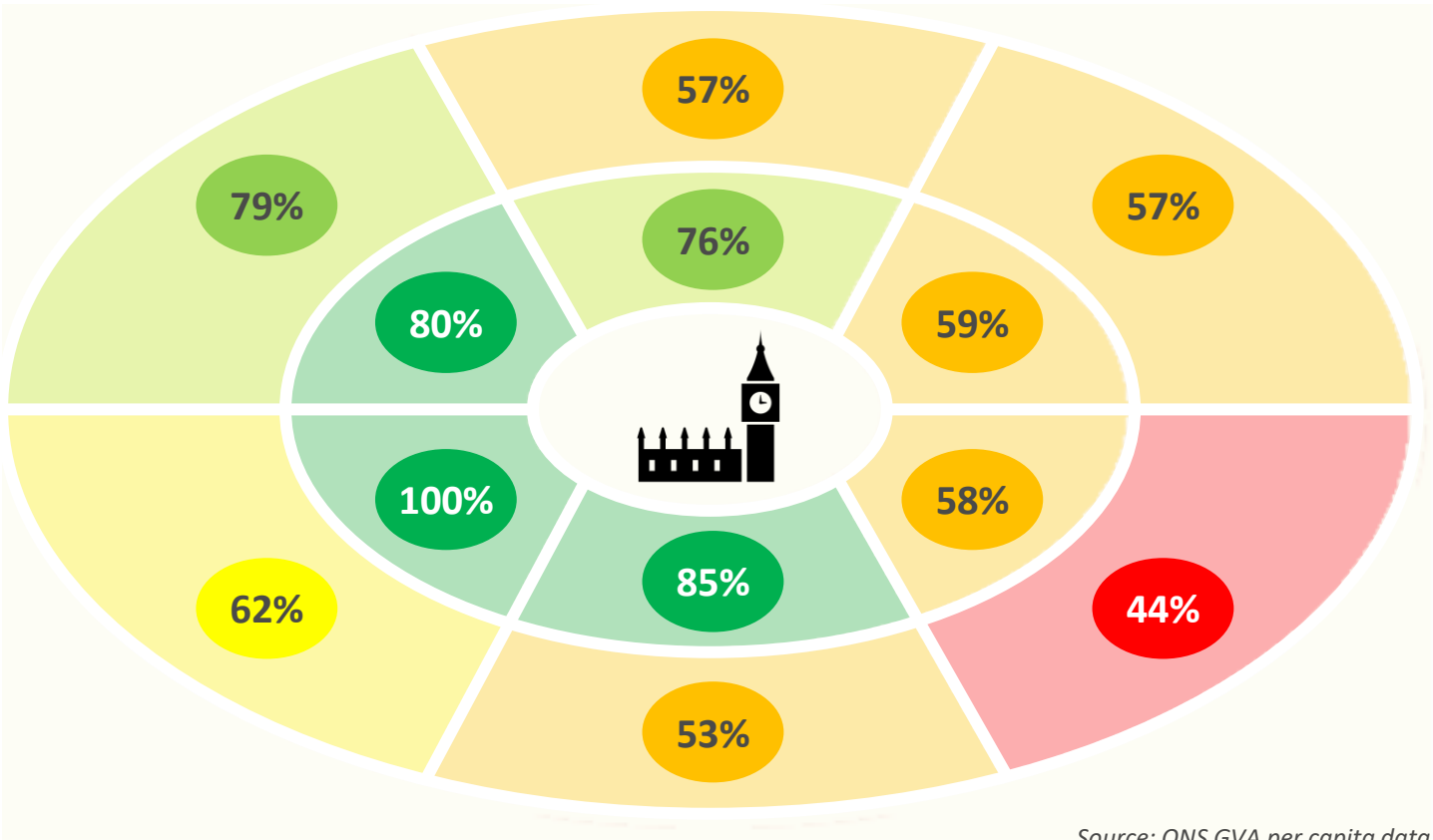
The Solent and Sussex Coast Area has poorer socioeconomic outcomes than any other part of South East England.

Figure 2.1 to the right shows the average GVA per capita observed for 12 zones around London. Six zones are in the TfSE area, and a further six (to the north of London) lie outside the TfSE area. These zones can be combined to create the areas included in the TfSE area study programme.

In general, most socioeconomic indicators appear to be stronger in the west and weaker in the east. While this trend is observed both north and south of London, it seems to be particularly acute south of the river. In summary, coastal areas in the Solent and Sussex Coast Area need to ‘work harder’ to compete with other areas.

There are many reasons why coastal areas are performing less well than others. While poor transport connectivity is not the only issue at play, it is almost certainly contributing to poor socioeconomic outcomes in places like Hastings and Thanet.

Figure 2.1: Average GVA per capita around the South East, where South West/Inner = 100



Source: ONS GVA per capita data  
South West / Inner Orbital zone = 100%  
Icon Credit: Pham Duy Phuong Hung

Tables listing the data underpinning this analysis are provided in the Evidence Base Report.

A key goal of this study to help lift the economic performance of coastal areas.

# Current Challenges and Opportunities

## Mass Transit Opportunities

The Solent and Sussex Coast’s largest conurbations are large enough and dense enough to support world class mass transit systems. However, current provision is below the quality of offer provided to other large conurbations in Great Britain.

The area is home to the two largest conurbations in South East England. According to Office of National Statistics (ONS) analysis of built-up areas, the 2011 population of the **Solent coast** built-up area was just under 856,000 (6<sup>th</sup> in England and Wales) and the population of the **Greater Brighton** built-up area<sup>1</sup> was over 474,000 (12<sup>th</sup> in England and Wales).

Our analysis of demographic data also shows that these two conurbations are relatively densely populated. The Sussex Coast Conurbation is the 2<sup>nd</sup> most densely populated built-up area among the 30 largest conurbations in England and Wales, and the Solent Coast Conurbation is the 6<sup>th</sup> densest conurbation.

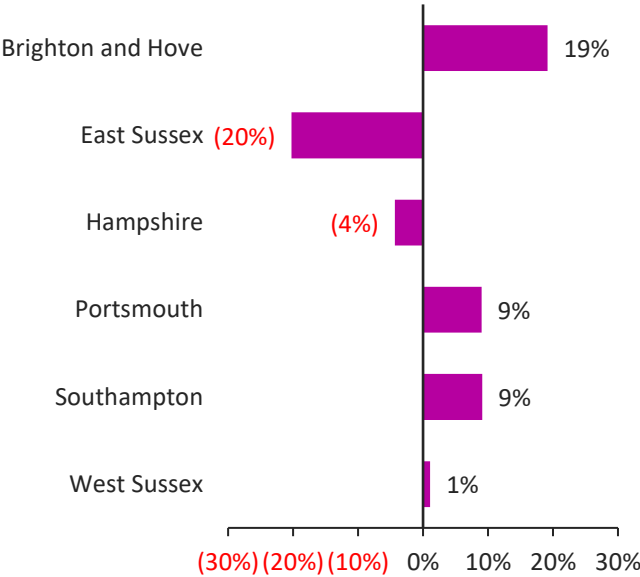
However, despite the size and density of these conurbations, public transport mode share is relatively low.

This is especially the case in South Hampshire (4.7% according to data published by Solent Transport<sup>2</sup>).

Bus use is higher in Brighton, Portsmouth and Southampton and has grown in recent years (see **Figure 2.2** to the right). This is impressive, as journeys are reportedly slow – many routes operate timetables at an average speed of 7mph.

However, despite Brighton and Southampton’s success, bus patronage in neighbouring areas has declined<sup>3</sup>.

Figure 2.2: Change in bus trips (2009-19)



1. For the purposes of this study, we are using the term “Sussex Coast Conurbation” to refer to the Greater Brighton built-up area (as the term “Greater Brighton” has a different meaning in local government than the Built-Up Area defined by the ONS).

2. Source: <https://documents.hants.gov.uk/transport-for-south-hampshire/TransportDeliveryPlan.pdf> (Table 5)

3. The West Sussex data is boosted by the Crawley Fastway service, which has seen very strong growth in recent years (more than 100% over the period shown in Figure 2.1), but does not service the Solent and Sussex Coast Area.

# Current Challenges and Opportunities

## Mass Transit Opportunities (Cont.)

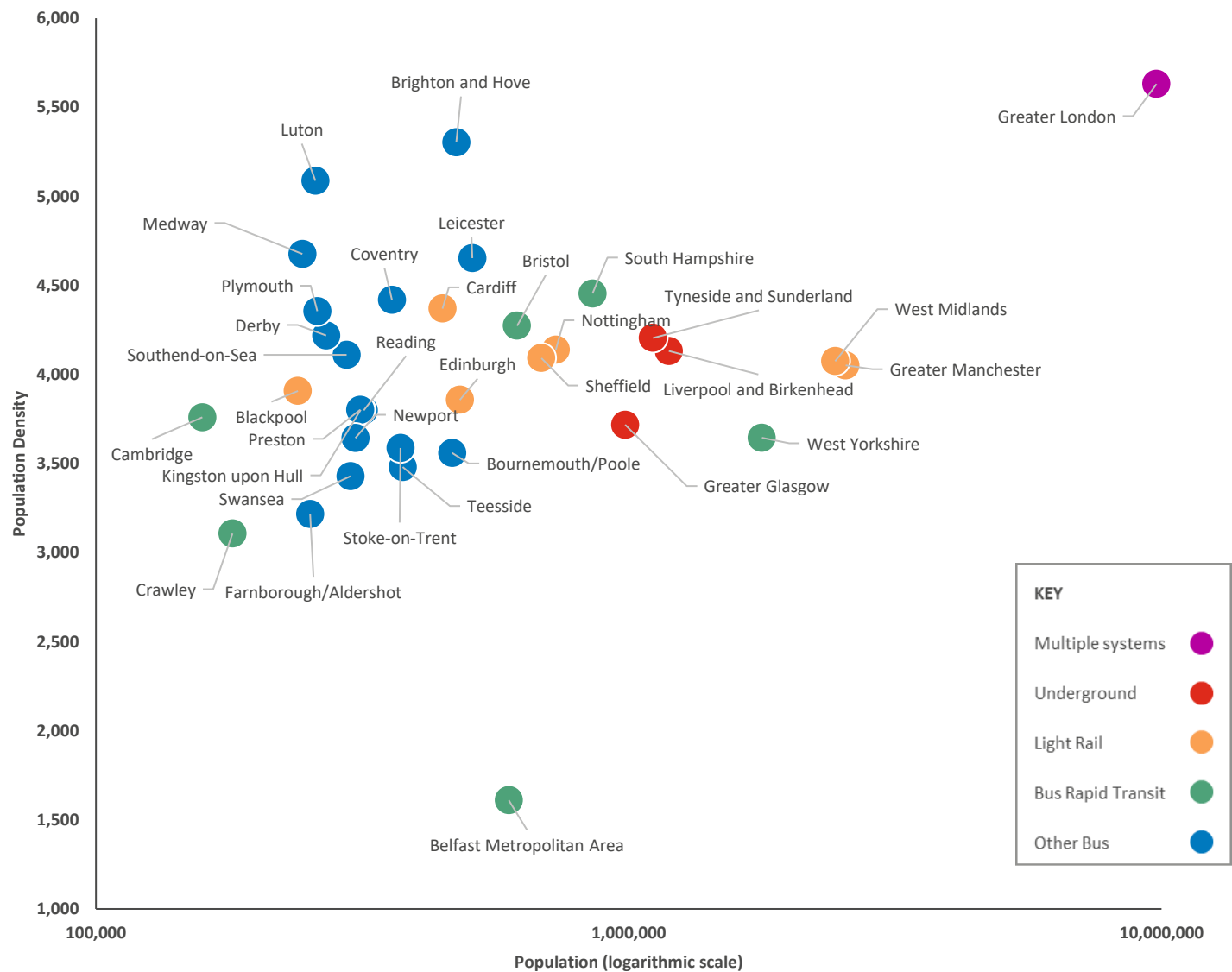
Figure 2.3 presents the UK’s largest built-up areas by population, density, and mass transit system provision.

This shows that the Solent and Sussex Coast conurbations are relatively large and relatively densely populated areas – more so than many other conurbations that are served by underground systems, tramways, and high-quality rail services.

Many of the public transport systems shown in this chart – such as Nottingham Express Trams – generate an operational profit (Nottingham Trams Limited generated a 3% EBITDA in 2018/19<sup>4</sup>).

It is therefore a key goal of this study to enable Local Transport Authorities and partnerships in the Solent and Sussex Coast to deliver world class, mass transit systems in their largest urban areas.

Figure 2.3: Mass Transit options in Major Conurbations in the UK



4. Source: <https://find-and-update.company-information.service.gov.uk/company/07644670/filing-history>

# Current Challenges and Opportunities

## Inter-urban Rail Services

**The Solent and Sussex Coast's key interurban railway is slow and uncompetitive with car – especially compared to radial rail routes.**

The two largest conurbations in the South East are joined together by the West Coastway Line. This railway runs from (just outside) Southampton Central to Brighton. Communities to the east of Brighton are served by the East Coastway line.

**Figure 2.4** on the following page shows the average speeds of key sections of the East and West Coastway lines. This shows that orbital/east-west rail services deliver a significantly slower offer than most of the radial railways that serve the South East. Part of this is due to the condition and capability of the infrastructure, and part of this is also due to timetables and calling patterns (which is tied to capacity and capability of the infrastructure).

While there are relatively few 'end to end' journeys on the East and West Coastway lines, many stakeholders believe there is a market for interurban journeys between the largest towns and cities on the South Coast.

## Intra-urban Rail Services

**There is an opportunity to significantly improve journey times and frequencies within some of the largest urban areas in the Solent and Sussex Coast Area.**

Many of the Solent and Sussex Coast Area's urban rail stations with large populations are provided with rural levels of passenger rail service (one train per hour), such as Chandlers Ford (pop. 21,436 ) and the Southampton suburban stations of Millbrook and Redbridge. Similar frequencies are seen on the Netley Line, which might see significant population growth in the medium term.

Journeys within urban areas are also slow and many take longer now than historically. For example, journey times between Southampton Central and Portsmouth & Southsea are typically longer than 45 minutes, while journeys between Southampton and Bournemouth (which are further apart) are possible in 25 minutes.

Consequently, mode share for rail journeys in the Solent area are very low (1.5% according to Travel To Work data published by Solent Transport<sup>2</sup>).

## Ambition

**The Area Study Working Group aspires to see an urban rail service comparable to suburban London (or parts of the West Midlands) delivered in Solent coast.**

They also wish to realise faster journeys between the largest towns and cities on the South Coast as a means of improving the efficiency and productivity of the economy on the South Coast (i.e., promoting agglomeration benefits).

This will help the Solent and Sussex Coast reduce its reliance on London and on railways serving London to support sustainable economic growth.

**It is therefore a key goal of this study to enable Network Rail and operators deliver faster, more frequent inter-urban and intra-urban rail services between and within the two largest conurbations in the Solent and Sussex Coast Areas.**



Figure 2.4: Railway connectivity in the Solent and Sussex Coast Area



# Current Challenges and Opportunities

## Solent and Sussex Coast Highways Challenges

**The key highway serving the Solent and Sussex Coast is unable to adequately perform its strategic role. The issues are long-standing and well understood.**

There are significant issues with the A27 Strategic Road that connects the Solent and Sussex Coast conurbations. Fundamentally, the road is struggling to fulfil a strategic role while serving local traffic. There are also local issues on the M27 along the Solent coast. **Figure 2.5** on the following page highlights congestion hot spots on this road. **Figure 2.6** presents a breakdown of peak hour traffic flows at key locations on the M27 and A27 Strategic Road (this figure includes a graph showing the number of vehicles at each location).

TfSE's Transport Strategy for the South East sets a bold vision for a highly sustainable transport system. This strategy calls for a shift away from 'planning for vehicles' towards 'planning for people' and 'planning for places'. Any intervention on the Strategic Road Network needs to be considered with this principle in mind.

## Gravity Model Evidence

**To better understand the strategic challenges of the A27, the Project Team developed a high-level gravity model for Great Britain (GB).**

This model was used to identify the largest theoretical latent demand between the 30 most populous Built-Up Areas in England and Wales (plus Glasgow and Edinburgh – statistics for built-up areas in Scotland differ from England and Wales). The focus was on the relative 'attraction' of large population centres to each other, rather than on observed flows on highways and railways.

The Project Team then identified the routes on the Strategic Road Network that serve the largest theoretical flows and assessed the quality of the highway network that serves each flow. The focus here was on quality (i.e., standard of road defined by grade separation, speed, etc.) and not quantity (i.e., how many lanes are needed to accommodate a theoretical flow). The team also analysed rail journey times between these built-up areas to assess the quality of rail service provided between these areas.

**The Gravity Model showed that the second most significant strategic gap in the GB highway network is between the Solent and Sussex Coast Conurbations.**

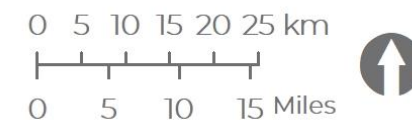
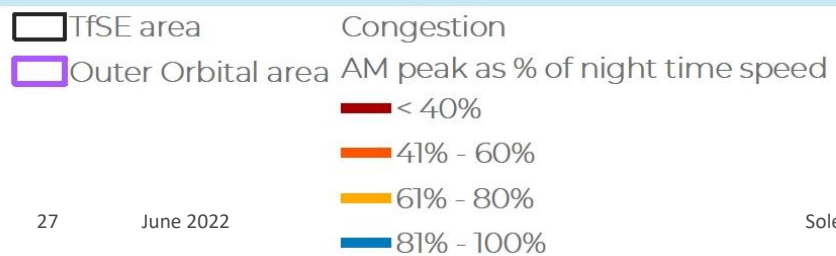
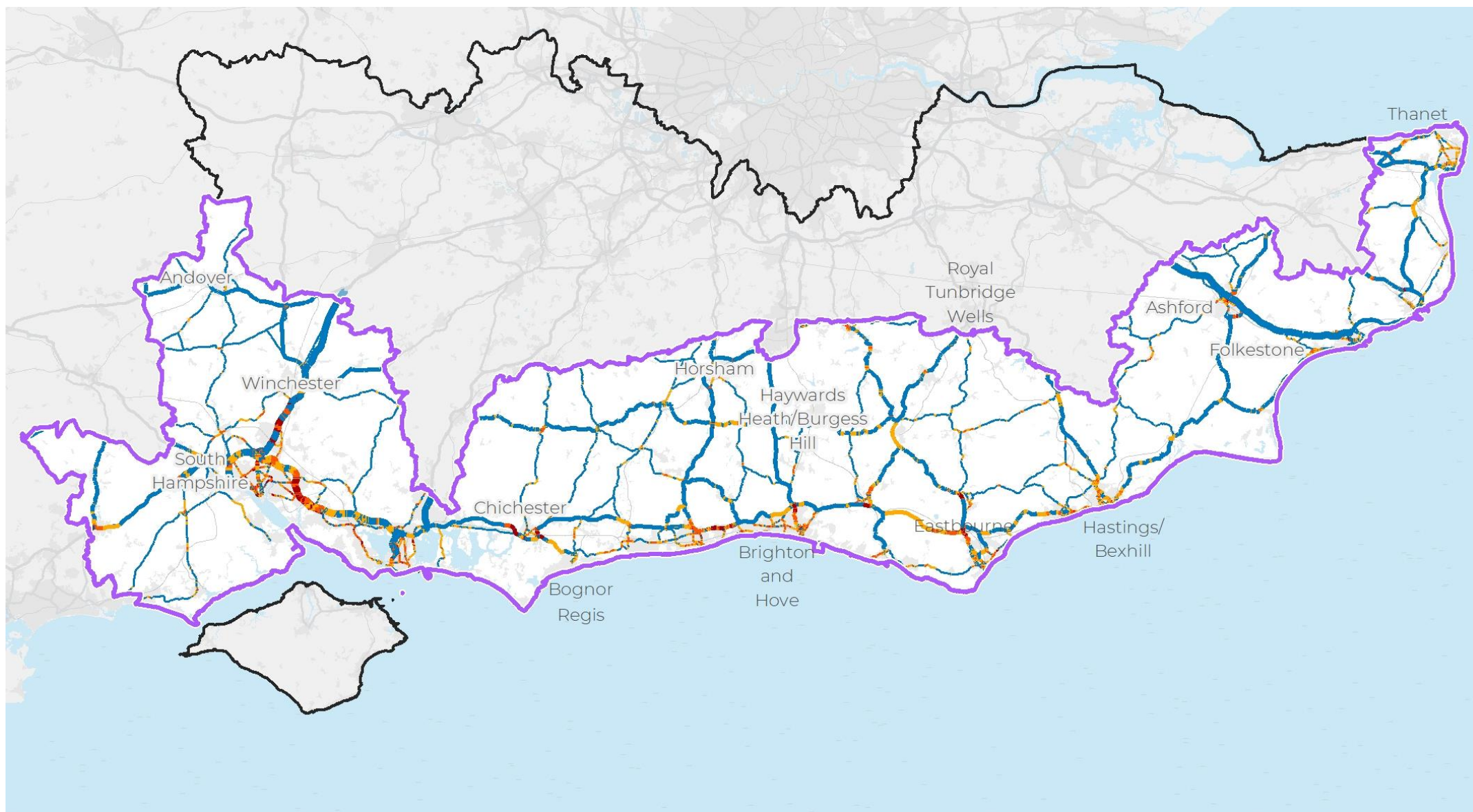
The Project Team found that most of the key flows between the largest population centres are well served by the motorway network. They also found flows to London were very well served by the rail network.

However, the team also identified several population centre pairs that, in theory at least, have a high latent demand, but are not served by high quality roads. These can be considered key gaps in the Strategic Road Network. The most significant of these is between Manchester and Sheffield, and the second is between the two largest conurbations in the South East.

**Key stakeholders in the Solent and Sussex Coast wish to see long term multi-modal solutions that deliver a better strategic highway between the Solent and Sussex Coast conurbations.**

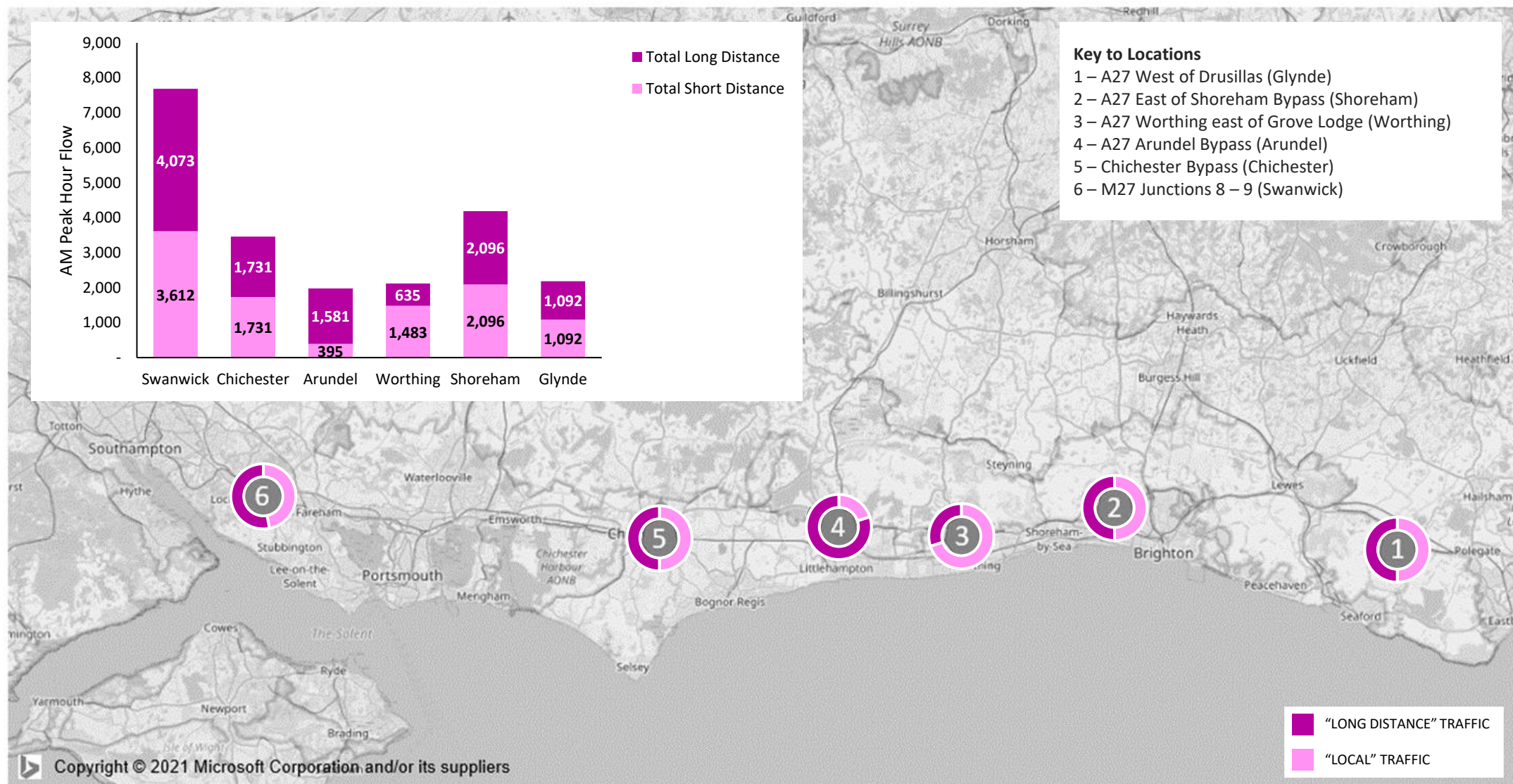


Figure 2.5: Highway network and Congestion



Sources: © OpenStreetMap contributors, Contains OS data © Crown copyright and database right (2019), Natural England. Data provided by local authorities.

**Figure 2.6: Split of Local and Long Distance Traffic on the A27 Strategic Road**



The graph above shows estimated traffic flows for the peak AM hour. The map shows the percentage split between local and longer distance traffic at these locations. These figures are all drawn from the South East Road Traffic model (SERTM). This data shows that the A27 at Arundel predominantly serves longer distance flows. At Chichester, Shoreham, and Glynde, the A27 serves local and longer distance travellers equally. At Worthing, local flows dominate.

Two insights can be drawn from this evidence:

- The A27 is struggling to perform a strategic role of connecting the two largest conurbations on the South Coast.
- At Worthing, it appears local demand is ‘squeezing’ capacity for longer distance trips (causing traffic to ‘spill over’ onto alternative routes such as the A280).



# Future Challenges and Opportunities

## Housing

**The Solent and Sussex Coast Area is expecting significant housing growth in the next local plan period (up to 2025).**

Future housing growth is expected to be concentrated around South Hampshire, West Sussex Coastal area, Burgess Hill/Hassocks, Eastbourne/South Wealden, Ashford, and Thanet. While most growth will occur in peri-urban settings, it will be critical developments are supported with active travel and public transport connections. This will ensure that individuals can travel sustainably to places of work and other locations (e.g. medical) without relying on private transport.

## Employment

**Employment growth within the area is expected to be more concentrated within the centres of the larger urban areas, focussing on South Hampshire, Brighton and Hove, Hastings/Bexhill, and Ashford Areas.**

Many of the higher growth industrial sectors (e.g. low carbon technology; financial and professional services; and maritime, marine and defence) are likely to be based within the city centres, as these industries favour urban environments.

## Risk of Imbalance

**There is a risk than an imbalance between housing and employment growth may generate unsustainable travel outcomes.**

There is a risk that concentrating housing developments in more rural areas, while employment is based within the urban area, may generate more demand by private vehicle. While housing is imperative, and to ensure housing that is both affordable and accessible is built, given the physical and environmental constraints of the area, some areas will be better placed to absorb housing than others.

## COVID-19

**COVID-19 has significantly altered established working patterns – but the long-term impact is not yet clear.**

The pandemic has highlighted the impact that new ways of working could have on travel demand. This may influence how established employment space is used, where people choose to live, and what this means for the development of transport services. Public transport will also need to adjust to lower revenues – at least in the short term.

## Need for Intervention

**If no plans are made to address the issues in the Solent and Sussex Coast, then many socioeconomic challenges will likely persist (e.g. lack of levelling up coastal communities and areas of deprivation).**

The current pipeline of highway and rail schemes being delivered through the Road Investment Scheme (RIS) and rail investment programmes should help address (as a minimum) short-term capacity and connectivity changes.

However, in the longer term, the focus should shift away from adding highway capacity ('planning for vehicles') and instead focus on investing in public transport services ('planning for people') and promoting policies such as integrated land use and transport planning ('planning for

**This SPOC aims to provide a framework for managing the future challenges and leveraging the future opportunities summarised here. The following pages present the Vision, Objectives and Problem Statements for the Solent and Sussex Coast Area.**



## Part 2b

# Problem Statements

# Problem Statements

TfSE has worked with stakeholders and technical advisors to develop a set of Problem Statements for the Solent and Sussex Coast Area. These reflect TAG and summarise the **problems identified**, the **impact of not changing**, and the **business needs and service gaps** identified in the area. The Problem Statements are listed below and detailed in the following slides.

## Global Issues

1. Transport is not decarbonising fast enough.
2. Climate change threatens the resilience of transport networks.
3. Freight is heavily reliant on highways, especially for first-mile-last-mile deliveries.
4. Numerous parts of the Solent and Sussex Coast Area have unacceptably poor socioeconomic outcomes.
5. There is a recognised need for housing and communities – but in the right places, supported by the right infrastructure, planned to deliver sustainable transport outcomes.
6. The mobility benefits of new technologies are not accessible to everybody.

## Coastal Communities

7. Poor connectivity is holding coastal communities back
8. The geography of the South Coast and its transport networks forces people and goods moving east – west along the coast to travel long distances inland to complete their journeys.

## Access and Affordability

9. Rural communities are being left behind in digital, active travel, and public transport connectivity.
10. Too many transport services and networks are inaccessible to all users.
11. Poor ferry connectivity presents a barrier to economic development of the Isle of Wight.
12. For many people, public transport fares are too high and too complicated.
13. Ferry fares are especially high and limit accessibility to and from the Isle of Wight.

## Mass Transit

15. Current public transit systems do not meet all the needs of the area's largest conurbations.
16. There are too few strategic mobility hubs, offering high quality integration and interchange between different transport services, outside town and city centres.
17. Public transport information and ticketing arrangements are not sufficiently coordinated nor adequately integrated, particularly across transport modes.
18. Highway congestion limits public transport connectivity, this is especially the case on the Isle of Wight.

## Highways

19. The area's major highways do not provide effective east – west connectivity.
20. The area's major highways run through and/or close to protected areas, undermining the quality of local environments.
21. Too many major highways pass through densely populated communities, causing noise, pollution and severance issues.
22. There are too many level crossings on major highways along the South Coast.

## Rail

23. East – west rail connectivity (journey times and frequency) is poor, especially compared to radial rail services.
24. Rail capacity is insufficient to accommodate the needs of long-distance passenger, local passenger, and rail freight customers.
25. The Marshlink railway is inadequate to meet future aspirations for stakeholders in East Sussex and Kent.

# 1 Transport is not de-carbonising fast enough

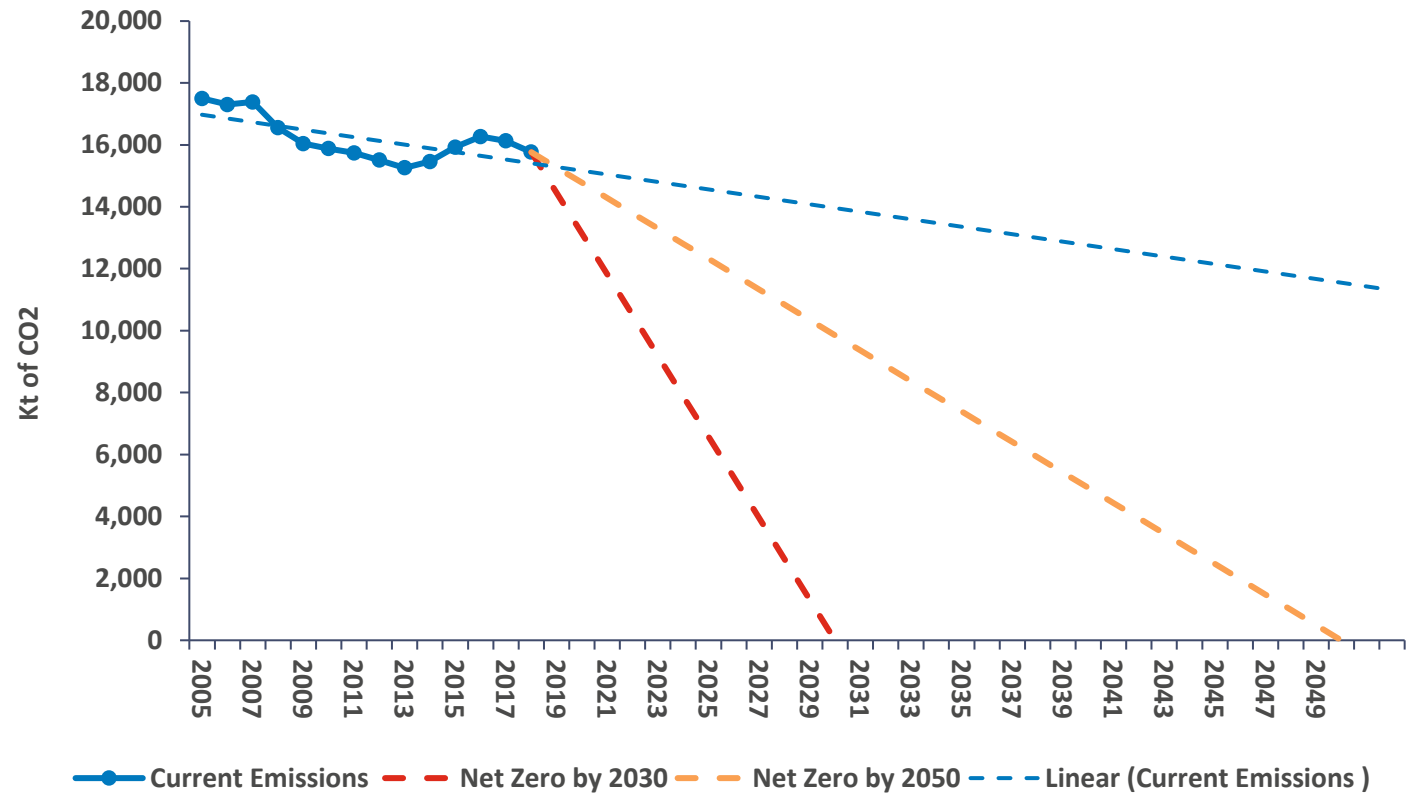
**While key stakeholders in the Solent and Sussex Coast Area recognise the need to decarbonise transport, this is not happening fast enough.**

The trajectory shown in **Figure 2.7** to the right indicates the 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. The Paris Agreement). Several Local Transport Authorities in the South East have committed to more aggressive 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 South East's rail network, on the other hand, is almost entirely electrified\* and is therefore well placed to help the South East achieve these ambitious targets.

**Figure 2.7: Surface Transport Carbon Emissions Trajectory for the TfSE area**



Source: Steer analysis

*\*There do remain some isolated non-electrified rail sections (e.g. Oxted-Uckfield, Hastings-Ashford), which if electrified or use alternative train power technologies could better help meet these targets.*



The transport networks serving the Solent and Sussex Coast are vulnerable to the effects of climate change and in many areas are showing signs of poor resilience.

The 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). For example, the A259 runs close to the coast in many places, and some sections of the A27 run through several flood plains. The South East's railway network is relatively old and features numerous tunnels and cuttings. Some sections, such as Folkestone Warren (see **Figure 2.8**), are particularly vulnerable to the elements. 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.

Figure 2.8: Folkestone Warren

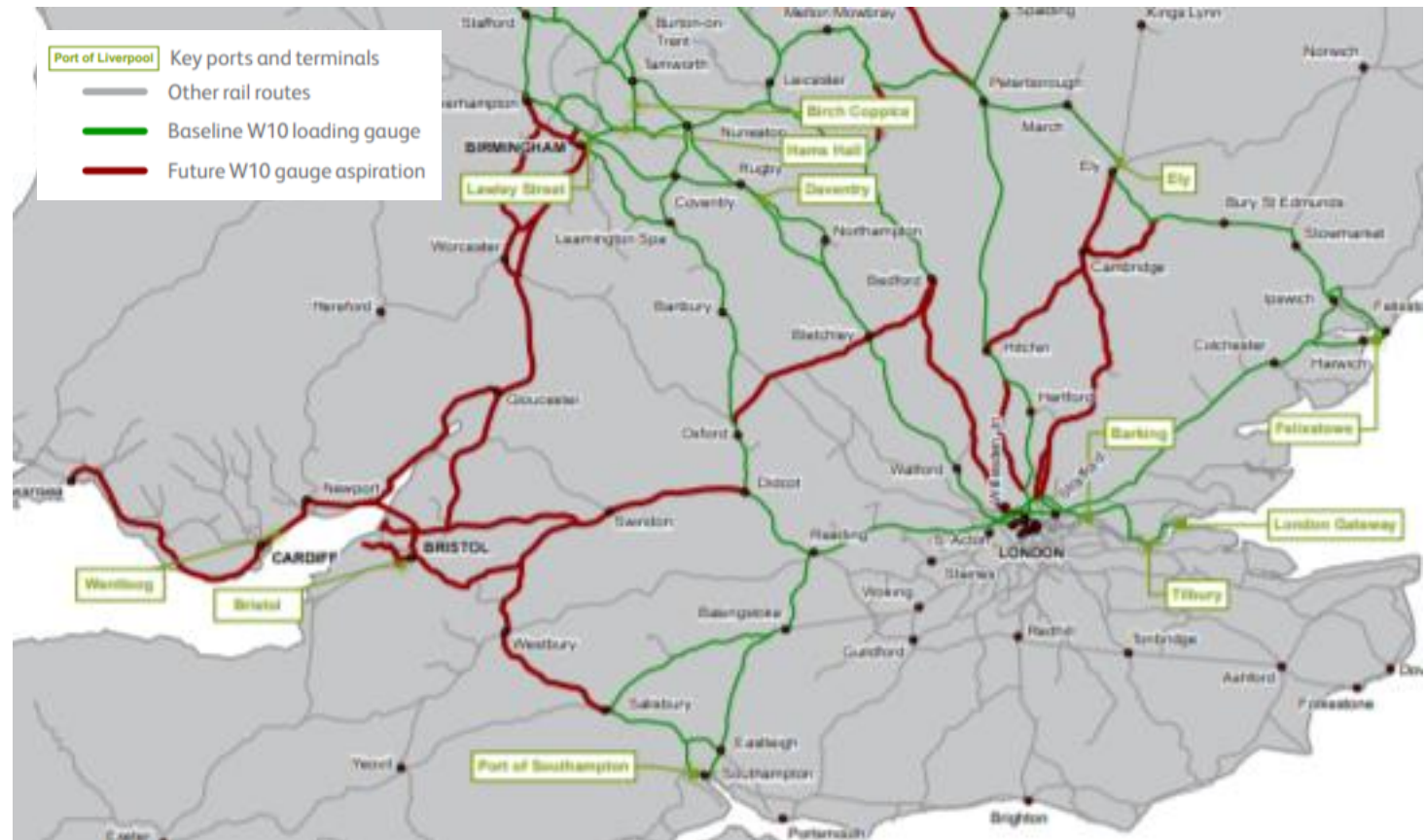


Source: Network Rail, <https://www.networkrail.co.uk/stories/the-great-fall-historic-landslip-images-resurface/>

### Freight is very reliant on highways and rail freight is losing ground.

Rail freight mode share is low nationally (around 5%, based on tonnage) and appears to be in decline. According to the ORR, in the last 16 years the number of freight train movements on the national network has fallen by 50%. An electric rail freight sector should be well placed to provide a low carbon alternative – although it is recognised freight is in competition with passenger rail for timetable paths. It should be possible to achieve higher mode shares. For example, rail mode share on freight passing through Southampton is reportedly 33%. However, there are significant barriers to rail freight in the South East, particularly for routes to/from the Channel Ports\*. These barriers include a lack of freight terminals, poor access across London, long journey times and high access charges on High Speed 1 and the Channel Tunnel. Inadequate gauge clearance also affects rail routes serving Dover (see **Figure 2.9**). Network Rail aspires to create a route between the Channel Ports and the Midlands to address this constraint.

**Figure 2.9: 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>

*\*For example, all freight passing through Portsmouth International Port is carried by road.*



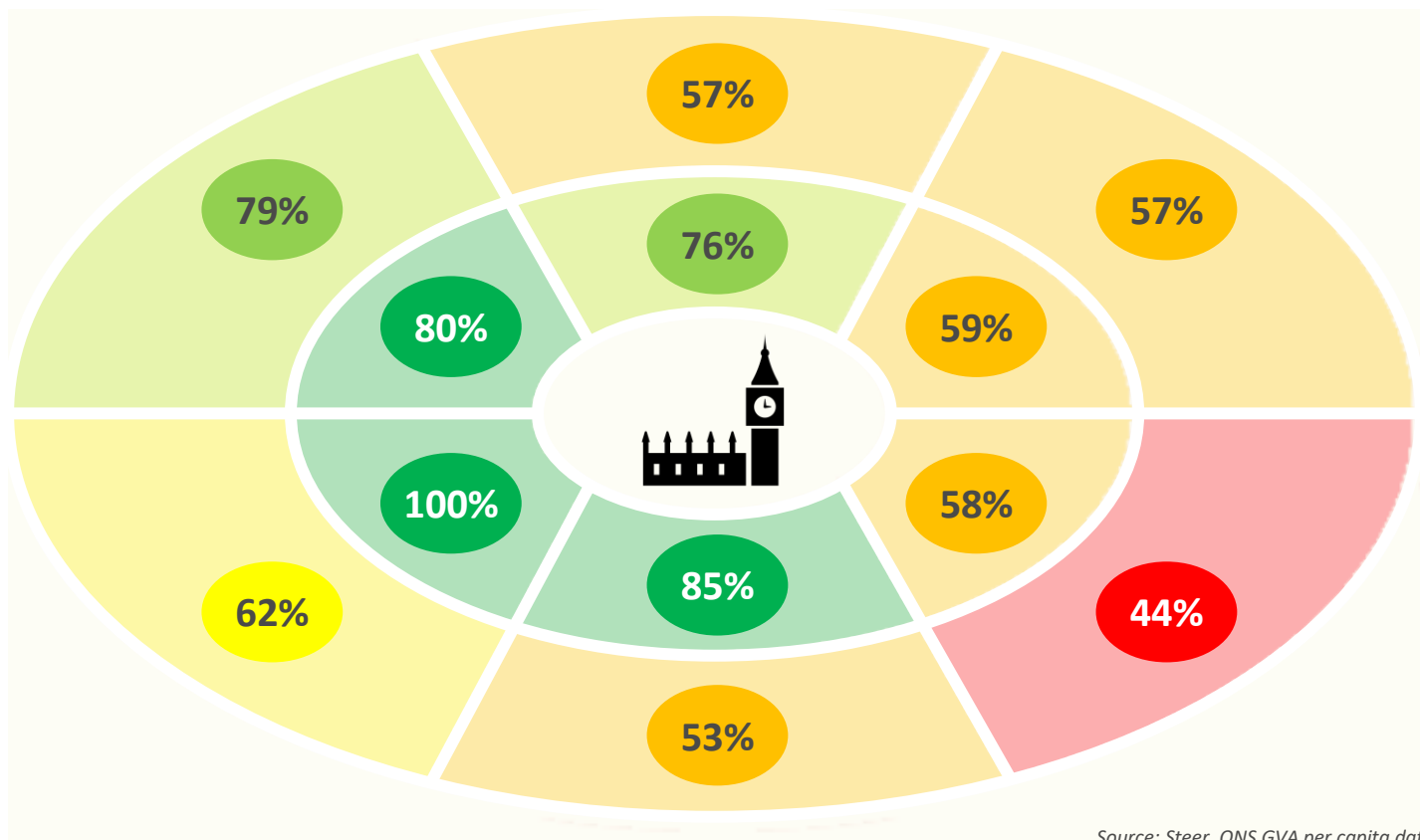
**Analysis of key socioeconomic data shows the further one moves east and away from London, the poorer the outcomes (see Figure 2.10).**

The Solent and Sussex Coast Area has experienced a decline in traditional industries and, more recently, has been severely impacted by the 2020 COVID-19 pandemic. The UK's exit from EU in 2021 will pose further challenges.

While there may be some 'upsides' that emerge from the 2020 pandemic (e.g., growth in cycling, homework, and "15 minute neighbourhoods"), it may take many years for the economy to recover from the extraordinary events of 2020. The public transport system, which has seen very significant reductions in patronage and revenue, will need government support to survive in a post COVID-19 world.

If the government's vision for "levelling up" the economy is to be realised, it will be increasingly important to continue to make a strong case for investment in the most deprived areas of the Solent and Sussex Coast (and the wider South East).

**Figure 2.10: Average GVA per capita around the South East, where South West/Inner = 100**



Source: Steer, ONS GVA per capita data  
South West / Inner Orbital zone = 100%  
Icon Credit: Pham Duy Phuong Hung

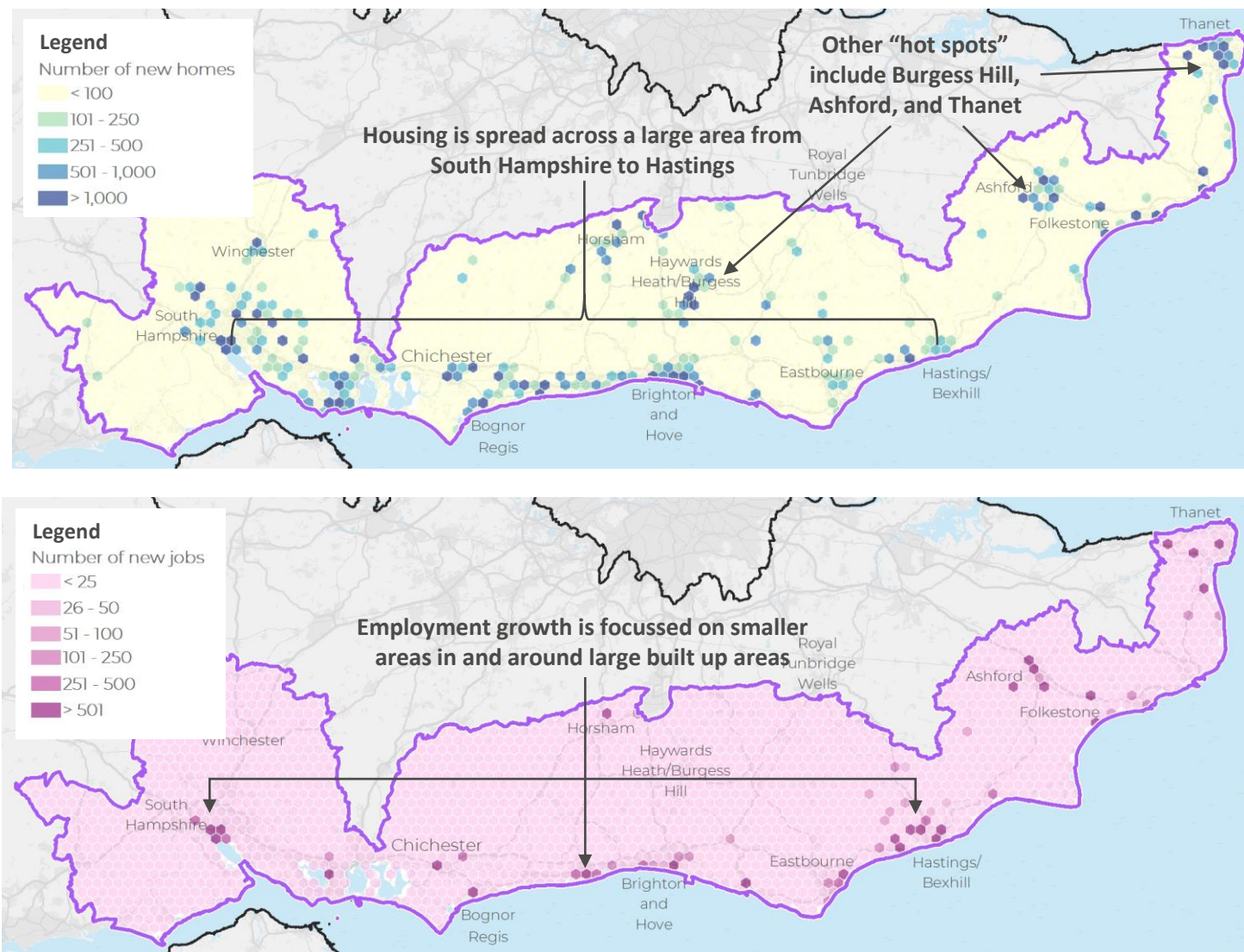
There is a recognised need for housing and communities – but in the right places, supported by the right infrastructure, planned to deliver sustainable transport outcomes.

The fragmented nature of the planning system 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 a possible 400,000 new residents there may be a need for additional housing and employment – and this is planned (see **Figure 2.11**). 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.

**Figure 2.11: Local Plan projections for housing and employment growth**



Source: Steer analysis of Local Plan data (provided by Local Planning Authorities)



## 6 The mobility benefits of new technologies are not accessible to everybody

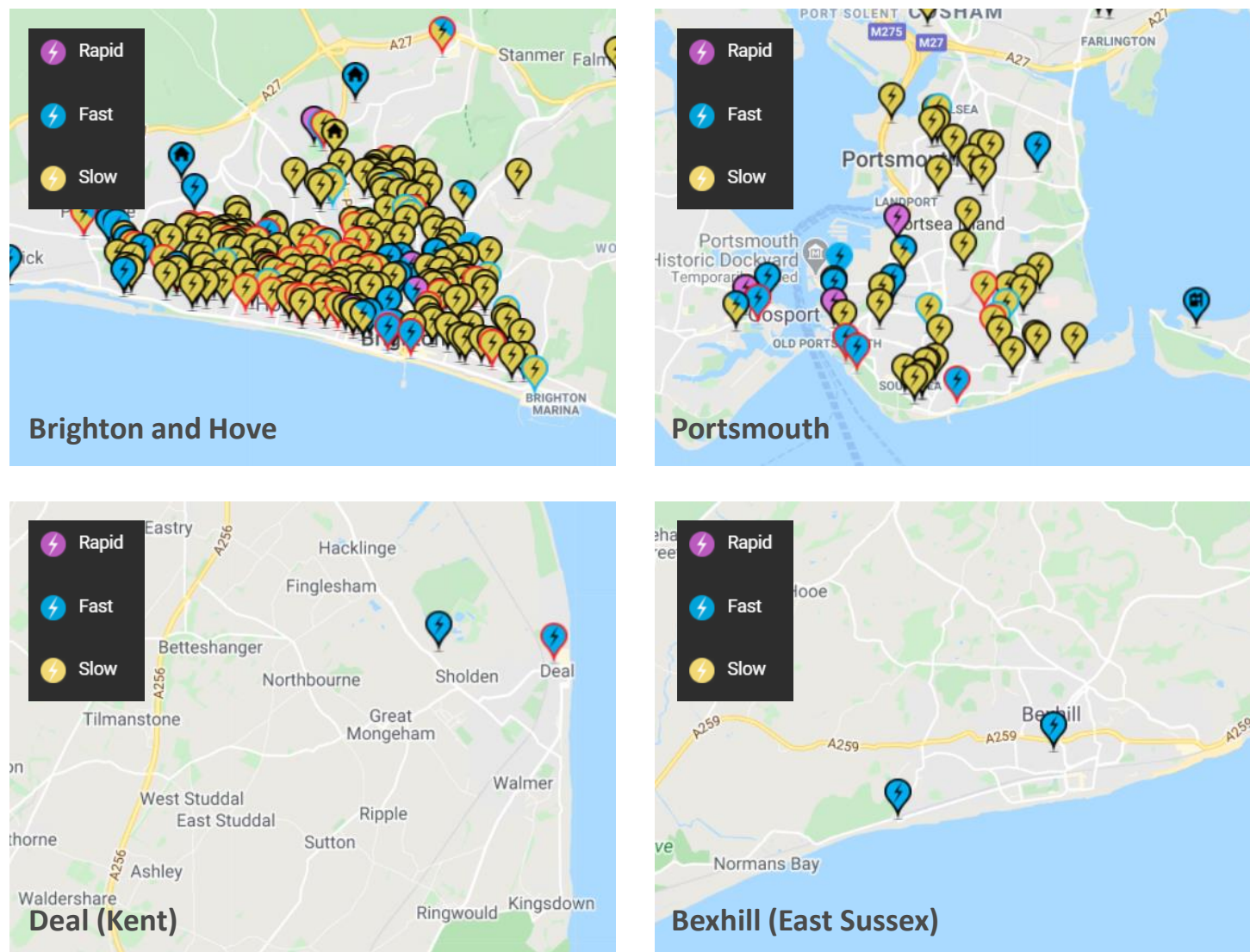
**There are significant gaps in infrastructure to support future technologies – notably electric vehicle charging infrastructure.**

Evidence from Zap Map (see **Figure 2.12**) shows there is a significantly higher provision of electric vehicle charging points in urban areas such as Brighton and Portsmouth than there are in less densely populated (but still semi-urban) areas such as Deal and Bexhill.

While it is acknowledged that this reflects higher levels of on street parking in areas like Brighton City Centre, it appears that more deprived areas (such as Bexhill) are less well served than more prosperous suburban areas, such as Ashford, Horsham and Burgess Hill.

This trend underlines the risk of technology contributing to – rather than helping address – rural and socioeconomic inequality in the Solent and Sussex Coast.

**Figure 2.12: Zap Map locations of Electric Vehicle chargers (all at the same scale)**



Source: Zap Map <https://www.zap-map.com/live/>

## 7 Poor connectivity is holding coastal communities back

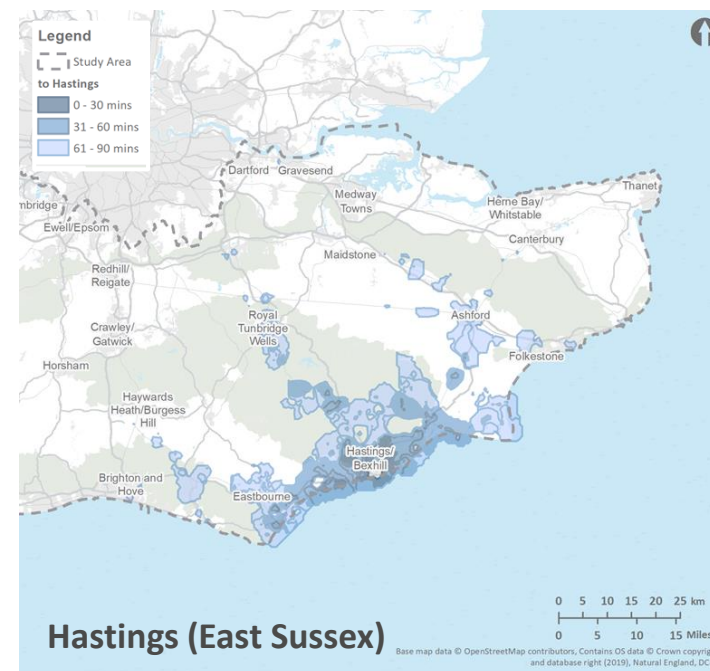
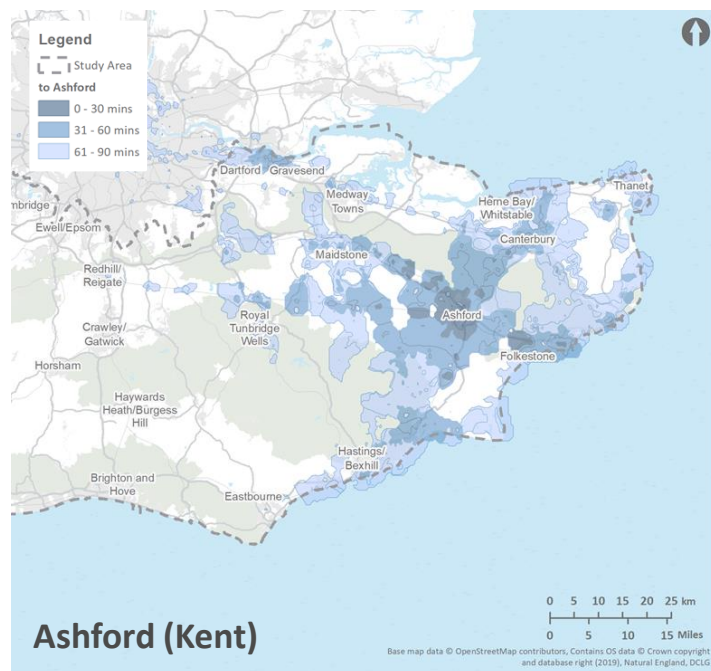
**Some of the most deprived communities on the South Coast are less well connected than nearby, more prosperous neighbours.**

For example, Ashford enjoys high levels of public and highway connectivity compared to nearby Hastings and Thanet (see **Figure 2.13**). Portsmouth is less well connected to London and other parts of the UK than nearby Southampton. Communities living on peninsulas (e.g. Hayling Island) and Islands (e.g. Portsmouth) also face similar connectivity challenges.

Furthermore, recent and planned investment on corridors tend to be more focussed on radial corridors (serving London and the Channel Ports), which exacerbates the connectivity gap between Ashford and Hastings.

The link between socioeconomic outcomes and transport investment is complex. However, it is widely believed that poor connectivity means places like Portsmouth and Hastings have to “work harder” to secure the investment in opportunities that these places deserve.

**Figure 2.13: Public Transport Catchment Areas for Ashford and Hastings**



Source: Steer analysis

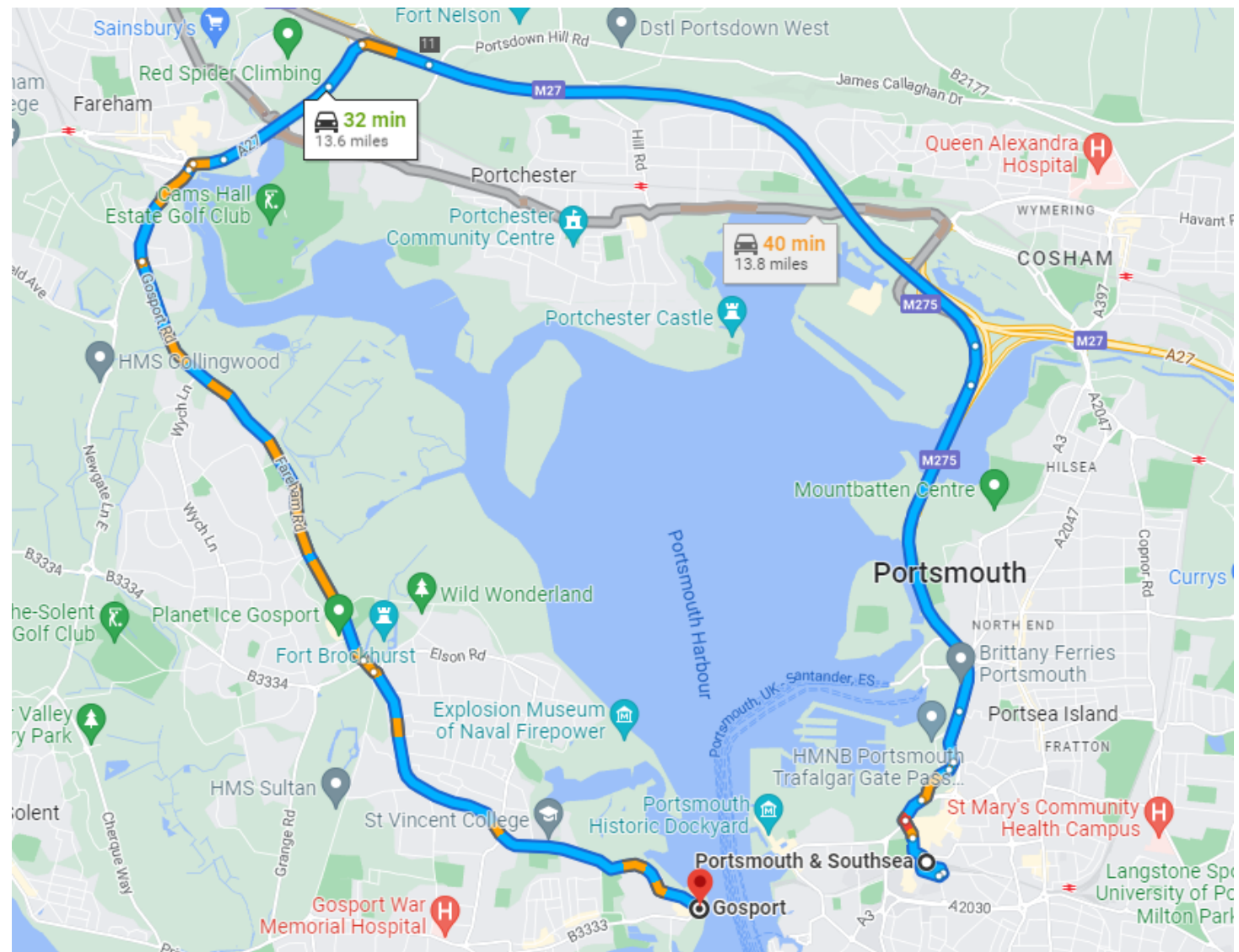


The geography of the South Coast and its transport networks forces people and goods moving east–west along the coast to travel long distances inland to complete their journeys. Journeys therefore take much longer to complete.

Several Major Economic Hubs in the Solent and Sussex Coast Area are situated on islands (e.g. Portsmouth) and/or river estuaries (e.g. Southampton). Many east–west journeys within and between these hubs require travellers to move inland (e.g. along the A326), across the Strategic Road Network (e.g. M27), and back out towards the coast (e.g. M275 in Portsmouth). For the example illustrated in **Figure 2.14** to the right, a journey between two points that are 2 miles apart “as the crow flies” requires a 13 mile / 30-40 minute trip.

Similar issues exist in Sussex, although this is more driven by the geography of the highway and railway networks. For example, a journey from Bognor Regis to Littlehampton by rail requires travelling up one branch line, along the West Coastway, and then along another branch line.

**Figure 2.14: Example of long journeys shaped by the geography of the South Coast**



Source: Google Maps

Rural communities in the Solent and Sussex Coast Area have significantly poorer access to public transport, Mobility as a Service providers, and high-speed broadband compared to urban areas (see Figure 2.15).

This means it will be harder for rural communities to:

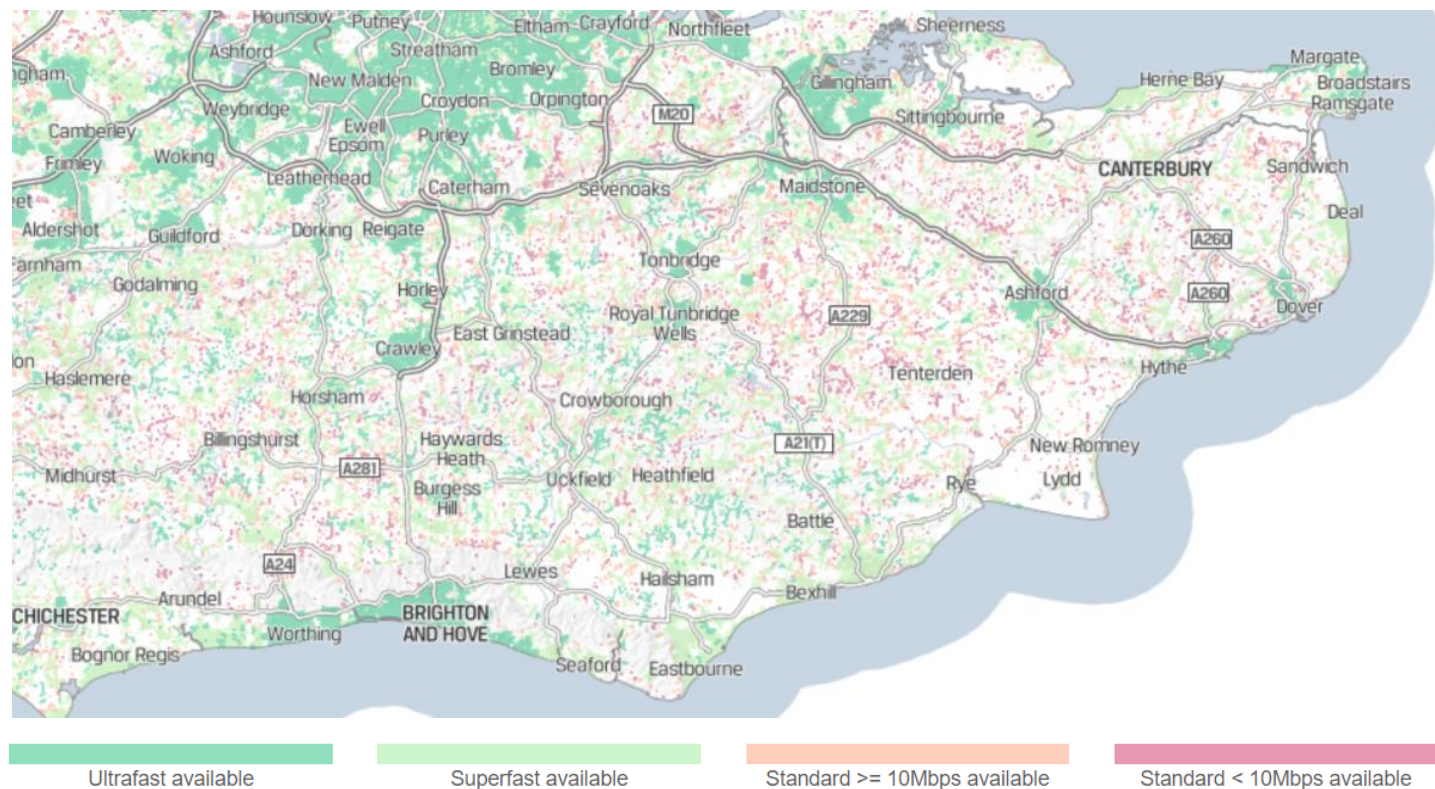
- Work remotely;
- Access future mobility technologies;
- Access emerging Mobility as a Service services;
- Access public transport networks; and
- Attract businesses that rely on technology and/or public transport.

This promotes a high reliance on private motoring in rural communities.

While many rural areas are prosperous, there are pockets of high levels of deprivation in rural parts of the Solent and Sussex Coast Area.

There is also a risk that inequality in access to broadband will result in wider inequality in socioeconomic outcomes.

**Figure 2.15: Broadband Connectivity in South East England**



Source: OfCom Broadband Coverage Map <https://checker.ofcom.org.uk/broadband-coverage>

**While there has been good progress in improving accessibility in recent years, significant issues remain.**

Accessibility – in the broadest terms – is a key barrier to many users. The Williams Rail Review identified this is a key challenge for the rail industry.

The DfT's 'Access for all' programme has unlocked some investment in some rail stations. However, as **Figure 2.16** shows, there is a need for more progress.

Other examples where improvements should be considered include:

- Improving the accessibility of bus fleets and rail rolling stock;
- Making it easier to plan, buy and use public transport services;
- Improving access to public transport for passengers with hearing, vision, and/or cognitive needs;
- Improving walking and cycling facilities (many people with additional needs rely on cycles as their primary form of mobility); and
- Making public spaces (e.g. town centres) more accessible.

**Figure 2.16: Accessibility at Rail Stations (% stations offering provision in January 2019)**

	Accessible ticket machines	Accessible ticket office	Train ramp access	National Key toilets	Step free access	Mobility set down
<b>Great Britain</b>	<b>53%</b>	<b>21%</b>	<b>73%</b>	<b>18%</b>	<b>61%</b>	<b>28%</b>
East of England	80%	17%	73%	33%	72%	23%
East Midlands	39%	17%	41%	20%	77%	16%
London	87%	33%	60%	24%	44%	24%
North East	24%	13%	98%	13%	84%	47%
North West	16%	18%	96%	8%	63%	17%
South East	89%	24%	79%	32%	56%	46%
South West	51%	15%	74%	22%	57%	60%
West Midlands	37%	16%	82%	25%	67%	33%
Yorkshire and the Humber	24%	8%	99%	8%	67%	34%
Scotland	40%	27%	35%	4%	51%	10%
Wales	37%	18%	94%	10%	79%	17%
<b>Key</b>	<b>Lowest proportion of stations</b>			<b>Highest proportion of stations</b>		

Data from National Rail Enquiries, Knowledgebase XML API, accessed 24 January 2019



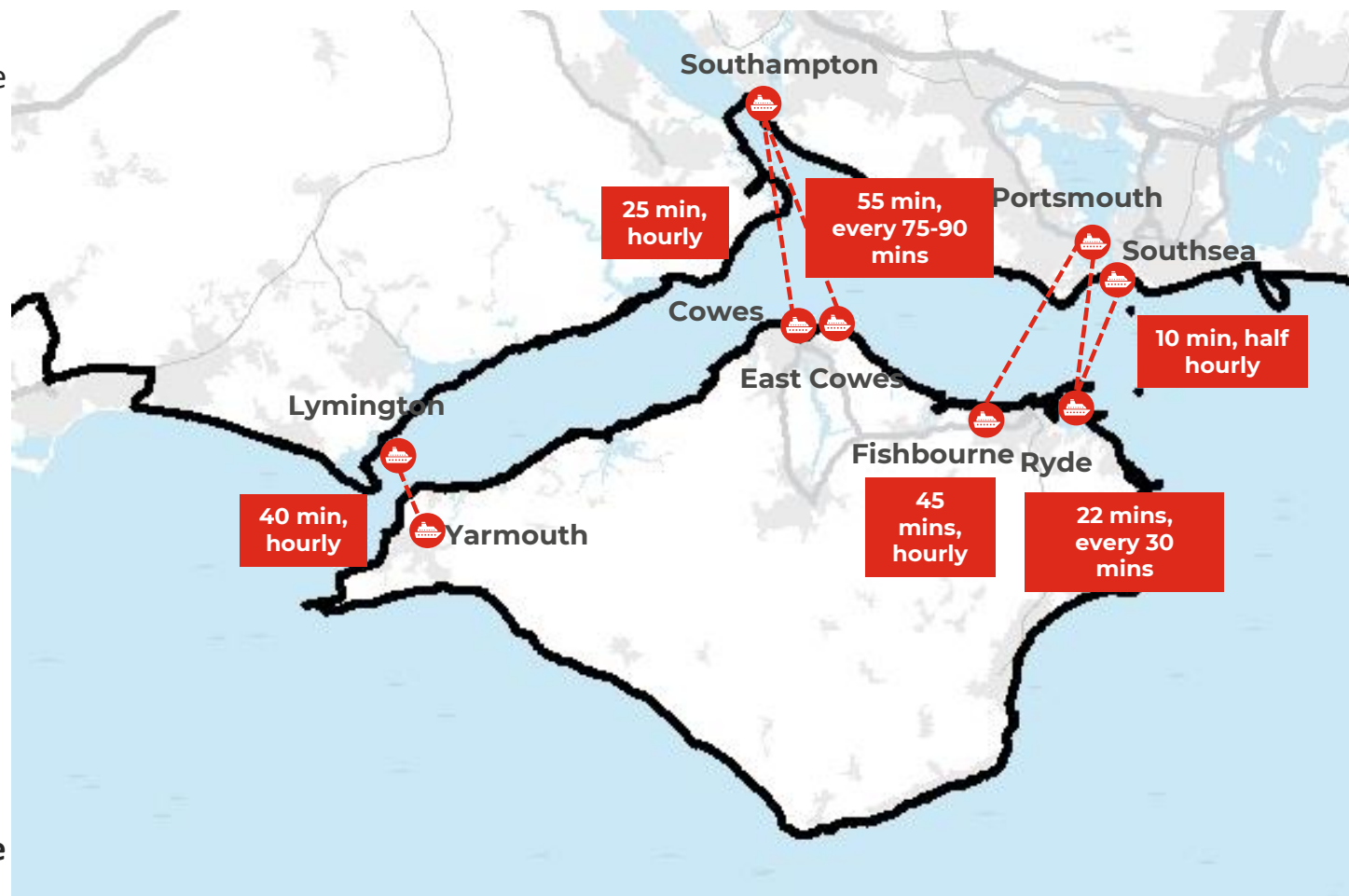
The Isle of Wight does not have the same access to opportunities, services and jobs as the mainland.

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

The ferry provision provides roughly an hourly service. Whilst this allows access to and from the island, 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. There is also poor connectivity from the eastern side of the Island to Southampton.

The level of ferry service illustrated in **Figure 2.17** means that timetabling connecting rail journeys on the mainland can be tricky. More frequency in ferry provision would mean any delays would not affect onward journeys on both sides of the Solent so often.

Figure 2.17: Peak Connectivity to and from 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.*

Ferry prices to the Isle of Wight are more expensive than comparable ferry journeys elsewhere 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.

**Figure 2.18** presents a comparison of Isle of Wight ferry services to ferries in Scotland. This shows Scottish ferries are significantly cheaper per mile for all journeys compared to the Isle of Wight. The substantial price differential is explained by the fact that ferries in Scotland are subsidised, but the significant expense presents a barrier to increased 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.

**Figure 2.18: Example ferry prices per mile to/from the Isle of Wight and to/from Scotland**

Route	Type	Journey Time	Distance	Price (return)	£ per mile
<b>Isle of Wight</b>					
Portsmouth – Fishbourne	Car	45 minutes	7.8 miles	£102.00	£13.00
Southsea – Ryde	Foot, Bike	10 minutes	4.4 miles	£34.00	£7.72
Portsmouth – Ryde	Foot, Bike	22 minutes	4.5 miles	£17.60	£3.91
Southampton – Cowes	Car	60 minutes	10.63 miles	£92.00	£8.65
<b>Scotland Examples</b>					
Ardrossan – Portavadie	Car	25 minutes	3.5 miles	£18.00	£5.14
Tarbert – Portavadie	Foot, Bike	25 minutes	3.5 miles	£5.80	£1.65

The high ferry costs can also result in deliveries to the Island being charged at higher rates than the mainland, driving up the costs of commerce and retail purchases.

## 13 For many people, public transport fares are too high and too complicated

Many stakeholders in the South East have cited the price of rail tickets and the complexity of ticketing as a disincentive to travelling by rail.

As Figure 2.19 shows, this perception is rooted in evidence showing rail fares have indeed become more expensive than motoring in real terms. This means it is harder to persuade people to change from the car to rail. This is particularly the case for groups and families.

The complexity of the tickets offered also puts people off using the railway. As an example: a myriad of different fares are offered between Gatwick and London. The Williams Rail Review has identified the complexity of fares as an issue.

It is acknowledged that this is a complex topic and there are excellent examples of low fares available during off peak periods, particularly on longer distance journeys. However, the long distance rail market is relatively small in the South East, so these opportunities are less available.

Figure 2.19: Real terms increase in Costs of Public Transport and Motoring

Retail Prices Index (RPI): Bus and coach fares, rail fares and motoring expenditure, 1987–2019



Source: *Bus Back Better* (DfT, 2021)



The existing cycle network is not at a consistent standard, does not support wider cycling participation, and there are strategic gaps (shown in Figure 2.20) in parts of the area's cycle network.

Sustrans has recently downgraded sections of the National Cycle Network (NCN) in this area due to the deteriorating safety risk on cycling corridors in these areas.

TfSE analysis has shown a lower proportion of residents in the South East live close to the NCN than residents in neighbouring regions. The TfSE strategy also presents data showing that fewer than 1 in 5 residents cycle once or more a week. Every Local Transport Authority on this corridor wants to see a step change in cycling participation in their area, 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.

Figure 2.20: The National Cycle Network between Chichester and Bexhill



Source: Sustrans, "Paths for Everyone", <https://www.sustrans.org.uk/about-us/paths-for-everyone/>

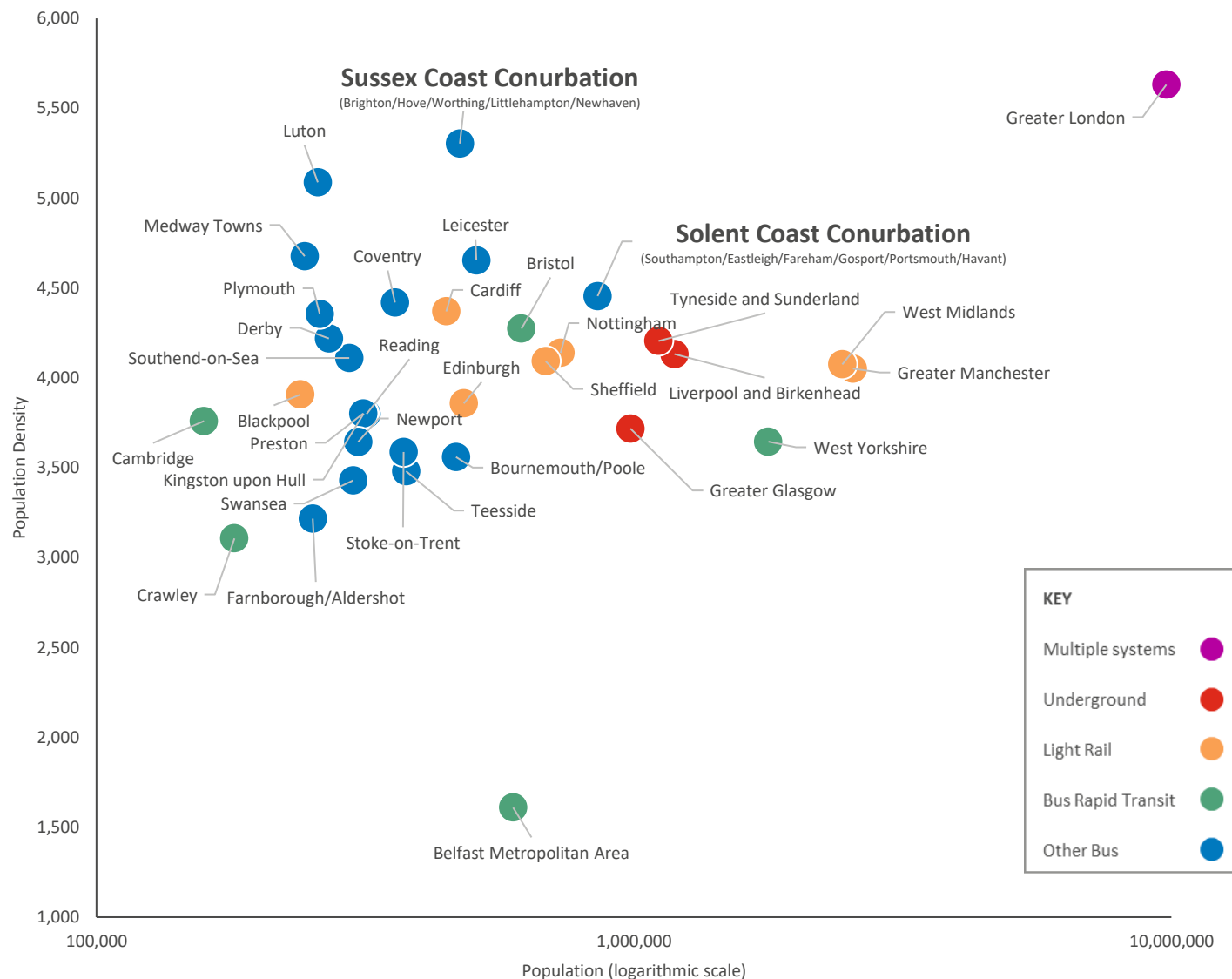
Map: <https://www.openstreetmap.org>

Local Cycling & Walking Infrastructure Plans are designed to address cycle network accessibility issues on a local cycle route / corridor, which help addresses the active travel commuter market.

## The Solent and the Sussex Coast conurbations Areas do not have highly developed mass transit systems.

Given the relative size and density of the area's largest conurbations, it is striking that neither South Hampshire ("Solent Coast") nor the Brighton/ Hove/ Worthing/ Littlehampton /Newhaven ("Sussex Coast") built up areas have mass transit systems such as Light Rapid Transit, Bus Rapid Transit, or underground systems. Instead, these conurbations rely on conventional buses, which deliver slower journeys than alternative systems, and suburban rail services, which are relatively infrequent, are not available to all, and do not adequately serve commercial centres. This means residents in these conurbations do not benefit from the accessibility, connectivity, and quality of mobility that is available in other cities. Despite growing bus patronage, some residents and businesses choose to use private vehicles for certain journeys, or walk or cycle, which undermines the competitiveness of the area's largest cities and the quality of life of its residents.

**Figure 2.21: Mass Transit Systems in major conurbations in the UK**



Source: Steer analysis



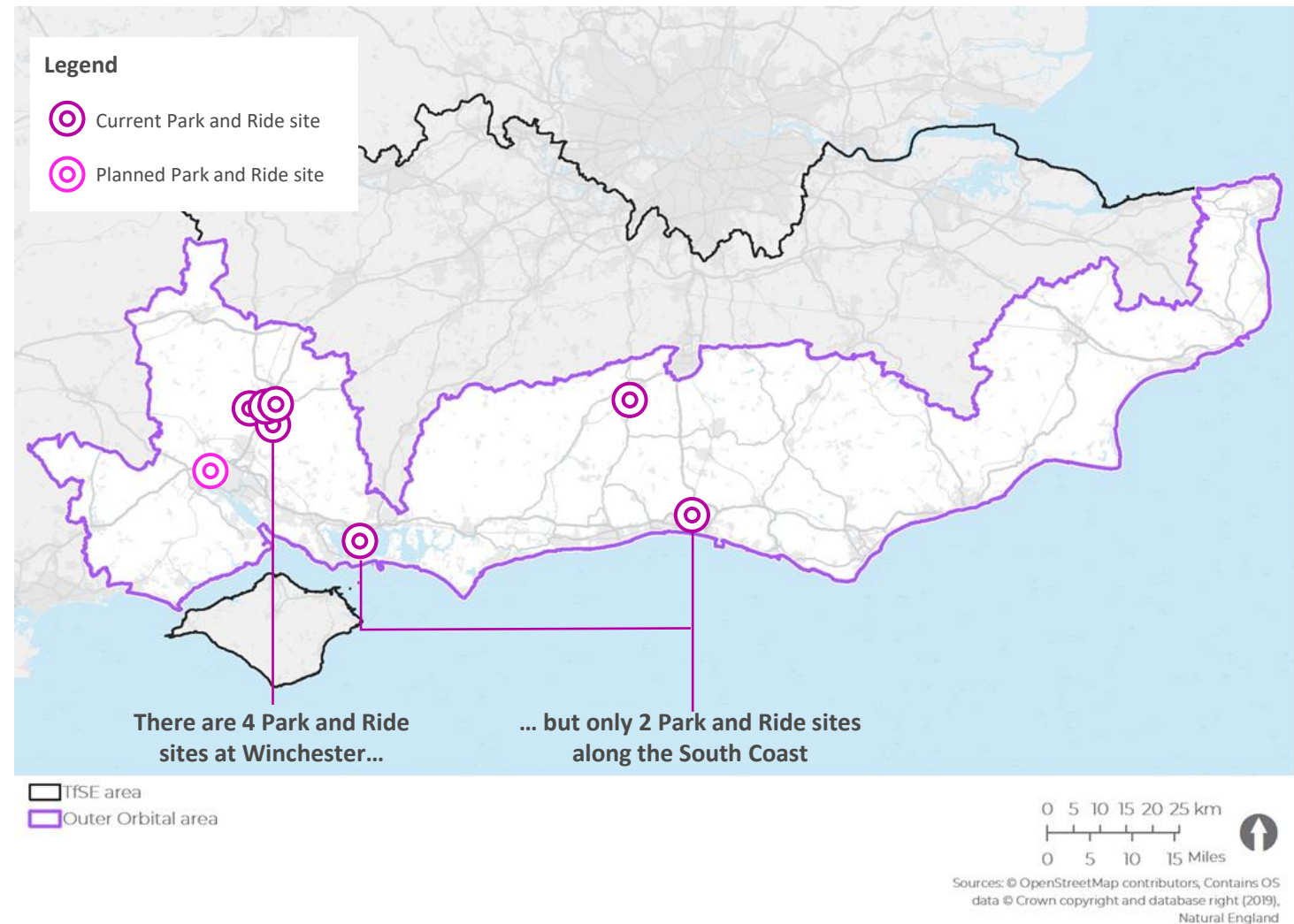
**Strategic Mobility Hubs** are transport hubs that enable interchange between modes. Ideally, they should offer easy access to strategic highways, railways, and local public transport services.

Many existing hubs take the form of Park and Ride facilities, but the vision for these hubs is that they evolve to include freight interchange and service hubs.

There are currently only two Park and Ride facilities serving the towns, cities, and conurbations on the South Coast (a further one is planned). The facility at Brighton is also relatively small, with fewer than 200 spaces. This means motorists are inclined to travel into the centre of urban areas to park their vehicles. This generates noise, congestion, and poor air quality, which undermines the quality of the urban environment.

Furthermore, integration between public transport modes is poor. Several railway stations are unserved by local bus routes. There is an opportunity for coherent planning of local bus timetables.

**Figure 2.22: Park and Ride Sites in the Solent and Sussex Coast Area**



Ideally, visitors and commuters would be able to complete their whole journeys by public transport and/or active travel. But this is impractical for many, particular for those who live in rural and suburban areas.

Public transport information and ticketing arrangements are not sufficiently coordinated nor adequately integrated, particularly across transport modes.

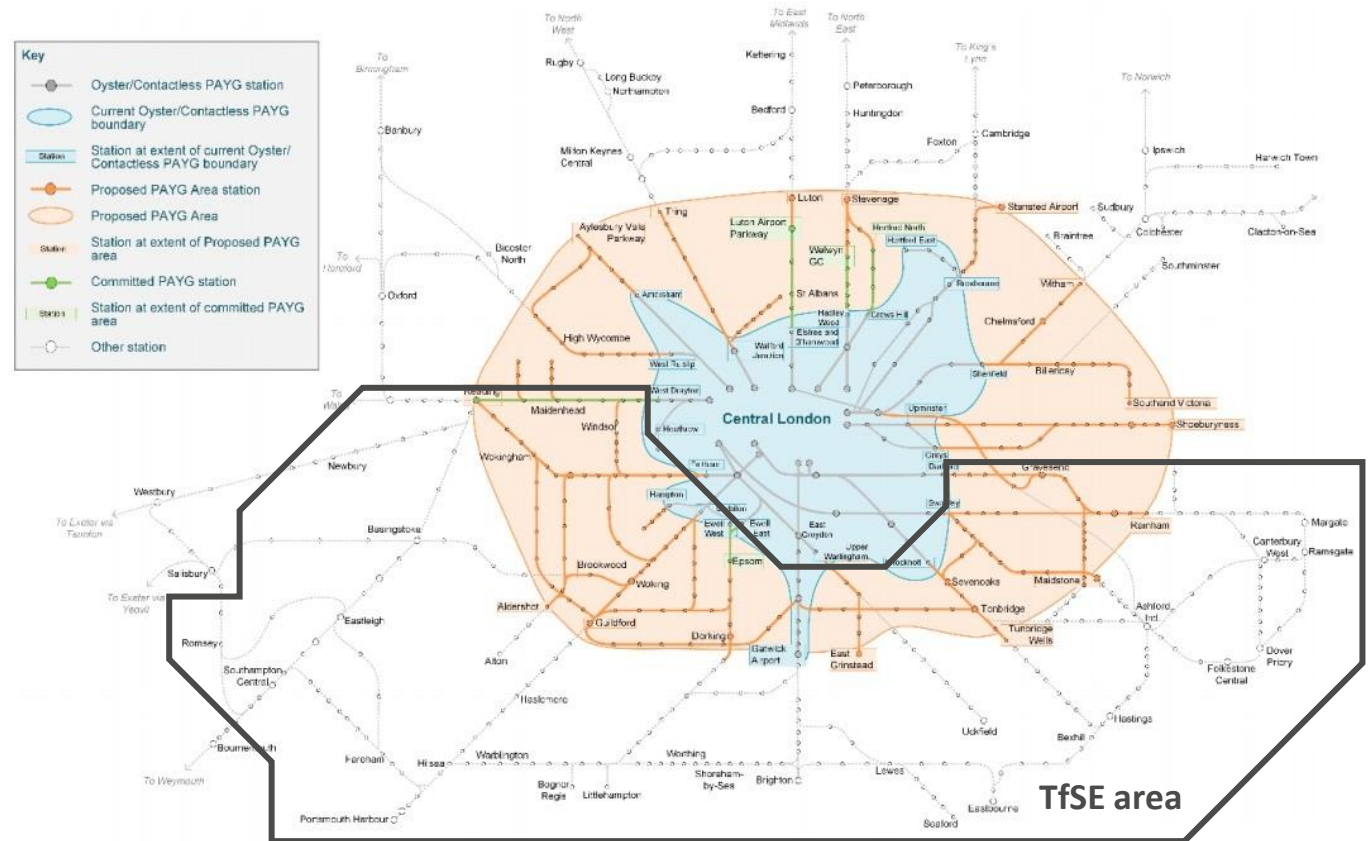
Parts of the South East are included in the London Travelcard area (See **Figure 2.23**) and are included in Transport for London's contactless travel arrangements. However, outside the London area, there are few examples of:

- Integrated journey planning tools;
- Integrated, multi-modal fares (noting some areas have access to PlusBus);
- Zonal fares systems (e.g. centered on a large conurbation); and
- Integrated, multi-modal payment systems.

All the above makes it harder to plan, pay for, and complete multi-modal journeys in the South East.

None of the conurbations in the South East are currently served by dedicated multi-modal planning apps – although this is a fast-developing area of interest and third parties may provide a solution soon.

**Figure 2.23: Extent of London Pay-As-You-Go payment systems in South East England**



Source: Department for Transport "Pay-as-you-go on rail" consultation (2019), [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/776998/payg-rail-consultation-doc.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/776998/payg-rail-consultation-doc.pdf)

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 (see Figure 2.24).

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 health. 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.

Figure 2.24: Bus Connectivity and Highway Congestion on the Isle of Wight



Source: Go South Ltd (2021)



Source: Steer Highway Network Modelling



## 19 The area's major highways do not provide effective east – west connectivity

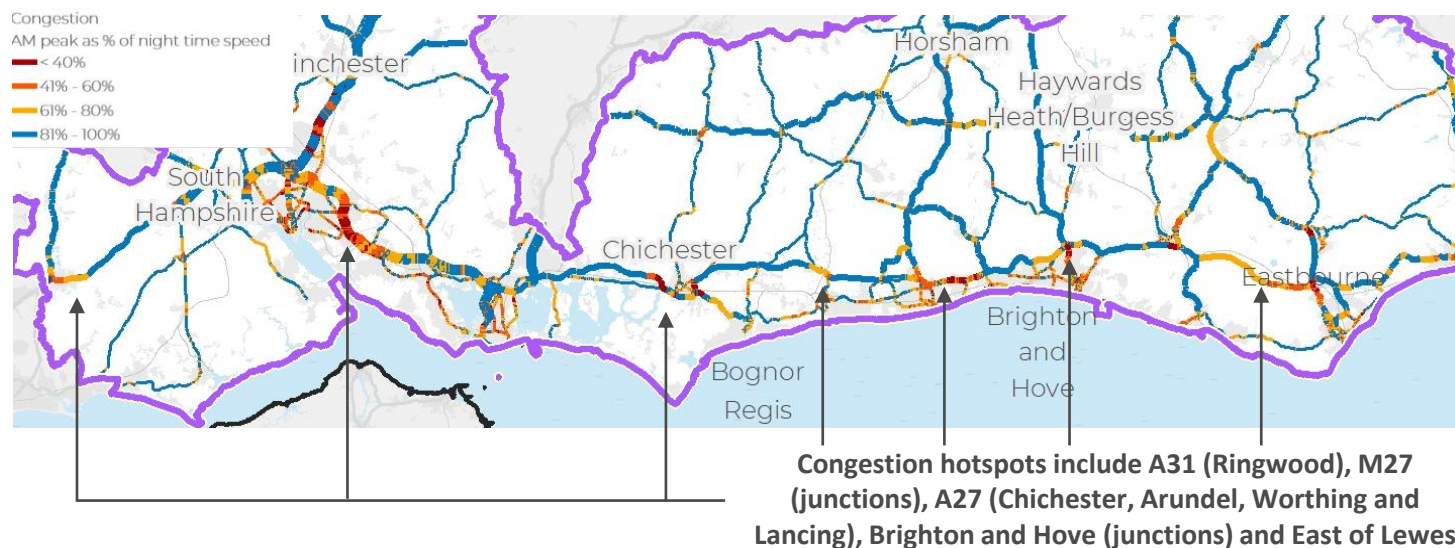
Many stakeholders would like to see the Solent and Sussex Coast conurbations connected by a high-quality strategic highway.

However, the current condition and discontinuous nature of the road means it falls far short of the standard needed to fulfil this role, notably between Chichester and Shoreham and between Lewes and Polegate. There are many issues with congestion (**Figure 2.25**), poor air quality, noise, poor safety, and poor local access/severance along this corridor.

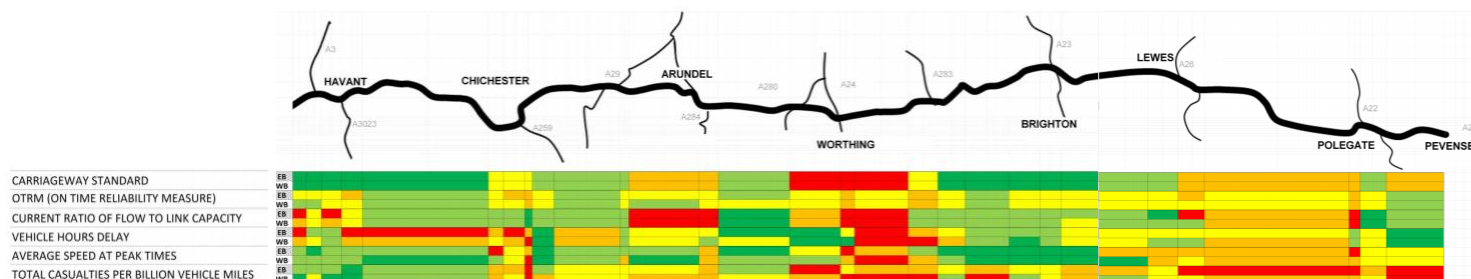
These issues undermine the competitiveness of bus and coach and can delay important freight movements. With significant housing planned along this corridor, the issues currently observed on this corridor are expected to worsen.

The issues described above affect multiple highways. While the A27 (**Figure 2.26**) is regularly highlighted as a strategic issues, there are also localised issues at junctions on the M27 as well as on feeder roles to the Strategic Road Network and at multiple locations on the Major Road Network (notably the A259).

**Figure 2.25: Congestion Hotspots**



**Figure 2.26: Connectivity Gaps (highway quality between Southampton and Eastbourne)**



Source: DfT A27 Feasibility Study  
<https://www.gov.uk/government/publications/a27-corridor-feasibility-study-technical-reports>



**Several major highways encroach on nationally significant protected landscapes at several locations on the corridor, undermining the quality of these environments.**

In Hampshire, several major highways including the A31 and A326 pass through the New Forest National Park, causing significant severance issues.

In West Sussex, the A27 runs close to (and in some areas, through) the South Downs National Park, the Chichester Harbour AONB, and a UNESCO Biosphere in Brighton and Hove. The highway undermines the quality of these environments through generating noise, air pollution, landscape scarring, and severance. Furthermore, the poor reliability of the highway often causes traffic to 'overflow' onto local routes that run deeper into protected areas and local communities (**Figure 2.27** illustrates this effect).

In East Sussex, the A27 carries heavy traffic through areas popular with cyclists and walkers, creating safety and severance issues for vulnerable road users.

**Figure 2.27: The A27 south west of Arundel**



Image source: BBC <https://www.bbc.com/news/uk-england-sussex-54550678>

## 21 Too many major highways pass through densely populated communities

**Many of the Solent and Sussex Coast Area's major highways pass through or close to built-up areas (see Figure 2.28).**

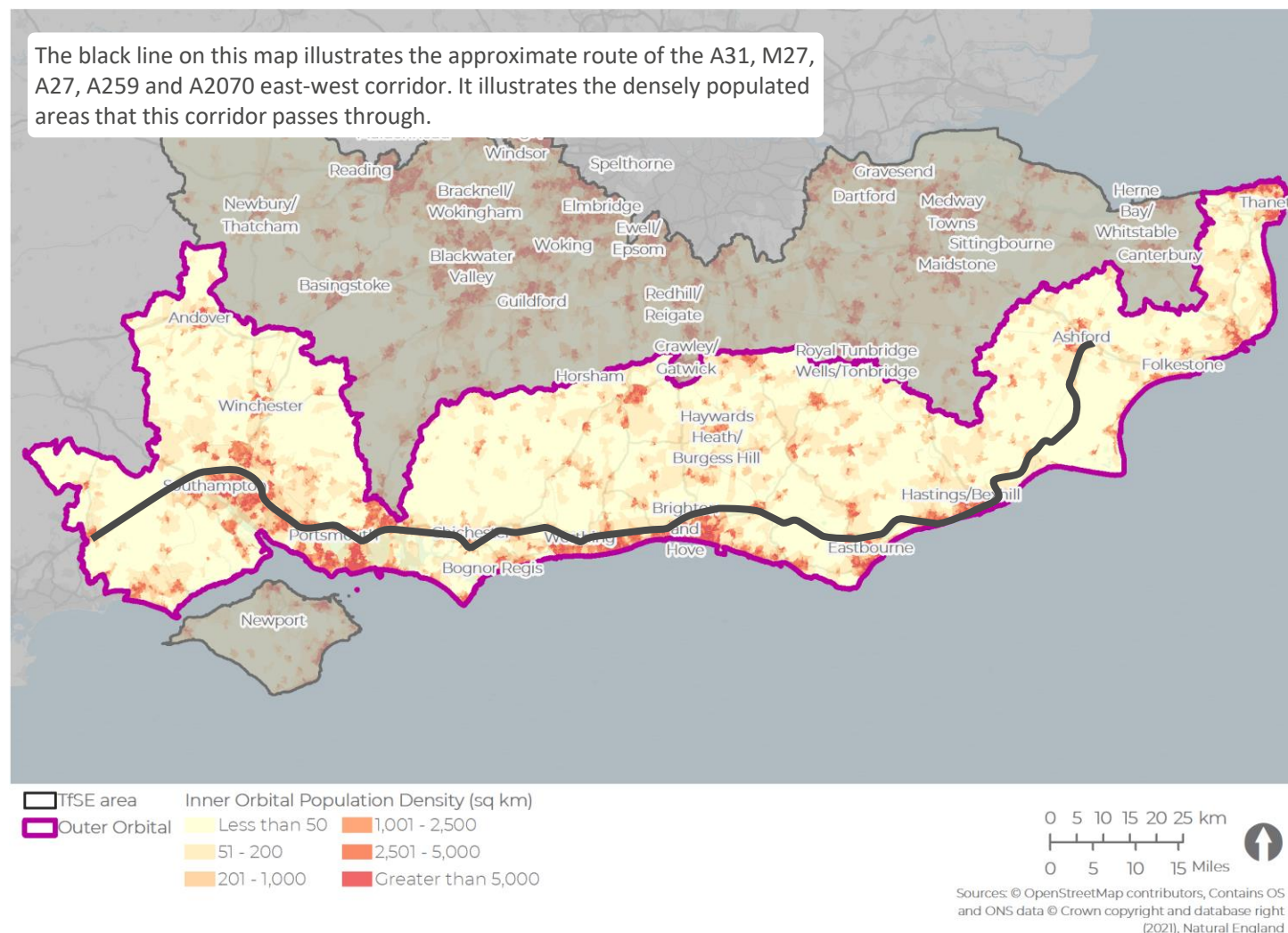
In Hampshire, the M27 cuts through several communities in the Solent area, notably at Hedge End/Whitely/Cosham.

In West Sussex, the A27 runs close to Chichester City Centre and passes through Worthing and Lancing. Many local journeys rely on this highway for local connectivity, which causes conflicts in traffic along the route and, consequently, undermines the attractiveness and viability of public transport and active travel on these corridors (around half of journeys on the A27 at Chichester and Worthing start or finish in their respective local districts).

In East Sussex, the A27 passes through several villages and causes significant severance, noise, and air quality issues for local residents and visitors to the South Downs National Park.

The A259 passes through much of the Brighton and Hove conurbation as well as Bexhill and Hastings.

**Figure 2.28: Population Density and the Solent and South Coast highway corridor**





### There are multiple issues with level crossings on strategic highways along the South Coast.

The A259 between Hastings and Ashford (East Sussex/Kent) is particularly hazardous in places, as shown in **Figure 2.29**. There are several steep inclines, tight bends, and level crossings on this highway between Hastings and Ashford. These present significant safety risks for all users on this highway.

There are also issues with level crossings on the local roads that feed into the A27, A29 and A259 corridor in Brighton and Hove, West Sussex and Hampshire.

National Highways and Network Rail are considering options to realign the highway to avoid level crossings. These improvements could be delivered alongside improvements to the A259 railway.

**Figure 2.29: Star Level Crossing (A259/Marshlink Railway)**



Image source: UK Level Crossing Crossings channel, YouTube <https://www.youtube.com/watch?v=aN2C6dPtDEo>

### East-West and cross-country railway connectivity is poor.

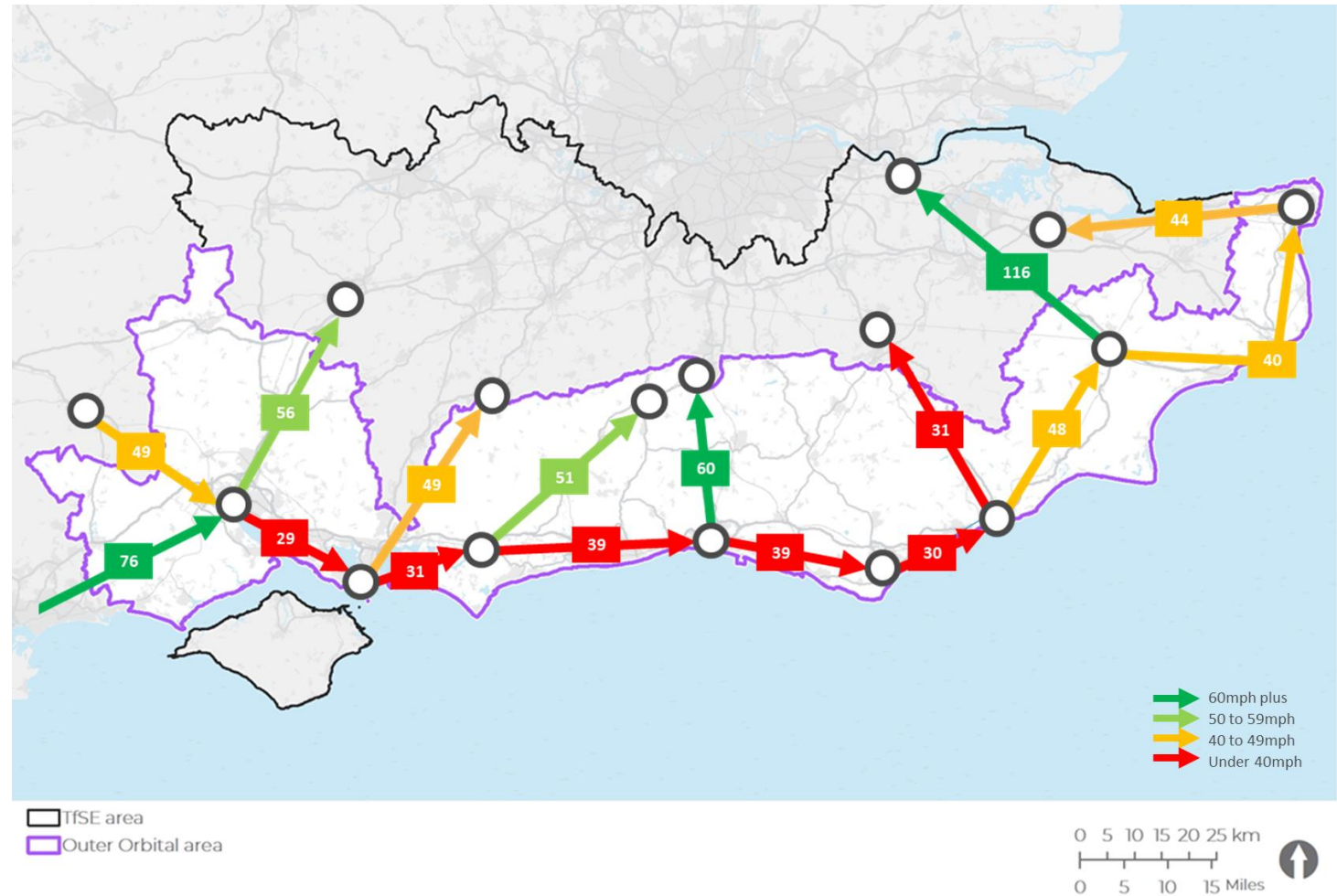
Railway journeys on radial routes from South Coast stations to London and beyond are 50% faster than journeys along the South Coast (see **Figure 2.30**). Service frequencies are also lower.

In particular, the West Coastway Line struggles to perform its role as a short distance urban metro service between Littlehampton and Brighton and as a major cross-regional corridor between Southampton and Brighton.

Journey times by rail between Portsmouth and Southampton are very poor (42 minutes\* compared to 25 minutes between Southampton and Bournemouth), as is the route between Eastbourne-Hastings-Ashford. This undermines the competitiveness of rail in the area.

Furthermore, there is relatively poor integration between South Coast rail services and local bus services. This is particularly evident in fares, retail, and ticketing (integrated tickets and zonal fares are only available for London services).

**Figure 2.30: Average speed for selected journeys on the South Coast rail network**



*\*This is a best case journey time achieved by around half of all trains.*



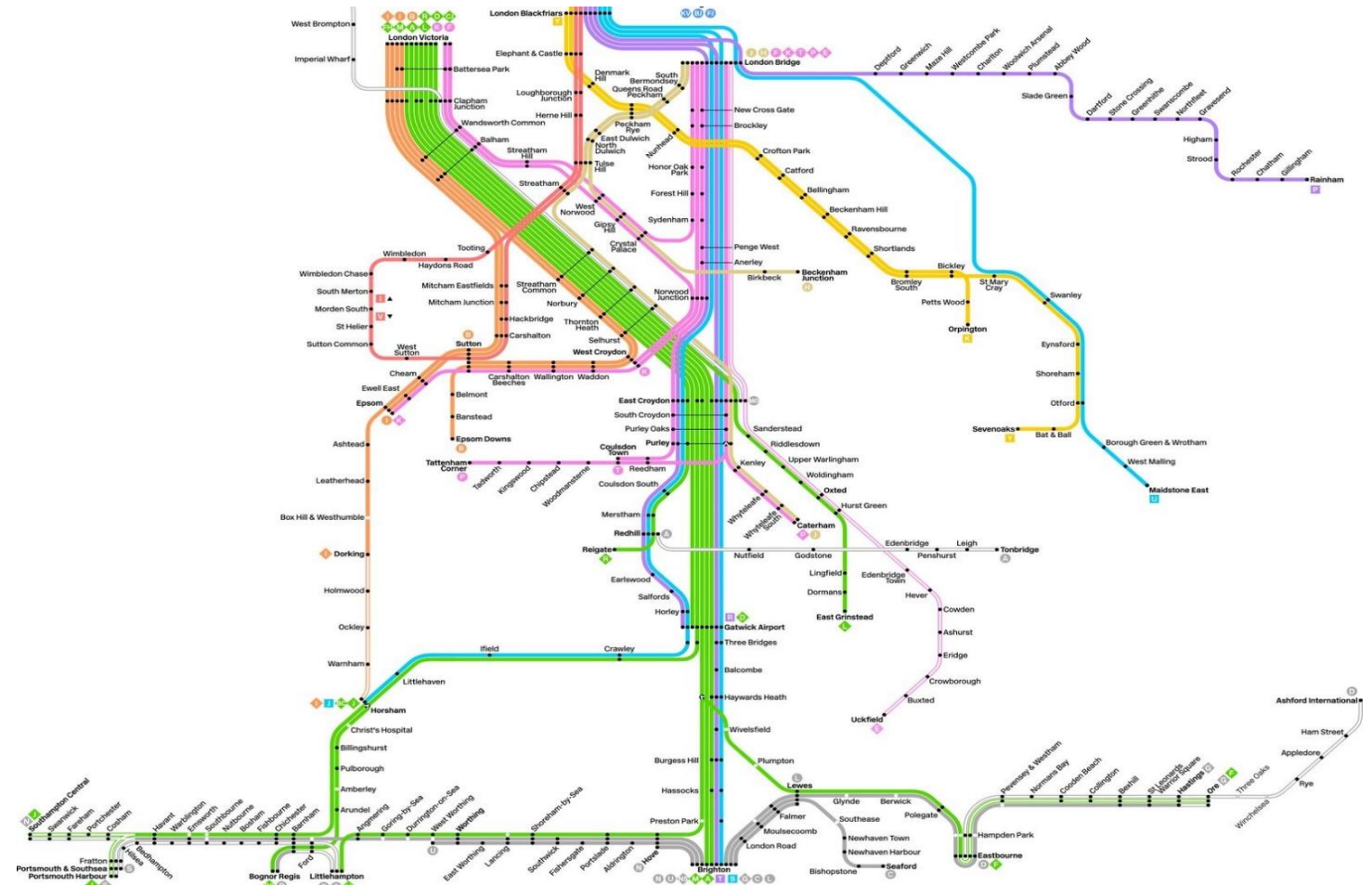
Rail capacity is insufficient to accommodate the needs of long-distance passengers, local passengers and freight customers in the area.

The railway timetable is designed around constraints on radial corridors to ensure that services operating from locations such as Littlehampton and Brighton through central London (and beyond) are timed to accommodate capacity bottlenecks closer to London. The rest of the timetable (including railfreight services) has to 'fit around' whatever is left over from this capacity allocation process. **Figure 2.31** illustrates the challenges planners face in balancing radial and orbital journeys on the Brighton Main Line.

In recent years, several 'paths' (i.e. slots) that used to support cross country services (e.g. Portsmouth/Brighton – Reading/Midlands/North) have been reassigned to radial services.

This means communities that rely on orbital rail services are less well served than communities served by radial routes.

**Figure 2.31: Thameslink, Southern and Great Northern franchise services**



Source: Project Mapping <http://www.projectmapping.co.uk/Reviews/Resources/TSGN%20Travelling%20Wolf.jpg>

It also undermines the competitiveness of rail on these corridors, which encourages longer distance travellers to drive instead.

**The Marshlink railway (see Figure 2.32) is slow, unelectrified, and has low capacity.**

Operating services on this 'island' of diesel operation is expensive and inefficient.

The railway offers poor east-west connectivity for the communities it serves. It also contributes to the relative isolation of Bexhill and Hastings. Stakeholders believe this connectivity gap makes it harder to attract investment to these towns.

There are aspirations to use this railway to run high speed services from London St Pancras to Hastings, Bexhill, and Eastbourne via Hastings. This would help develop Ashford as an international transport hub (and strengthen the case for the long-term sustainability of international rail services at this station). However, the quality (and traction) of this railway presents a significant barrier to this project.

**Figure 2.32: The Marshlink Line**



*Image source: Brian Green, CC BY-SA 2.0, <https://commons.wikimedia.org/w/index.php?curid=13054175>*



## Part 2c

### Baseline



# Introduction

## Baseline and Business As Usual

In 2018, TfSE commissioned Steer to develop a model to test the impact of the scenarios created to support the development of the Transport Strategy for South East England.

This model, known as the South East Economy and Land Use Model (SEELUM), is a transport and land use model that simulates the interaction of transport, people, employers and land use over periods of time.

This model has been used to establish a baseline for socioeconomic, environmental, and transport indicators for 2018 to 2050. The baseline forecasts of population and employment growth used by SEELUM were taken from the Department for Transport’s National Trip End Model (NTEM).

To stimulate and accommodate this growth, SEELUM was supplied with proportional increases in the land available for housing and commercial use in each zone, equal to the proportional growth implied by NTEM. The new land is assumed to become available linearly from 2018 to 2050.

**Table 2.1:** Baseline projections in SEELUM for the Solent and Sussex Coast Area

Metric	Baseline (2018)	Business As Usual (2050)	Change (%)
Socioeconomic metrics			
Population	3,101,109	3,529,455	13.8%
Employment	1,285,052	1,452,506	13.0%
GVA	£62,661,109,190	£137,899,179,180	120.1%
Transport metrics			
Car trips	5,752,416	7,197,070	25.1%
Rail trips	231,862	300,925	29.8%
Bus trips	505,304	650,580	28.8%
Active travel trips	1,954,832	1,850,617	(5.3%)

All outputs of the modelling of Packages of Interventions included in this study are presented as comparisons against the Business As Usual metrics, as presented in **Table 2.1** above.

Further information about how SEELUM was developed and used to model Packages of Interventions for this study is provided in Part 3 (Economic Dimension).





## Part 2d

# Strategic Vision and Objectives

# Vision

TfSE has published a Transport Strategy for the South East that sets a bold vision for 2050. The Solent and Sussex Coast Study Working Group and TfSE have also agreed a Vision for the Solent and Sussex Coast Area. These are set out below.

## TfSE Vision

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.

## Solent and Sussex Coast Vision

We will leverage technology, behavioural change policies, integrated planning policies, and interventions in the Solent and Sussex Coast Area's transport, energy, and digital networks to deliver sustainable economic growth and improved socioeconomic outcomes for the area's residents, businesses, and visitors.

We will prioritise interventions in transport, digital, and energy networks that:

- decarbonise the transport system and support the principles of environmental net gain;
- deliver strategic and local access and connectivity to ensure the needs of the area's residents, business, and visitors are met; and
- provide holistic solutions that support the development of sustainable communities, improve the health of residents, and enhance the successful qualities of the area.

We will use innovative and exemplar delivery models, schemes, and investment packages that – through tailored governance and funding models – support integrated high-quality, reliable, safe and accessible transport networks.

We will ensure the Solent and Sussex Coast Area is best placed to respond to the challenges of recovering from the COVID-19 pandemic, adapting to new trading arrangements with the European Union, and fighting the climate crisis.

# Objectives (1 of 2)

In alignment with TAG, **objectives** have been established for what the investment sets out to achieve. A high performing, multi-modal transport system will ensure this study helps deliver the following six objectives:

## Climate Change

The study area’s transport systems will move to net zero carbon and minimise disruption from climate change 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.

## Safety

The study area’s transport systems will be safe for all users and will give them confidence and security to walk on, or cycle on, or cross any of the area’s highways. We will do this by:

- Providing a safe road network with high-quality, fully connected, segregated infrastructure (where appropriate) that helps people overcome their fears of walking and cycling; and
- Prioritising vulnerable users over less vulnerable users where there are conflicts.

## Health and Wellbeing

The study area’s transport systems will minimise adverse impacts on human health and promote healthy living by:

- Developing transport networks that minimise any adverse impacts of transport on human health – including noise and poor air quality;
- Reducing the impact of existing transport networks and traffic on noise, air quality, and human health; and
- Encouraging active leisure activities that promote healthy lifestyles.

## Objectives (2 of 2)

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

### Economy

The study area's transport systems will boost prosperity for all and reduce the disparity in socioeconomic outcomes. It will do so in a sustainable manner, and not at "any cost" to society and the environment. It will achieve this by:

- Boosting productivity through better skills matching, knowledge sharing and agglomeration;
- Improving transport network efficiency, reliability, and resilience;
- Ensuring digital and energy networks can meet future transport needs;
- Reducing costs for businesses; and
- Attracting investment in high growth, high value opportunities.

### Society

The study area's transport systems will enable better and more equitable socioeconomic outcomes:

- Supporting better place-making and creating new sustainable communities;
- Enabling residents to easily access employment, affordable housing and services – particularly for those who do not have access to a car;
- Increasing the affordability of convenient, high quality, active travel and public transport options;
- Improving access for all members of society, especially individuals with additional needs; and
- Enabling deprived communities to attract investment and achieve more equitable socioeconomic outcomes.

### Natural and Historic Environment

The study area's transport systems will protect and enhance the natural and historic environment by:

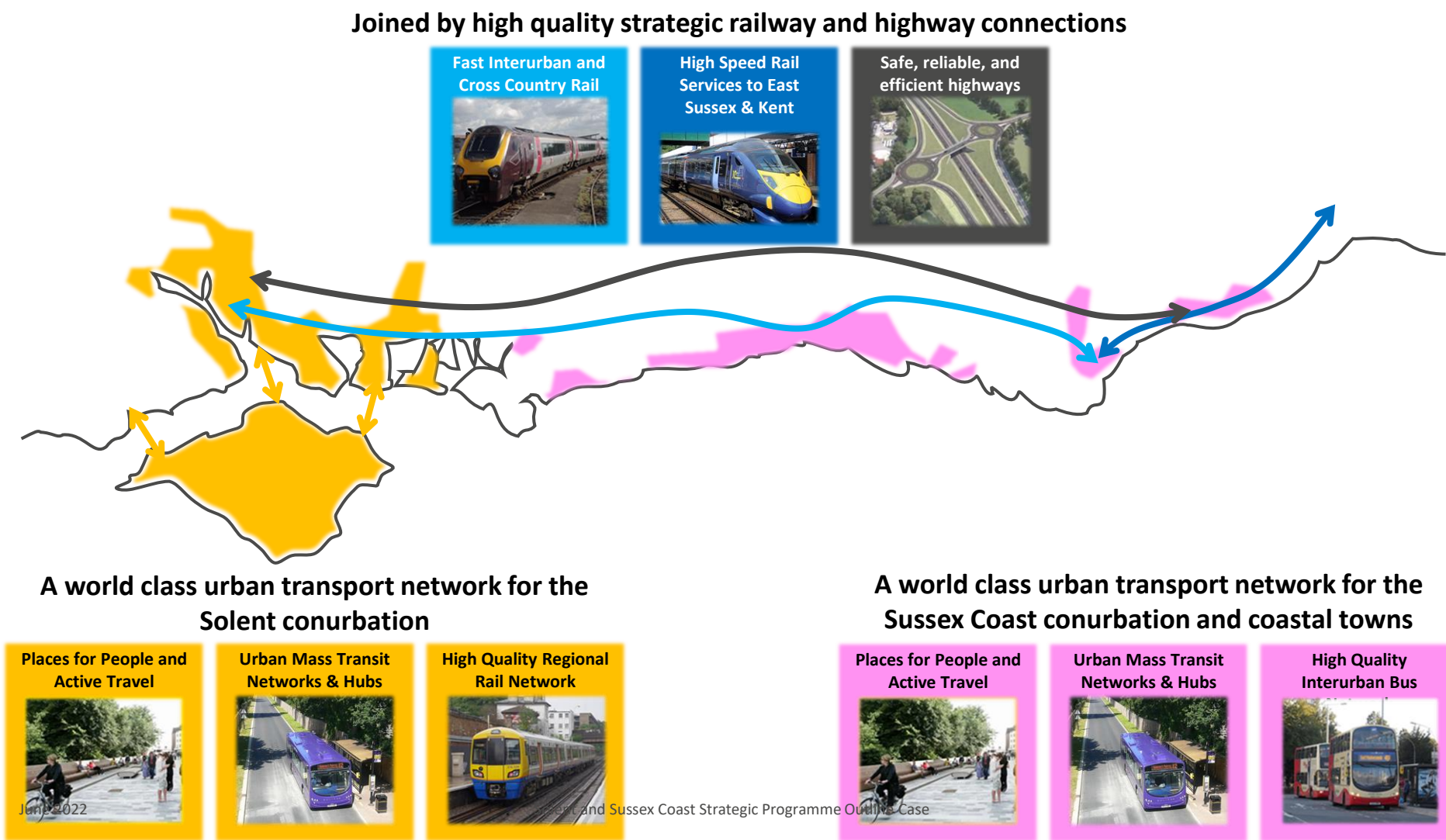
- Adopting the principles of environmental net gain;
- Avoiding interventions that significantly and permanently undermine protected environments, in particular landscape, historic and ecological designations;
- Reducing the impact of transport operations on ecosystem services; and
- Improving public and active transport access to natural, protected, and historic environments.



# Vision for the Solent and Sussex Coast

By the year 2050 the two conurbations of the Solent and Sussex Coast will be served by world class urban mass transit systems and will be an attractive environment for active travel. Both conurbations will be joined together by high-quality rail, ferry and highway infrastructure that are sensitive to the area’s outstanding natural and historic environment. This will deliver sustainable and equitable economic growth for the area’s residents and businesses. This is shown in **Figure 2.33**.

**Figure 2.33: Vision for the Solent and Sussex Coast Area’s transport system**



# Strategic Themes

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## Multi modal solutions

**Transport is too often planned, funded and delivered within modal silos. TfSE and its partners propose a multi modal solution which takes account of complementarities between modes, but also integrates demand management and wider policy measures.**

Our vision acknowledges that people do not think about modes of transport that make up their journey, they think about the journey as a whole. Our vision is for a transport network that enables seamless trips: a faster and more reliable strategic network paired with improvements to first mile last mile connectivity.

Our vision is for the current transport network to better serve different people journey purposes and modes. Improvements to the highway network, for instance, will improve car trips but will also enable faster and more frequent mass transit and increased active travel participation.

This vision seeks a move away from modally siloed planning, governance and funding, to a multi modal transport solution.

## Climate Change and Sustainability

**Transport has a crucial role to play in delivering on environmental, social and economic goals. This vision seeks to address these goals by supporting people to shift to more sustainable modes.**

Transport accounts for a more than a quarter of the UK's carbons emissions. With faster, safer and more reliable rail, bus and active travel journeys, our vision seeks to increase the attractiveness of transport modes which have a positive impact on the environment.

Our vision acknowledges issues of deprivation and affordability and promotes sustainable transport interventions to improve connectivity to housing and employment locations.

We have also identified opportunities where transport can stimulate regeneration and placemaking. For instance, we propose moving some strategic highway routes away from a town centres, enabling a more people-friendly urban realm to be created and a step change in the quality of place.

The rest of this section sets out the key strategic themes of the Solent and Sussex Coast vision.

## East – West Connectivity

**The Solent and Sussex Coast's key interurban railway is slow and uncompetitive with car, while its key highway is unable to adequately perform its strategic role. TfSE and its partners propose a vision which addresses these issues, increasing social and economic interaction between neighbouring towns.**

Some of the largest towns and cities in the area are located on the Solent and Sussex Coast. Improved multi modal connectivity will bring these towns and cities closer together with improvements to the railway reducing journey times between Brighton, Chichester, Portsmouth and Southampton, and measures on the A27 increasing journey time reliability.

These coastal corridors also serve a local function which is currently inhibited. Enhancements to suburban rail services focused on these major centres as well as MRT and inter-urban bus service improvements will ensure that residents of this area can more sustainably access employment and vital services.

# Strategic Themes

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## World Class Mass Transit Systems

The South East area is home to several urban conurbations which are large enough and dense enough to support world class mass transit systems. Our vision will deliver the quality of provision to stimulate a step change in sustainable transport mode share.

Building on the success of existing bus systems in Southampton, Portsmouth and Brighton & Hove, our vision is for MRT systems offering greater levels of segregation and bus priority, improved journey times, higher quality buses and where good interchange opportunities are available, strategic mobility hubs.

In other parts of the area where segregated MRT is not appropriate, our vision is for increased inter-urban bus frequencies and bus priority at key junctions and pinch points to safeguard journey time reliability.

Complementing land-based Mass Transit, water transport will be improved with transformational changes to ferry services to the Isle of Wight, including increased frequency of services, extending hours of operation, opening new routes and subsidising ferry fares.

## Regeneration and Growth

The Solent and Sussex Coast is expected to accommodate significant housing and commercial development growth. This includes substantial City and Town Centre regeneration ambitions. Our vision will ensure the transport network can **sustainably accommodate this growth.**

Development growth will be accommodated through an increase in transport provision across multiple modes, including:

- Rail improvements transforming journey times between Southampton and Portsmouth and faster trips along the whole West Coastway;
- Brighton & Hove, Southampton and Portsmouth being connected into Mass Transit Networks facilitating faster and more reliable journeys within these conurbations;
- Highway improvements that de-conflict local and longer-distance traffic, enabling development by improving the quality of place within built up areas.

This multi modal approach will support sustainable regeneration across the Solent and Sussex Coast.

## Levelling Up Left Behind Communities

The Solent and South Coast Area has some of the poorest socioeconomic outcomes in South East England. Our vision seeks to improve these outcomes, levelling up of some of the most deprived communities in our area.

These indicators are often most pronounced in coastal and estuarine parts of the area and there are many reasons why they are performing less well than others. While poor transport connectivity is not the only issue at play, it is almost certainly contributing to poor socioeconomic outcomes in places like Isle of Wight, Eastbourne and Hastings.

Our vision includes interventions to support significant east west and north south rail journey time improvements to coastal communities in Hastings, Eastbourne, Portsmouth. ensuring they are as well served as other parts of the area.

These improvements will be complemented by new and improved bus-based and water-based mass transit along the Solent and Sussex Coast which will increase connectivity to more isolated areas, better distributing the impacts of the area's larger centres.



## Part 2e

# Packages of Interventions



# Combined Multi-Modal Approach to Package Development

## A Top Down and Bottom Up View

TfSE has worked with key stakeholders and technical advisors to develop a set of coherent multi-modal Packages that, together, are designed to deliver TfSE's vision and objectives for the Solent and Sussex Coast Area.

These Packages have been developed through workshops, discussions, and careful analysis of results of the assessment of the long list of multi-modal interventions described earlier.

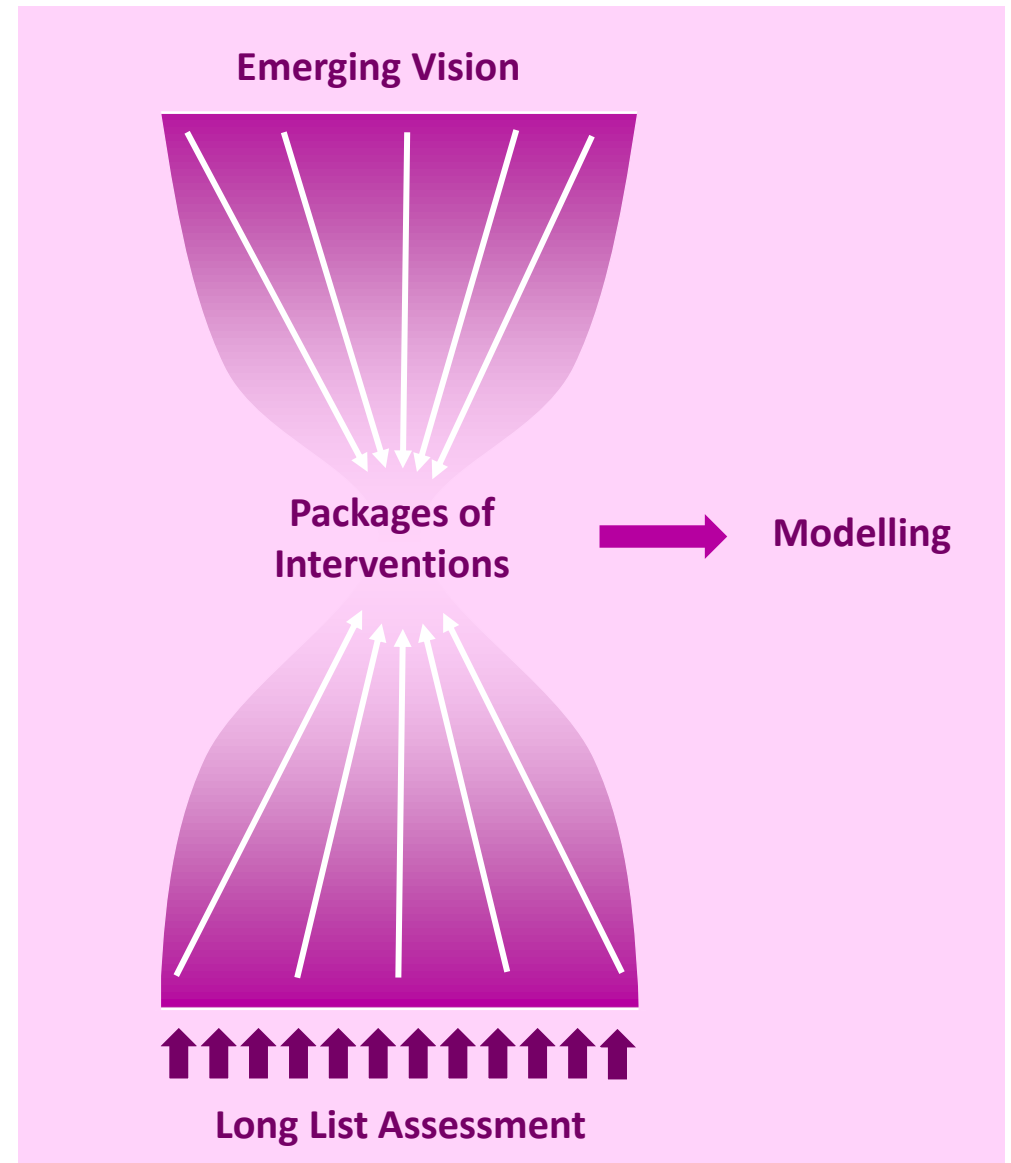
The Packages combine an overarching vision for the Solent and Sussex Coast Area with the results of the Multi Criteria Assessment Framework.

In essence, this reflects both a 'top down' i.e., vision led approach and a 'bottom up' i.e., individual intervention assessment approach. While planning has taken place considering multi-modal options and how Packages group and integrate, they are presented in the following narrative by mode or groups of modes. This is partly as a product of how they needed to be modelled, but also to talk directly to key stakeholders and modal-based planners of national networks (e.g. Network Rail and National Highways), and possible funding sources – often siloed.

**Figure 2.34** to the right illustrates the essence of this combined approach.

As discussed earlier, we have used a land use and transport interaction model to simulate the impacts of these Packages of Interventions. The results from this modelling exercise are presented in Part 3 (Economic Case). We also present summary outputs from our modelling on **pages 67 to 75**.

**Figure 2.34: Approach to Package development**



# Packages of Interventions

The OAR recommended eight Packages of Interventions to be included in the SPOC. These are listed below and described in detail in the following pages. This details the scope of the intervention and summarises its strategic benefits.

## Package A: South Hampshire Rail (Core)

<b>A1</b>	Solent Connectivity Strategic Study
<b>A1a</b>	Botley Line Double Tracking
<b>A1b</b>	Netley Line Signalling and Rail Service Enhancements
<b>A1c</b>	Fareham Loop / Platform
<b>A1d</b>	Portsmouth Station Platforms
<b>A1e</b>	South West Main Line - Totton Level Crossing Removal
<b>A1f</b>	Southampton Central Station Upgrade and Timetabling
<b>A1g</b>	Eastleigh Station Platform and Approach Flyover Enhancement
<b>A2</b>	Waterside Branch Line - Reopening and Electrification
<b>A3</b>	West of England Service Enhancements
<b>A4</b>	Additional Rail Freight Paths to Southampton

## Package B: South Hampshire Rail (Enhanced)

<b>B1</b>	Southampton Central Station - Woolston Crossing
<b>B2</b>	New Southampton Central Station
<b>B3</b>	New City Centre Station
<b>B4</b>	South West Main Line - Mount Pleasant Level Crossing Removal
<b>B5</b>	West Coastway Line - Farnham to Cosham Capacity Enhancements
<b>B6</b>	West Coastway Line - Cosham Station Relocation
<b>B7</b>	Eastleigh to Romsey Line - Electrification
<b>B8</b>	Havant Rail Freight Hub
<b>B9</b>	Fratton Rail Freight Hub
<b>B10</b>	Southampton Container Port Rail Freight Access and Loading Upgrades
<b>B11</b>	Southampton Automotive Port Rail Freight Access and Loading Upgrades

## Package C: South Hampshire Mass Transit

<b>C1</b>	Southampton Mass Transit
<b>C2</b>	South East Hampshire Rapid Transit
<b>C3</b>	New Southampton to Fawley Waterside Ferry Service
<b>C4</b>	Southampton Cruise Terminal Access for Mass Transit
<b>C5</b>	M271 Junction 1 Strategic Mobility Hub
<b>C6</b>	M27 Junction 5 / Southampton Airport Strategic Mobility Hub
<b>C7</b>	M27 Junction 7/8 Strategic Mobility Hub
<b>C8</b>	M27 Junction 9 Strategic Mobility Hub
<b>C9</b>	M275 Junction 1 Strategic Mobility Hub
<b>C10</b>	Clarence Pier Bus-Hovercraft Interchange
<b>C11</b>	Improved Gosport - Portsmouth and Portsmouth - Hayling Island Ferries

## Package D: IoW Connectivity

<b>D1</b>	New Isle of Wight Mass Transit System and Active Travel Enhancements
<b>D1a</b>	Bus Mass Transit - Newport to Yarmouth
<b>D1b</b>	Bus Mass Transit - Newport to Ryde
<b>D1c</b>	Bus Mass Transit - Newport to Cowes
<b>D1d</b>	Isle of Wight Railway Service Enhancements
<b>D1e</b>	Isle of Wight Railway Extensions - Shanklin to Ventnor
<b>D1f</b>	Isle of Wight Railway Extensions - Shanklin to Newport (or Mass Transit alternative)
<b>D2</b>	Isle of Wight Ferry Service Enhancements
<b>D2a</b>	Operating Hours and Frequency Enhancements
<b>D2b</b>	New Summer Route - Ryde to Southampton

## Package E: South Hampshire Active Travel

<b>E1</b>	Solent Active Travel (including LCWIPs)
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## Package F: Sussex Coast Rail

<b>F1</b>	West Coastway Strategic Study
<b>F2</b>	West Worthing Level Crossing Removal

## Package G: Sussex Coast Mass Transit

<b>G1</b>	Shoreham Strategic Mobility Hub
<b>G2</b>	A27/A23 Patcham Interchange Strategic Mobility Hub
<b>G3</b>	Falmer Strategic Mobility Hub
<b>G4</b>	Eastbourne/Polegate Strategic Mobility Hub
<b>G5</b>	Sussex Coast Mass Rapid Transit
<b>G6</b>	Eastbourne/Wealden Mass Rapid Transit
<b>G7</b>	Hastings/Bexhill Mass Rapid Transit
<b>G8</b>	A27 Falmer - Polegate Bus Stop and Layby Improvements

## Package H: Sussex Coast Active Travel

<b>H1</b>	Sussex Coast Active Travel Enhancements (including LCWIPs)
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## Package I: Solent and Sussex Coast Highways

<b>I1</b>	M27 Junction 8 (RIS2)	<b>I20</b>	A27 Tangmere Junction Enhancements
<b>I2</b>	A31 Ringwood (RIS2)	<b>I21</b>	A27 Fontwell Junction Enhancements
<b>I3</b>	A27 Arundel Bypass (RIS2)	<b>I22</b>	A27 Worthing (Long Term Solution)
<b>I4</b>	A27 Worthing and Lancing Improvement (RIS2)	<b>I23</b>	A27 Hangleton Junction Enhancements
<b>I5</b>	A27 East of Lewes Package (RIS2)	<b>I24</b>	A27 Devils Dyke Junction Enhancements
<b>I6</b>	Southampton Access (M27 Junction 2 and Junction 3) (RIS3 Pipeline)	<b>I25</b>	A27 Falmer Junction Enhancements
<b>I7</b>	A27 Lewes - Polegate (RIS3 Pipeline)	<b>I26</b>	A27 Hollingbury Junction Enhancements
<b>I8</b>	A27 Chichester Improvements (RIS3 Pipeline)		
<b>I9</b>	A326 Capacity Enhancements (LLM)		
<b>I10</b>	West Quay Realignment (LLM)		
<b>I11</b>	Portsmouth City Centre Road (LLM)		
<b>I12</b>	Northam Rail Bridge Replacement and Enhancement (MRN)		
<b>I13</b>	New Horsea Bridge and Tipner Bridge		
<b>I14</b>	A259 Bognor Regis to Littlehampton Enhancement (MRN)		
<b>I15</b>	A259 South Coast Road Corridor - Eastbourne to Brighton (MRN)		
<b>I16</b>	A259 Chichester to Bognor Regis Enhancement (MRN Pipeline)		
<b>I17</b>	A259 (King's Road) Seafront Highway Structures Renewal Programme (MRN Pipeline)		
<b>I18</b>	A29 Realignment including combined Cycleway and Footway		
<b>I19</b>	M27/M271/M275 Smart Motorway(s)		

**Global Policy Packages:** Decarbonisation, Public Transport Fares, Road User Charging, New Mobility, Virtual Living, and Integration and Access

# Package A: South Hampshire Rail (Core)

## Overview

**Network Rail, Solent Transport, and the Solent Authorities have developed a comprehensive package of interventions that will deliver improvements to urban and inter-urban rail journeys.**

These form part of the Solent Connectivity Strategic Study (formerly the Solent Continuous Modular Strategic Plan), the main objective of which is to deliver additional local rail services so that most of the stations in the area currently served by infrequent one train per hour (1tph) services get a much more frequent "semi metro" 2 to 3tph (or perhaps "metro" 4tph) service frequency.

The plan includes interventions such as the provision of an additional through line / overtaking line at Fareham, increasing capacity on the Botley line to twin tracks, adding platform capacity at Portsmouth Harbour, signalling improvements on the Netley Line, and timetable changes to maximise capacity at Southampton Central.

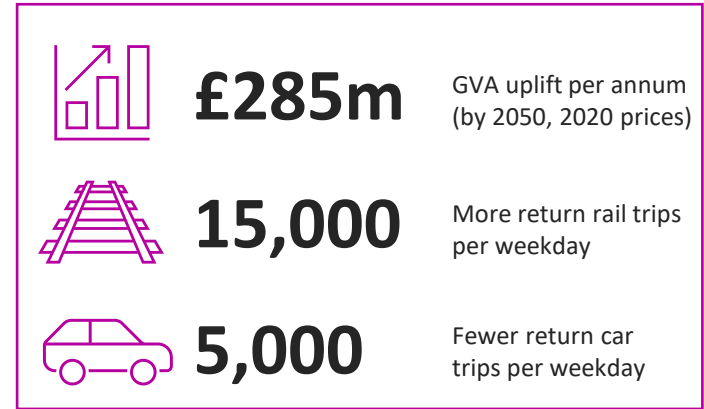
A key enabler to the plan is the provision of sidings at Totton and a solution to a level crossing constraint in this area. This would then allow many local trains from Southampton to be run on to Totton for two reasons: 1) to reduce platform demand/improve capacity at Southampton Central by having fewer trains terminate there, and 2) to improve service to Totton which is currently under-served.

The Solent Connectivity Strategic Study will also complement passenger rail services to be introduced to the Fawley Branch Line and serve a large planned development in this area. While alternative uses for this railway have been explored, there appears to be consensus that this corridor should develop as (an ideally electrified) heavy rail service. Ferries could also complement this service.

## Benefits

- **Capacity** enhancements across the whole Solent conurbation
- Improvements in **service frequencies**, especially for urban metro services
- Better **interchange** and **service quality** at Southampton Central station
- More new and growing communities will have **access** to the national rail network

## Modelling Results



# Package A: South Hampshire Rail (Core)





# Package B: South Hampshire Rail (Enhanced)

## Overview

Building on the core package, TfSE’s strategic studies have a horizon as far as 2050 and an ambition to deliver transformational change in sustainable travel options across South Hampshire. Solent Transport and Local Transport Authorities have previously stated an ambition to deliver a level of service on urban metro routes comparable to suburban London, akin to four trains per hour – a “metro” level of service.




There are also aspirations to grow freight and provide better connectivity between South Hampshire, the West of England, the Midlands, and beyond. This requires more capacity than the current network can provide. The key bottleneck preventing this from being realised is the tunnel between Southampton Central and St Denys.

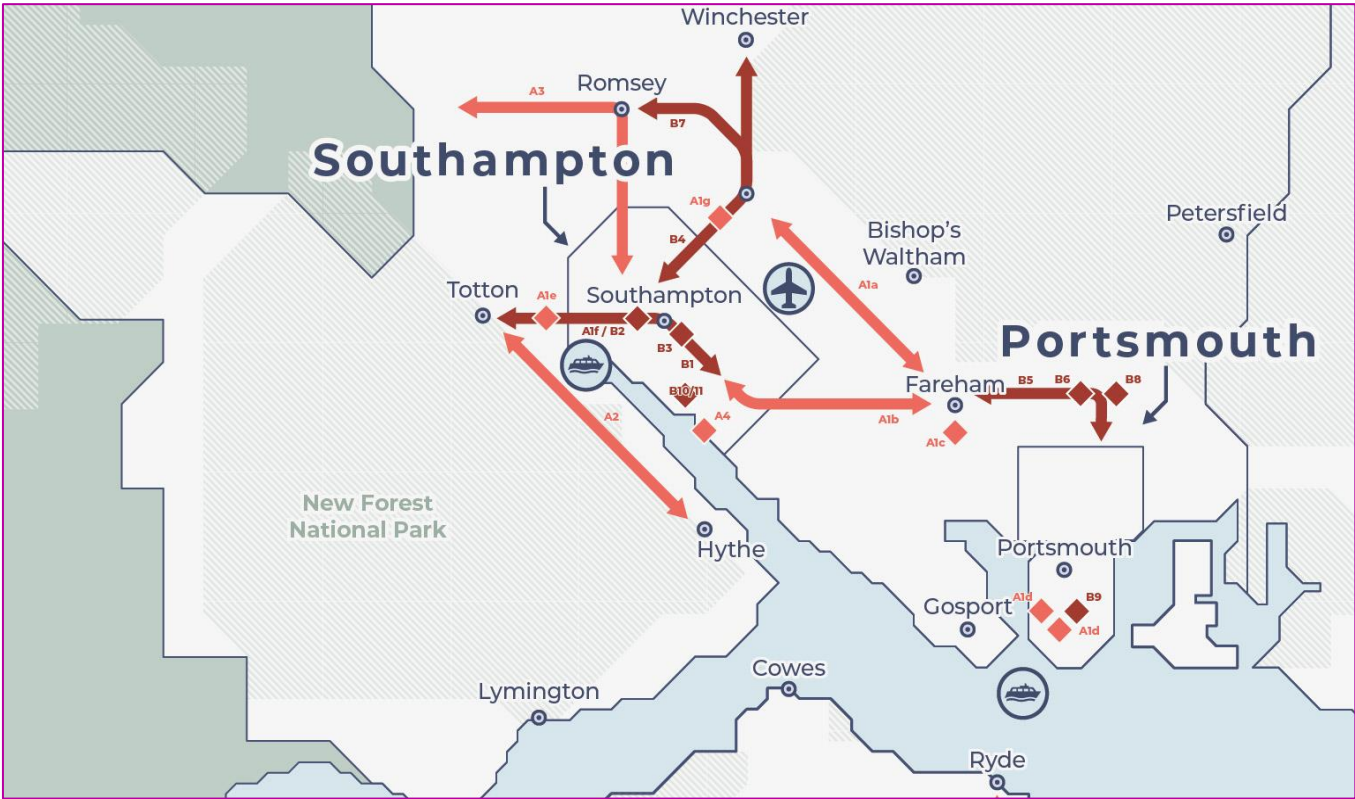
TfSE has worked with key stakeholders to develop a longer-term package of scheme that unlock significant capacity and shorter journey times between Southampton and Portsmouth City Centres. This could include a potential new underground link between Southampton Central and the Netley Line providing a more direct route and deconflicting north-south and east-west rail movements.

## Benefits

- Transformational capacity and connectivity benefits – especially on east-west rail journeys (30 – 35 minute Southampton – Portsmouth journeys)
- Supports regeneration of Southampton City Centre and other growth areas
- Significant boost to GVA in a relatively deprived part of the South East
- Large reduction in carbon emissions.

## Modelling Results (additional to core)

	<b>£305m</b>	GVA uplift per annum (by 2050, 2020 prices)
	<b>15,000</b>	More return rail trips per weekday
	<b>5,000</b>	Fewer return car trips per weekday



# Package C: South Hampshire Mass Transit

## Overview

TfSE and the Area Study Working Group believe the South Hampshire conurbation is large enough and dense enough to support world class mass transit systems.

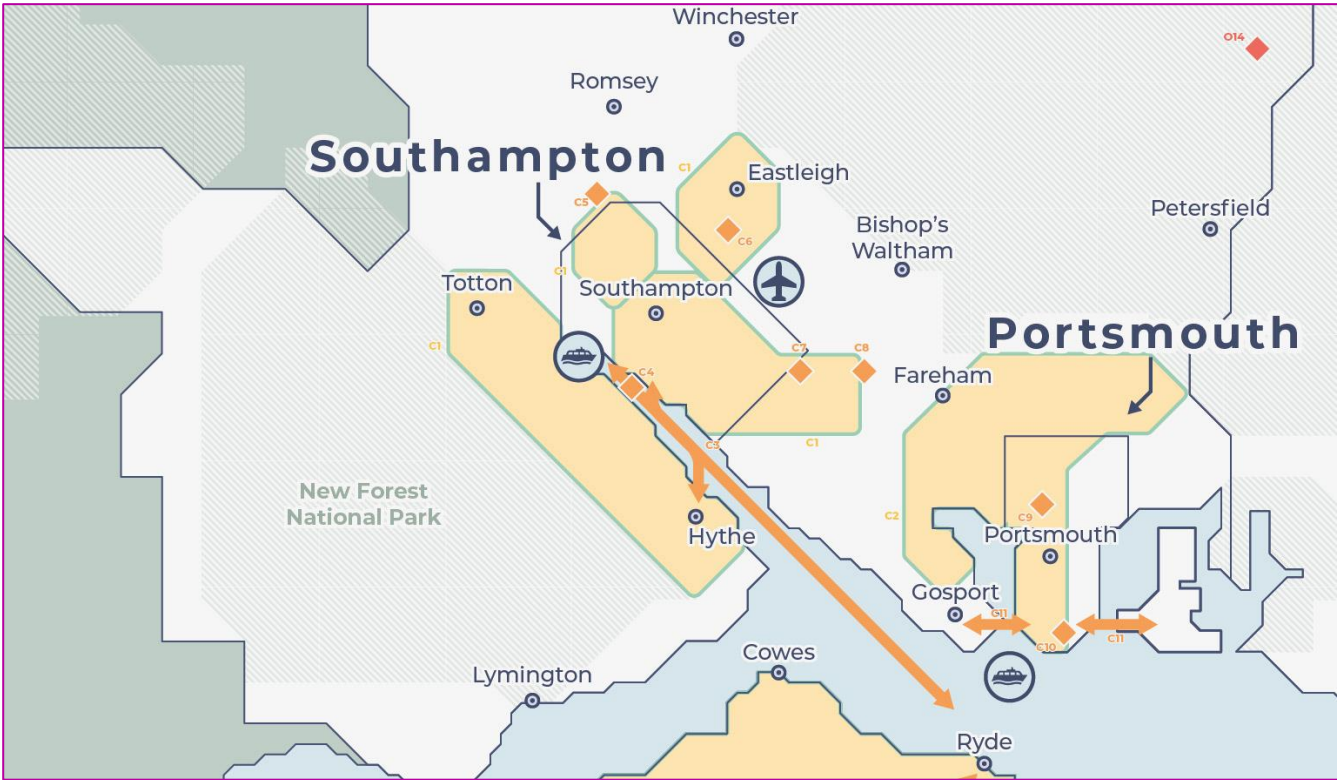
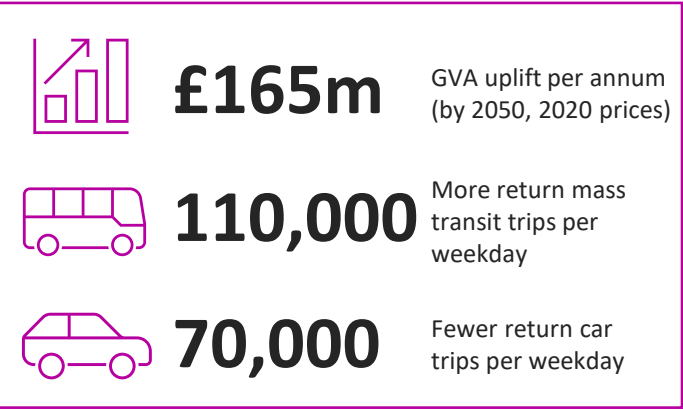
Portsmouth City Council are developing and delivering a comprehensive high quality Bus Rapid Transit that will serve the Portsmouth City Region. Southampton City Council also aspire to develop a Mass Transit System for their city region – which could take the form of Light Rail Transit, tram-train, Bus Rapid Transit, and/or ferries (and terminal facilities).

Both mass transit systems will be supported by a high-quality urban rail service (see packages for core and enhanced rail in South Hampshire) and, where good interchange opportunities are available, strategic mobility hubs. These hubs should provide interchange across a range of modes including active travel and new mobility choices, as well as having the potential for the co-location of services and potentially new development and enhanced public realm to improve place-making. This package includes interventions to improve access for peninsulas/islands, in particular, through improving and expanding ferry services.

## Benefits

- Transformation improvement in the quality, speed, and frequency of mass transit services in the Solent
- Better interchange and service quality at Strategic Mobility Hubs
- Improvements in connectivity between islands and peninsulas in the Solent
- Significant mode shift from car to bus, ferry, and tram, and enhance place-making

## Modelling Results



# Package E: South Hampshire Active Travel

## Overview

All three Local Transport Authorities in the Solent have ambitious plans to improve cycling and walking in their areas. This ambition is supported by this study.

Active travel interventions across South Hampshire support a number of key priorities, including reducing congestion, helping to tack climate change, improving air quality, and supporting placemaking - creating high-quality attractive, liveable towns and cities.

Enhanced infrastructure also benefits bike hire schemes, e-bikes and e-scooters.

Several highway interventions – including the Southampton West Quay Road scheme – will unlock opportunities for pedestrians and cyclists by freeing up more public space in town and city centres.

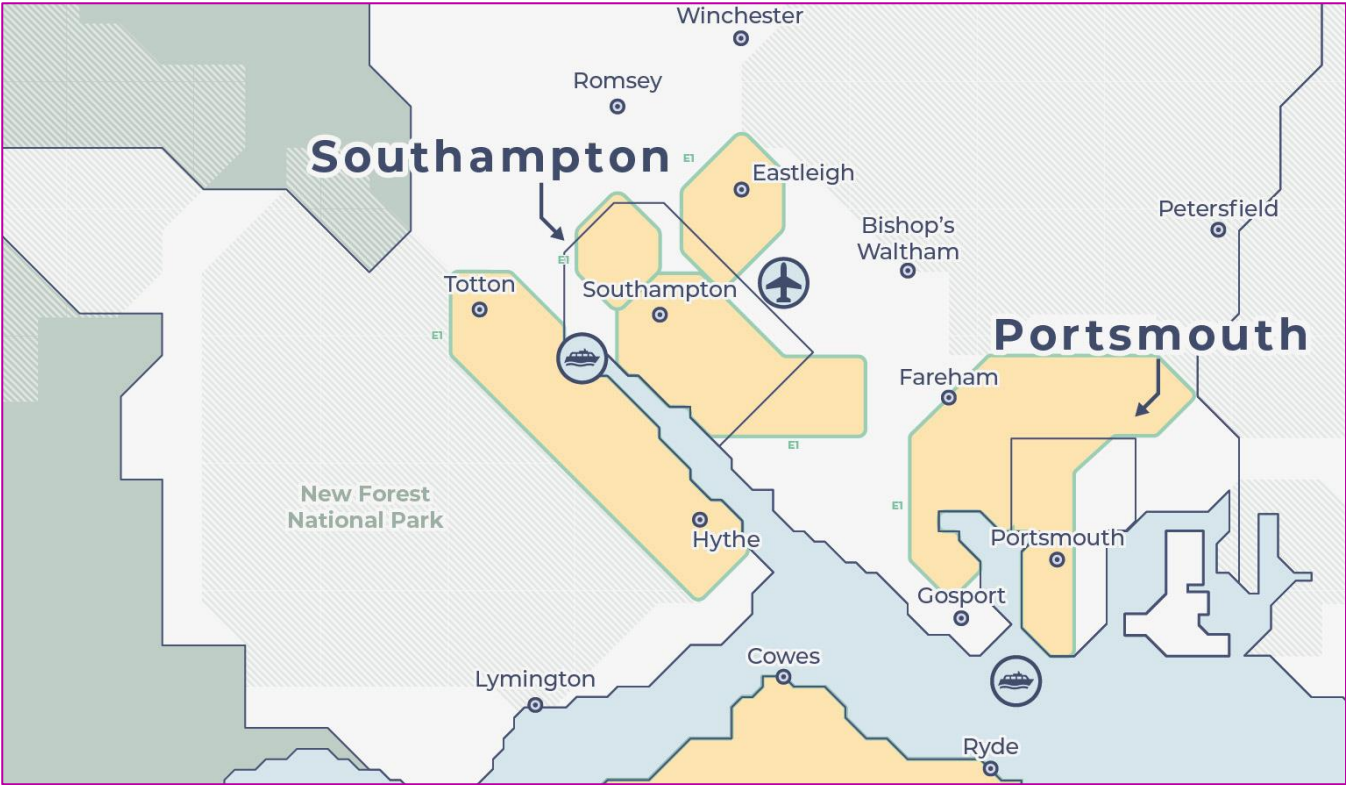
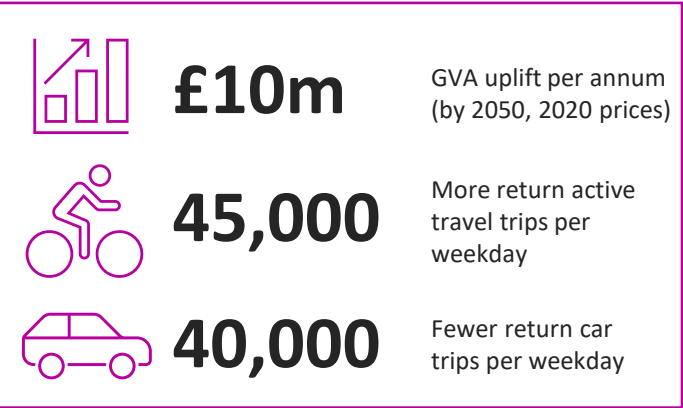
The Portsmouth Clean Air Zone (CAZ) is also identified. Whilst being delivered, it is held up as good practice, a model to be built upon by other authorities as well as expanded within Portsmouth.

As with all sustainable mode packages, behaviour change interventions, locally, are required to optimise benefits.

## Benefits

- **Material improvements to the urban realm** of the Solent Built Up Area, unlocking active travel, placemaking and regeneration/development opportunities
- Improvements in **air quality** in urban areas
- Significant **mode shift** from car to active travel, with associated health benefits

## Modelling Results





# Package D: Isle of Wight Connectivity

## Overview

TfSE believe the Isle of Wight has the characteristics to support a high-quality, integrated mass transit system.

TfSE and key stakeholders have identified a package of interventions aimed at improving connectivity between the Isle of Wight and the Mainland and improving connectivity within the Isle of Wight itself.

Stakeholders from the Isle of Wight and wider Solent region all raised opportunities to transform ferry services, through increasing frequency of services, extending hours of operation, more affordable ferry fares, and the possibility of new seasonal routes.

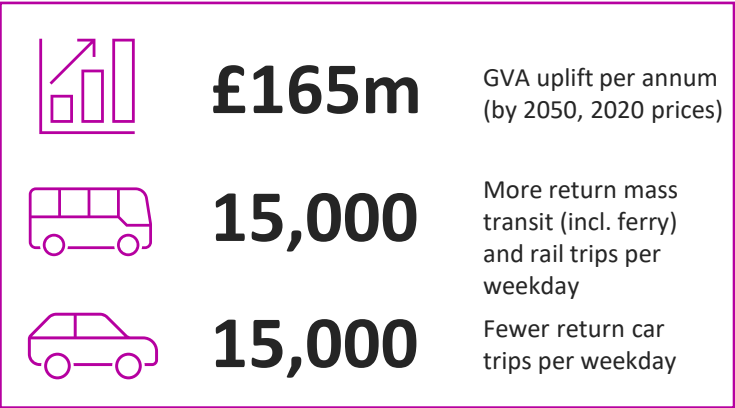
The Isle of Wight has the potential to be an exemplar for public transport given its size and unique characteristics.

With investment in ferries and public transport on the Island, there is opportunity to make the most of existing infrastructure by reinstating disused railways and complementing rail with a bus-based Mass Transit system connecting key destinations across the Island including ferry terminals and tourism hotspots and delivery of the LCWIP and island-wide segregated active travel routes.

## Benefits

- **Transformational improvement** in the quality, speed, and frequency of ferry services between the Isle of Wight and Mainland.
- **Seamless integration** between ferry and public transport on the mainland and the Isle of Wight supporting sustainable onward connectivity.

## Modelling Results





# Package F: Sussex Coast Rail

## Overview

**Network Rail has worked with Local Transport Authorities to develop a package of improvements for the West Coastway and East Coastway lines.**

The West Coastway Strategic Study (formerly Continuous Modular Strategic Planning), if delivered, would result in faster journeys and more capacity between Brighton and Hove and Southampton. However, there is not enough capacity to accommodate all stakeholder aspirations on this corridor.

The package identified here supports those interventions that best support inter-urban and long-distance journeys – those for which car alternatives have greatest emissions and other sustainable modes are less likely to provide attractive alternatives.

In the east of Sussex Coast area, a package (see Kent, Medway and East Sussex – High Speed Rail – East), includes extending high speed rail services off High Speed 1 at Ashford along an upgraded Marsh Link Line to Hastings, Bexhill and Eastbourne. This has the potential to almost half journey times between Hastings as London, as well as considerable improvements to more local, and inter-urban travel.

## Benefits

- **Faster journeys** between Brighton, Chichester, Portsmouth, and Southampton
- Potentially **more frequent longer distance services** between Brighton, Chichester, Portsmouth, and Southampton
- **Additional capacity** between Worthing and Brighton for shorter journeys

## Modelling Results (excl. High Speed services to Hastings, Bexhill and Eastbourne)



# Package G: Sussex Coast Mass Transit

## Overview

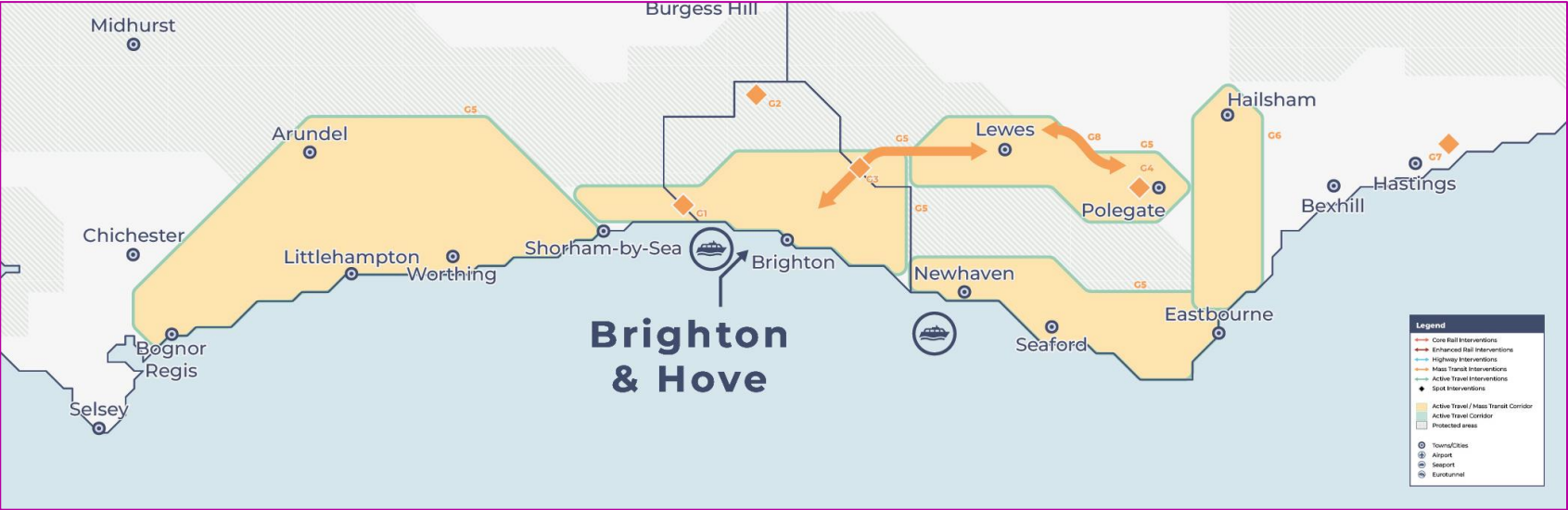
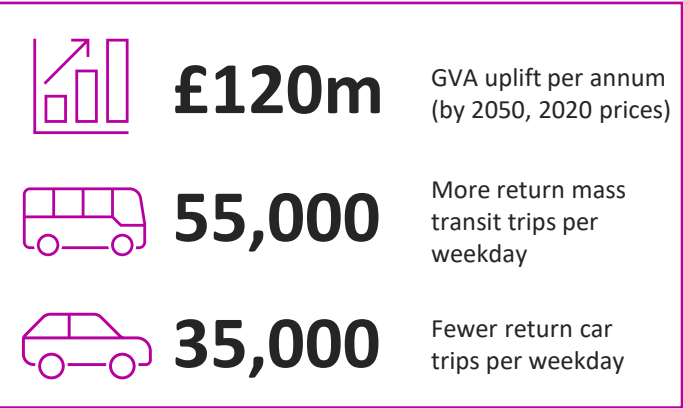
TfSE believes there is a strong case for high-quality mass transit on the Sussex Coast.

Brighton and Hove City Council is developing plans for a high-quality public transport system along the Brighton seafront, and how to best integrate all public transport across the city, including using strategic mobility hubs to intercept car trips heading into the city. Details are to be finalised, but the typology of the city lends itself strongly to Bus Rapid Transit. There are longer term options to extend or compliment this system in East and West Sussex. At this stage, extending in East Sussex appears to be more technically feasible than West Sussex where the focus is in on supporting the existing bus network. Additionally, there are proposals for improved mass transit infrastructure and services Eastbourne and Hastings.

## Benefits

- Significant improvement in the quality, speed, and frequency of mass transit services in Sussex Coast conurbation
- Better **interchange** and **service quality** at intermodal Strategic Mobility Hubs on the periphery of Brighton & Hove and, potentially, Eastbourne
- Significant mode shift from car to mass transit services

## Modelling Results



# Package H: Sussex Coast Active Travel

## Overview

All three Local Transport Authorities on the Sussex Coast have ambitious plans to improve cycling and walking in their areas. This is fully supported by this study.

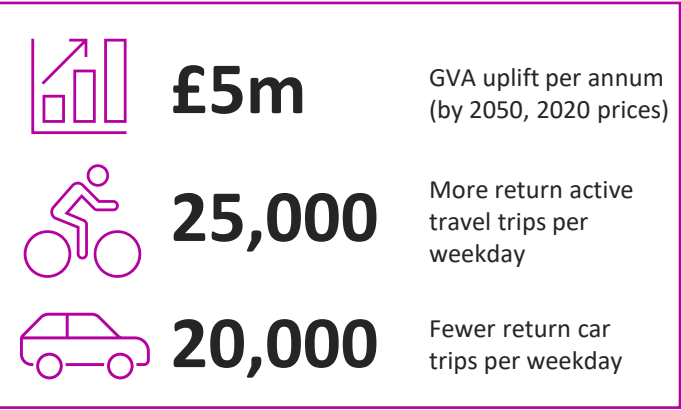
Within Brighton & Hove, there is a sizeable intervention to renew seafront structures to support active travel.

Several smaller scale highways interventions are also proposed to support housing growth along the Sussex Coast. Most of these interventions include public transport and active travel elements, such as those being proposed for the A29 between Bognor Regis and Littlehampton, and the A259 between Chichester and Bognor Regis.

## Benefits

- Material improvements to the urban realm of the Sussex Coast Built Up Area, unlocking active travel and regeneration opportunities
- Improvements in **air quality** in urban areas
- Significant **mode shift** from car to active travel, with associated health benefits

## Modelling Results



# Package I: Solent and Sussex Coast Highways

## Overview

**This package for the Solent to Sussex Coast area contains interventions that help deliver TfSE’s vision for a high-quality highway between the areas’ two largest conurbations.**

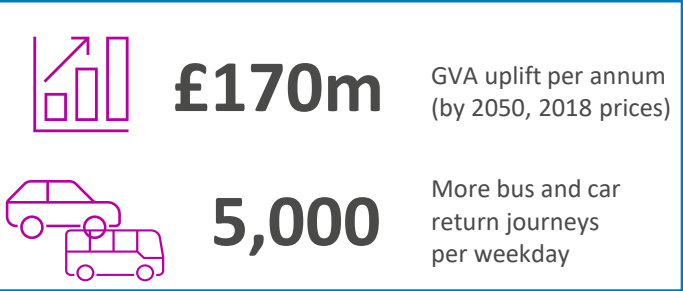
This does not necessarily mean delivering a grade separated dual carriageway – more modest interventions may be appropriate, but a priority is a long-term solution for Worthing. Addressing pinch-points along the A27, but not at Worthing, is likely to increase congestion in the town. Any highway intervention proposed in this package should be designed to de-conflict local and longer-distance traffic, and address safety and air quality issues. They should support (and be supported by) public transport and active travel improvements. Several interventions unlock opportunities to reallocate road-space to active travel and public transport.

This is reflected in modelling analysis that indicates these highways interventions could stimulate almost as many more bus trips on the A27 corridor as private car trips if supported by service enhancements.

The parallel A259 corridor provides a complimentary function alongside the A27 in providing access to coastal communities (Bognor and Littlehampton) from the SRN but also linking coastal communities (Brighton - Peacehaven - Newhaven - Seaford – Eastbourne – Bexhill – Hastings).

Southampton Access M27 Junctions and A326 Capacity Enhancements open up residential and commercial development (e.g. Fawley Waterside) and improve access to the Port of Southampton and the wider Solent Freeport and its growth.

## Modelling Results



## Benefits

- **Safer highways**, notably in urban areas
- **Faster, more reliable highway journeys** between Brighton and South Hampshire
- **Improved air quality** in urban areas
- Scope to **reallocate road-space to active travel and public transport**
- **Reduced impact of road traffic** on the South Downs National Park





# Global Policy Packages

## Overview

In addition to the location specific interventions, the Area Studies also identified a list of policy interventions that, in general, would apply across a large area (if not all) of South East England. These are known as Global Policy Interventions.

The Global Policy Interventions have been assessed separately to the Area Specific interventions by using a consistent framework for the whole of the South East to reduce a long list of typologies to the short list of proposed interventions.

In total, 57 interventions were assessed by a:

- **Strategic Assessment:** Each intervention was assessed against the 15 Priorities included in TfSE's Transport Strategy for South East England. These priorities were grouped and are presented on the following page.
- **Economic Assessment:** Each intervention was against the 18 Criteria included in the DfT's Early Assessment and Sifting Tool (EAST).

The best performing interventions were grouped into typologies and are listed below.

## Approach

They were sourced from:

- **Area Study Working Groups** – the Steering Groups formed of representatives from Local Transport Authorities, infrastructure providers, and other key stakeholders.
- **Area Study Forums** – workshops attended by a much larger group of stakeholders representing operators, user groups, planning authorities, environmental groups, and others with an interest in each area.
- **TfSE's Future Mobility Study** – this work was commissioned in parallel with the earlier stages of the Area Study Programme and has produced a Draft Final Report and short list of recommended interventions.
- **TfSE's Freight and International Gateways Study** – which has also produced a short list of recommended interventions that cut across the whole of the South East.
- **Client and Project Teams** – capturing other relevant interventions

## Short Listed Global Policy Interventions

The Global Policy Packages are:

1. **Decarbonisation:** This delivers a faster trajectory towards net-zero than current trends are expected to yield.
2. **Public Transport Fares:** This reverses the real terms increase in the cost of public transport compared to motoring.
3. **Road User Charging:** This assumes the UK government develops a national road user charging system to replace funding currently raised from fuel duty,
4. **New Mobility:** This reflects the potential for new mobility (e.g., electric bikes) to boost active travel.
5. **Virtual Living:** The pandemic has shown how virtual working can help reduce demand for transport services.
6. **Integration and Access:** This delivers improvements in transport integration, and accessibility across and between all modes of transport. It also supports better integration between transport and spatial planning.



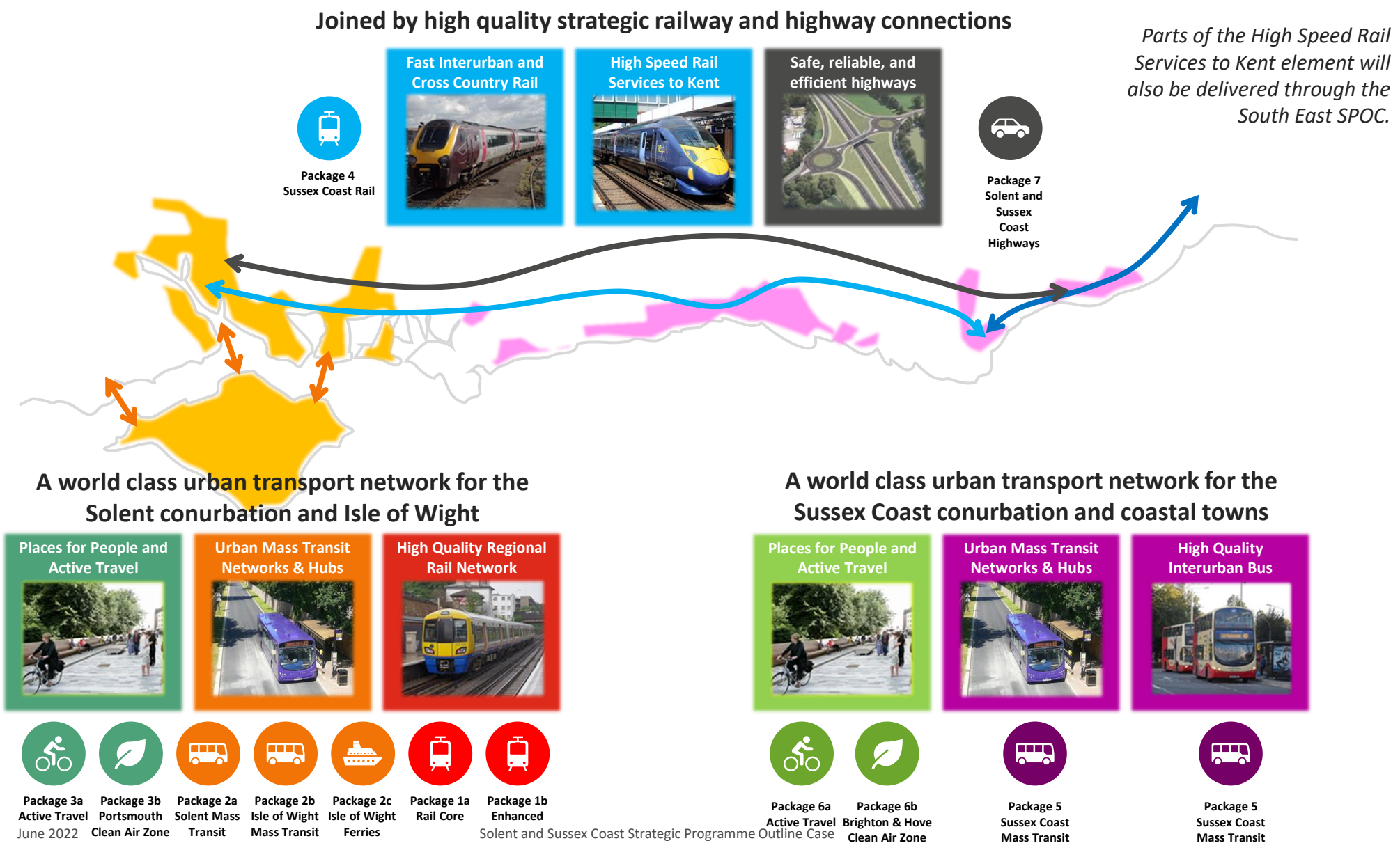
## Part 2f

# Theory of Change

# Delivering our Vision for the Solent and Sussex Coast

Figure 2.35 below summarises how each Package contributes to delivering our multi-modal vision for the Solent and Sussex Coast.

Figure 2.35: Vision for the Solent and Sussex Coast Area’s transport system



# Package Alignment to Problem Statements and Objectives

## Alignment with Problem Statements

Part 2b sets out the 25 Problem Statements that this SPOC aims to address.

Table 2.2 on the following page presents a qualitative assessment on the extent to which each Package of Interventions address each Problem Statement.

This assessment uses a simple scale, as shown below:

- ✓✓✓ Fully addresses Problem Statement
- ✓✓ Mostly addresses Problem Statement
- ✓ Partially addresses Problem Statement

Table 2.3 includes a column on the right under the heading ‘All Packages’. The scores in this column represent the highest score assigned to each of the individual packages. If one package scores two ticks and all other packages score none, then the column ‘All Packages’ is also assigned two ticks.

Table 2.3 (overleaf) shows that – when Global Policies are included – all Problem Statements are addressed by the Packages presented in this report. It also shows that no single intervention or Package addresses all the problems, subsequently requiring a multi-modal solution.

## Theory of Change Framework

We have also mapped the Packages of Interventions to a Theory of Change Framework.

This framework includes:

- Issues:** What problems does the package of intervention address and what objectives does it hope to achieve?
- Inputs:** What resources are needed to deliver the changes required to address the issues described above?
- Outputs:** What will be the direct outputs of the inputs described above?
- Outcomes:** What are the effects of the outputs?
- Impacts:** What are the wider socioeconomic impacts delivered by the outcomes?

The Theory of Change Framework is presented in Tables 2.3 to 2.7 overleaf with examples of how the Packages of Interventions address the multi-modal elements of the framework.

It demonstrates that together the Packages in the SPOC deliver **strategic benefits** to achieve the study’s **multi-modal objectives**. All of the Packages are required in conjunction with one another for maximum success in delivering positive outcomes.



**Table 2.2: Problem Statement Mapping to Packages**

Problem Statement	1a South Hampshire Rail (Core)	1b South Hampshire Rail (Enhanced)	2 Solent Mass Transit	3a Solent Active Travel	3b Portsmouth Clean Air Zone	4 Sussex Coast Rail	5 Sussex Coast Mass Transit	6a Sussex Coast Active Travel	6b Brighton & Hove Clean Air Zone	7 Solent and Sussex Coast Highways	8 Global Policies	All Packages
Decarbonisation	✓	✓	✓✓✓	✓✓	✓✓	✓	✓✓✓	✓✓✓	✓✓		✓✓✓	✓✓✓
Climate resilience	✓	✓✓	✓	✓	✓	✓✓	✓	✓	✓	✓✓	✓✓✓	✓✓✓
Freight reliance/highways	✓✓	✓✓✓		✓	✓✓✓	✓✓			✓			✓✓✓
Socioeconomic outcomes	✓✓	✓✓✓	✓✓			✓	✓✓	✓✓		✓✓✓	✓✓	✓✓✓
Housing	✓✓	✓✓✓	✓✓			✓	✓✓	✓✓		✓✓✓		✓✓✓
New mobility technologies	✓	✓	✓	✓✓		✓	✓	✓	✓✓		✓✓✓	✓✓✓
Coastal connectivity	✓✓	✓✓	✓✓✓	✓✓		✓	✓✓✓	✓✓✓	✓✓	✓✓		✓✓✓
Island and peninsulas	✓✓	✓✓✓	✓✓	✓		✓✓	✓✓	✓✓	✓	✓✓		✓✓✓
Rural connectivity	✓	✓	✓✓			✓	✓✓	✓✓		✓	✓✓✓	✓✓✓
Accessibility	✓✓	✓✓✓	✓✓	✓✓		✓✓	✓✓	✓✓	✓✓	✓		✓✓✓
Isle of Wight connectivity			✓✓✓									✓✓✓
Affordability (general)	✓	✓	✓	✓✓		✓	✓	✓	✓✓		✓✓✓	✓✓✓
Affordability (Isle of Wight)											✓✓✓	✓✓✓
Cycle participation	✓	✓	✓	✓✓✓	✓✓✓	✓	✓	✓	✓✓✓	✓	✓✓	✓✓✓
Mass Transit	✓✓✓	✓✓✓	✓✓✓	✓	✓✓	✓✓✓	✓✓✓	✓✓✓	✓	✓		✓✓✓
Strategic Mobility Hubs	✓✓	✓✓	✓✓✓	✓	✓✓	✓✓	✓✓✓	✓✓✓	✓	✓✓		✓✓✓
Integration/information	✓	✓	✓			✓	✓	✓			✓✓✓	✓✓✓
Congestion (Isle of Wight)			✓✓✓	✓✓✓								✓✓✓
East/west road connectivity	✓	✓	✓			✓	✓	✓		✓✓✓		✓✓✓
Environmental impact	✓	✓	✓✓	✓✓	✓✓✓	✓✓	✓✓	✓✓	✓✓✓	✓✓		✓✓✓
Social impact	✓	✓	✓✓	✓✓✓	✓✓✓	✓	✓✓	✓✓	✓✓✓	✓✓		✓✓✓
Level crossings	✓✓✓	✓✓✓				✓✓✓				✓✓✓		✓✓✓
East west connectivity	✓✓	✓✓✓	✓			✓✓✓	✓	✓				✓✓✓
Capacity	✓✓	✓✓✓	✓			✓✓✓	✓	✓				✓✓✓
Marshlink						✓✓✓	✓	✓		✓		✓✓✓

# South Hampshire Rail Packages (1a and 1b) – Theory of Change Framework

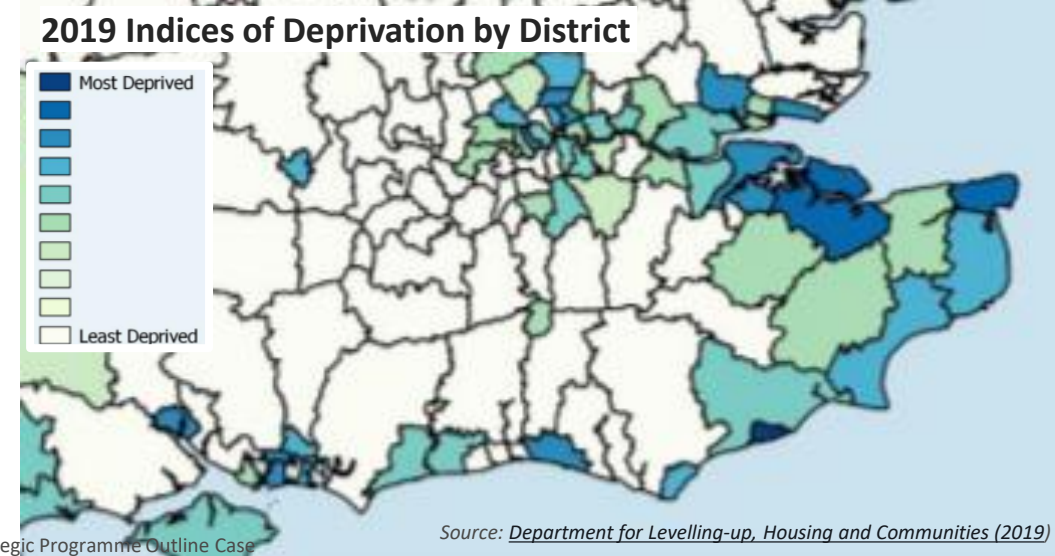
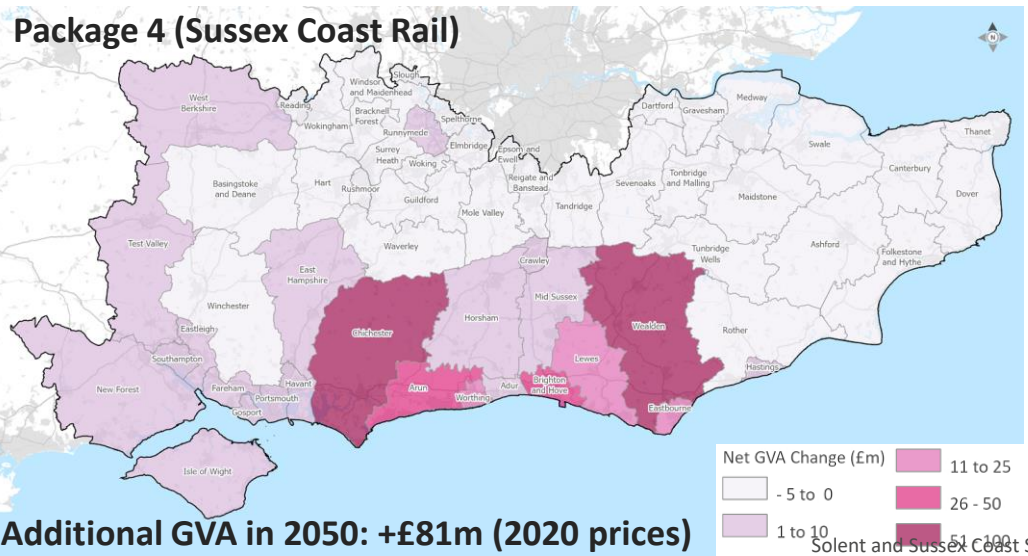
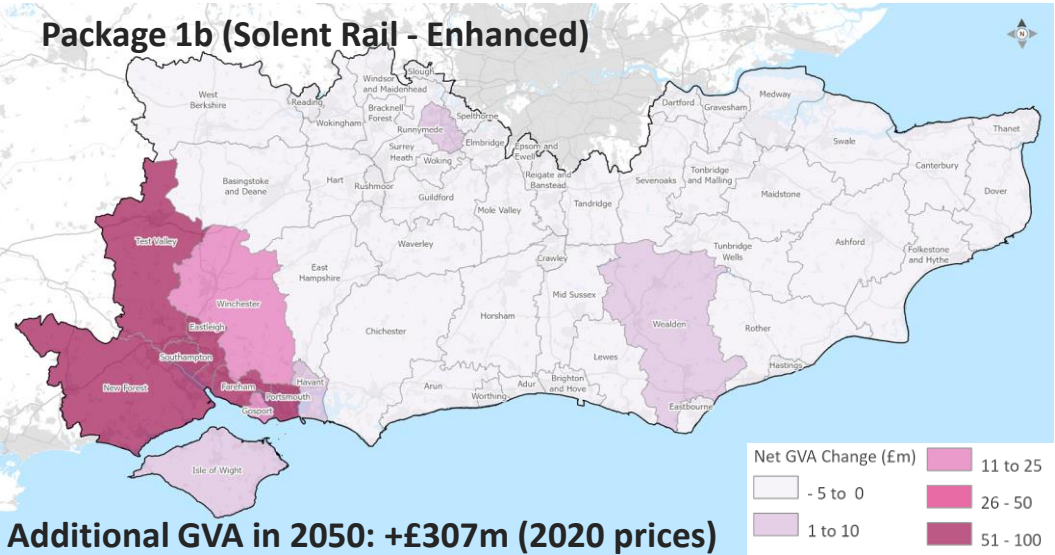
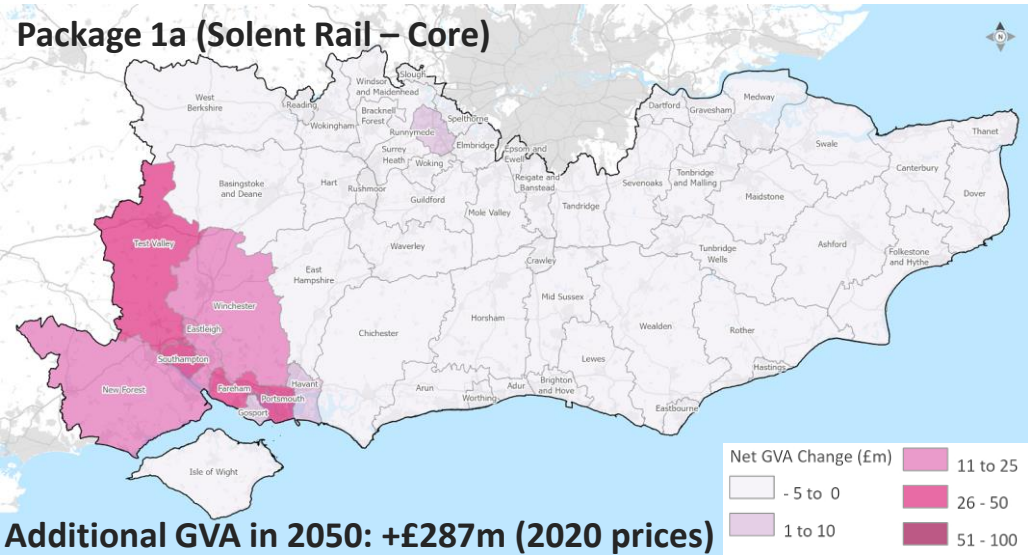
**Table 2.3: Theory of Change Framework (Package 1)**

Issues	Inputs	Outputs	Outcomes	Impacts
<b>Global Issues</b> <ul style="list-style-type: none"> <li>Over-reliance of freight on highways</li> <li>Poor socioeconomic outcomes, particularly in coastal communities</li> <li>Need for additional housing with sustainable transport options</li> </ul>	<b>South Hampshire Core Rail Package</b>			
<b>Public Transport Issues</b> <ul style="list-style-type: none"> <li>Inadequate mass transit offer for most of the Solent conurbation</li> <li>Lack of Strategic Mobility Hubs outside city centres</li> <li>Accessibility challenges, especially for public transport users</li> </ul>	<ul style="list-style-type: none"> <li>Botley Line double tracking</li> <li>Netley Line resignaling</li> <li>Platforms at Fareham, Portsmouth &amp; Southsea, and Portsmouth Harbour</li> <li>Totton sidings/level crossing</li> <li>Improved approach to Eastleigh</li> <li>Southampton Central refurbishment</li> <li>Fawley / Waterside access (ideally electrified)</li> </ul>	<ul style="list-style-type: none"> <li>2 – 3 trains per hour (tph) service for urban/metro routes in the Solent conurbation</li> <li>2tph Southampton – Portsmouth services</li> <li>Faster Southampton – Portsmouth services (c.40 minutes)</li> <li>Increased capacity across all east – west services (including Portsmouth – West Country services)</li> <li>Improved operating performance</li> <li>Improved interchange and quality of service at Southampton Central</li> <li>Fawley/Waterside development provided direct rail services</li> </ul>	<ul style="list-style-type: none"> <li>Boosting productivity through better skills matching, knowledge sharing and agglomeration</li> <li>Improving transport network efficiency, reliability, and resilience</li> <li>Reducing costs for businesses</li> <li>Enabling residents to easily access employment, affordable housing and services – particularly for those who do not have access to a car</li> <li>Reducing the impact of existing transport networks and traffic on noise, air quality, and human health</li> <li>Ensuring digital and energy networks can meet future transport needs</li> <li>Improving transport network energy efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Boost prosperity for all and reduce the disparity in socioeconomic outcomes, in a sustainable manner (see <b>Figure 2.36</b> overleaf)</li> <li>Enable better and more equitable socioeconomic outcomes</li> <li>Minimise adverse impacts on human health and promote healthy living</li> <li>Move to net zero carbon and minimise disruption from climate change.</li> </ul>
<b>Rail Network Issues</b> <ul style="list-style-type: none"> <li>Poor east west rail connectivity</li> <li>Poor coastal connectivity, especially for more isolated islands and peninsulas</li> <li>Capacity constraints on South Hampshire railways, notably at the Southampton Tunnels</li> <li>Need for improved Port access both sides of the Test Estuary</li> <li>Severance and highway/rail capacity issues caused by Level crossings (especially Totton and Cosham)</li> </ul>	<b>South Hampshire Enhanced Rail Package</b>			
	<ul style="list-style-type: none"> <li>Southampton Tunnel Solution including new Southampton City Centre station</li> <li>Fareham – Cosham capacity</li> <li>Additional level crossing interventions (e.g. Cosham), which may require new station</li> <li>New station to support Strategic Mobility Hub near M2 Junction 2</li> <li>Decarbonisation of remaining unelectrified South Hampshire rail network</li> </ul>	<ul style="list-style-type: none"> <li>4tph service for urban/metro routes</li> <li>4tph Southampton – Portsmouth services</li> <li>c.30 - 35 minute Southampton City Centre – Portsmouth City Centre journey times</li> <li>Improved access from rail network to Southampton City Centre and the West Quay development</li> <li>More capacity through Southampton for London, Cross Country, and freight services</li> </ul>	<ul style="list-style-type: none"> <li>Boosting productivity through better skills matching, knowledge sharing and agglomeration</li> <li>Improving transport network efficiency, reliability, and resilience</li> <li>Reducing costs for businesses</li> <li>Enabling residents to easily access employment, affordable housing and services – particularly for those who do not have access to a car</li> <li>Shifting passenger and freight travel from fossil fuel traction to zero emission traction</li> <li>Prioritising vulnerable users over less vulnerable users where there are conflicts</li> </ul>	<ul style="list-style-type: none"> <li>Boost prosperity for all and reduce the disparity in socioeconomic outcomes, in a sustainable manner (see <b>Figure 2.36</b> overleaf)</li> <li>Enable better and more equitable socioeconomic outcomes</li> <li>Move to net zero carbon and minimise disruption from climate change.</li> <li>Safety for all transport system users</li> </ul>

# Rail Packages (1a, 1b and 1c) – Spatial Impacts

Figure 2.36 shows the modelled GVA impacts for the rail packages included in this study and the 2019 Index of Multiple Deprivation by Local Authority District.

Figure 2.36: Additional GVA per annum by district (in 2050) for rail packages



# Solent Mass Transit and Active Travel Packages (2a, 2b, 2c and 3) – Theory of Change Framework

**Table 2.4: Theory of Change Framework (Packages 2 and 3)**

Issues	Inputs	Outputs	Outcomes	Impacts
<b>Global Issues</b> <ul style="list-style-type: none"> <li>Over-reliance of freight on highways</li> <li>Poor socioeconomic outcomes, particularly in coastal communities</li> <li>Need for additional housing with sustainable transport options</li> </ul> <b>Public Transport Issues</b> <ul style="list-style-type: none"> <li>Inadequate mass transit offer for most of the Solent conurbation</li> <li>Lack of Strategic Mobility Hubs outside city centres</li> <li>Accessibility challenges, especially for public transport users</li> <li>Expensive and relatively infrequent/well integrated ferry services for the Isle of Wight</li> <li>The geography of the South Coast and its transport networks forces people and goods moving east west along the coast to travel long distances inland to complete their journeys</li> </ul> <b>Active Travel Issues</b> <ul style="list-style-type: none"> <li>Cycling participation and provision is too low and there are strategic gaps in the parts of the area's cycle network</li> </ul>	<b>Solent Mass Transit Package</b> <ul style="list-style-type: none"> <li>Southampton Mass Transit System</li> <li>South East Hampshire Rapid Transit</li> <li>Isle of Wight mass transit (including Island Line extensions)</li> <li>Improved (and more) Strategic Mobility Hubs, including ferry terminals</li> <li>Ferry service improvements/ extensions (including for Isle of Wight)</li> </ul>			
	<b>South Hampshire Active Travel Packages</b> <ul style="list-style-type: none"> <li>LCWIPs and other active travel interventions</li> <li>Northam Rail Bridge</li> <li>Southampton West Quay Road</li> <li>Portsmouth City Centre Road</li> </ul>			
		<ul style="list-style-type: none"> <li>Bus and/or tram services delivering a “turn-up-and-go” level of public transport service frequencies</li> <li>Faster mass transit journeys (increasing average speeds from c.8mph to 15mph)</li> <li>Improvements in the quality of mass transit provision (e.g. accessibility, information, comfort, internet connectivity)</li> </ul>	<ul style="list-style-type: none"> <li>Improving transport network efficiency, reliability, and resilience</li> <li>Increasing the affordability of convenient, high quality, active travel and public transport options</li> <li>Enabling deprived communities to attract investment and achieve more equitable socioeconomic outcomes</li> <li>Enabling residents to easily access employment, affordable housing and services – particularly for those who do not have access to a car</li> <li>Shifting passenger and freight travel from fossil fuel traction to zero emission traction</li> </ul>	<ul style="list-style-type: none"> <li>Boost prosperity for all and reduce the disparity in socioeconomic outcomes, in a sustainable manner</li> <li>Enable better and more equitable socioeconomic outcomes</li> <li>Move to net zero carbon and minimise disruption from climate change</li> </ul>
		<ul style="list-style-type: none"> <li>Improvement in air quality in Portsmouth City Centre</li> <li>Improved urban realm and active travel infrastructure for pedestrians and cyclists</li> </ul>	<ul style="list-style-type: none"> <li>Supporting better place-making and creating new sustainable communities</li> <li>Encouraging active leisure activities that promote healthy lifestyles</li> <li>Providing a safe road network with high-quality, fully connected, segregated infrastructure (where appropriate) that helps people overcome their fears of walking and cycling</li> <li>Developing transport networks that minimise any adverse impacts of transport on human health – including noise and poor air quality</li> </ul>	<ul style="list-style-type: none"> <li>Enable better and more equitable socioeconomic outcomes</li> <li>Safety for all transport system users</li> <li>Minimise adverse impacts on human health and promote healthy living</li> </ul>



# Sussex Coast Rail Package (4) – Theory of Change Framework

**Table 2.5: Theory of Change Framework (Package 4)**

Issues	Inputs	Outputs	Outcomes	Impacts
<b>Global Issues</b> <ul style="list-style-type: none"> <li>Over-reliance of freight on highways</li> <li>Poor socioeconomic outcomes, particularly in coastal communities</li> <li>Need for additional housing with sustainable transport options</li> </ul> <b>Rail Network Issues</b> <ul style="list-style-type: none"> <li>Poor east west rail connectivity</li> <li>Poor coastal connectivity, especially for more isolated islands and peninsulas</li> <li>Need for improved Port access both sides of the Test Estuary</li> <li>Severance and highway/rail capacity issues caused by Level crossings (e.g. Worthing)</li> </ul>	<b>Sussex Coast Rail Package</b> <ul style="list-style-type: none"> <li>West Coastway CMSP, delivering faster journey times on this railway and a bay platform at Worthing</li> <li>Marshlink Line improvements (and High Speed services to Eastbourne – the frequency improvements on the Marshlink are modelled in this study, the journey time benefits are captured in the South East SPOC)</li> <li>Level Crossings (East Guldeford/A259, West Worthing, Hampden Park)</li> </ul>	<ul style="list-style-type: none"> <li>Faster Southampton/Portsmouth – Brighton services (c. 90 minutes)</li> <li>Increased capacity across all east – west services</li> <li>Improved operating performance</li> <li>Improved resilience and reliability on the West Coastway Line</li> </ul>	<ul style="list-style-type: none"> <li>Boosting productivity through better skills matching, knowledge sharing and agglomeration</li> <li>Improving transport network efficiency, reliability, and resilience</li> <li>Attracting investment in high growth, high value opportunities</li> <li>Enabling deprived communities to attract investment and achieve more equitable socioeconomic outcomes.</li> <li>Avoiding interventions that significantly and permanently undermine protected environments, in particular landscape, historic and ecological designations</li> <li>Shifting passenger and freight travel from fossil fuel traction to zero emission traction</li> <li>Prioritising vulnerable users over less vulnerable users where there are conflicts</li> <li>Adopting the principles of environmental net gain</li> </ul>	<ul style="list-style-type: none"> <li>Boost prosperity for all and reduce the disparity in socioeconomic outcomes, in a sustainable manner</li> <li>Enable better and more equitable socioeconomic outcomes</li> <li>Protect and enhance the natural and historic environment</li> <li>Move to net zero carbon and minimise disruption from climate change</li> <li>Safety for all transport system users</li> </ul>

# Sussex Coast Mass Transit and Active Travel Packages (5 and 6) – Theory of Change Framework

**Table 2.6: Theory of Change Framework (Packages 5 and 6)**

Issues	Inputs	Outputs	Outcomes	Impacts
<b>Global Issues</b> <ul style="list-style-type: none"> <li>Over-reliance of freight on highways</li> <li>Poor socioeconomic outcomes, particularly in coastal communities</li> <li>Need for additional housing with sustainable transport options</li> </ul> <b>Public Transport Issues</b> <ul style="list-style-type: none"> <li>Inadequate mass transit offer for the Sussex Coast conurbation</li> <li>Lack of Strategic Mobility Hubs outside city centres</li> <li>Accessibility challenges, especially for public transport users</li> </ul> <b>Active Travel Issues</b> <ul style="list-style-type: none"> <li>Cycling participation and provision is too low and there are strategic gaps in the parts of the area's cycle network</li> </ul>	<b>Sussex Coast Mass Transit</b> <ul style="list-style-type: none"> <li>Brighton and Hove Mass Transit</li> <li>Eastbourne Mass Transit</li> <li>Hastings Mass Transit</li> <li>Strategic Mobility Hubs</li> <li>A27 Brighton – Lewes – Eastbourne bus services</li> </ul>			
	<b>Sussex Coast Active Travel</b> <ul style="list-style-type: none"> <li>LCWIPs and other active travel</li> <li>A259 Chichester to Bognor Regis</li> <li>A259 Bognor Regis to Littlehampton</li> <li>A29 Realignment</li> <li>A259 Seafront Highway Structures Renewal Programme</li> <li>A259 South Coast Road Corridor</li> </ul>			
		<ul style="list-style-type: none"> <li>Bus services delivering a “turn-up-and-go” level of public transport service frequencies</li> <li>Faster mass transit journeys (increasing average speeds from c.8mph to 15mph)</li> <li>Improvements in the quality of mass transit provision (e.g. accessibility, information, comfort, internet connectivity)</li> </ul>	<ul style="list-style-type: none"> <li>Improving transport network efficiency, reliability, and resilience</li> <li>Supporting better place-making and creating new sustainable communities</li> <li>Enabling residents to easily access employment, affordable housing and services – particularly for those who do not have access to a car</li> <li>Increasing the affordability of convenient, high quality, active travel and public transport options</li> </ul>	<ul style="list-style-type: none"> <li>Boost prosperity for all and reduce the disparity in socioeconomic outcomes, in a sustainable manner.</li> <li>Enable better and more equitable socioeconomic outcomes</li> <li>Move to net zero carbon and minimise disruption from climate change</li> </ul>
		<ul style="list-style-type: none"> <li>Improved public transport services along the whole Sussex Coast</li> <li>Improvement in air quality in Brighton and Hove City Centre</li> <li>Improved urban realm and active travel infrastructure for pedestrians and cyclists – particularly on coastal routes</li> </ul>	<ul style="list-style-type: none"> <li>Improving transport network efficiency, reliability, and resilience</li> <li>Supporting better place-making and creating new sustainable communities</li> <li>Enabling residents to easily access employment, affordable housing and services – particularly for those who do not have access to a car</li> <li>Increasing the affordability of convenient, high quality, active travel and public transport options</li> <li>Enabling and growing active travel</li> <li>Encouraging active leisure activities that promote healthy lifestyles</li> <li>Providing a safe road network with high-quality, fully connected, segregated infrastructure (where appropriate) that helps people overcome their fears of walking and cycling</li> </ul>	<ul style="list-style-type: none"> <li>Boost prosperity for all and reduce the disparity in socioeconomic outcomes, in a sustainable manner.</li> <li>Enable better and more equitable socioeconomic outcomes</li> <li>Move to net zero carbon and minimise disruption from climate change</li> <li>Minimise adverse impacts on human health and promote healthy living</li> <li>Safety for all transport system users</li> </ul>

# Solent and Sussex Coast Highways Package (7) – Theory of Change Framework

**Table 2.7: Theory of Change Framework (Package 7)**

Issues	Inputs	Outputs	Outcomes	Impacts
<b>Global Issues</b> <ul style="list-style-type: none"> <li>Poor socioeconomic outcomes, particularly in coastal communities</li> <li>Need for additional housing with sustainable transport options</li> </ul>	<b>Solent and Sussex Coast Highways</b>			
<b>Highways</b> <ul style="list-style-type: none"> <li>The area's major highways do not provide effective east west connectivity</li> <li>The area's major highways run through and/or close to protected areas, undermining the quality of local environments</li> <li>Too many major highways pass through densely populated communities, causing noise, pollution, and severance issues</li> <li>Highway traffic accessing ports in the area is negatively impacting the environment in town and city centres</li> <li>There are too many level crossings on major highways along the South Coast</li> </ul>	<ul style="list-style-type: none"> <li>M27 Southampton Access</li> <li>M27 Smart Motorway s</li> <li>A326 Capacity Enhancement</li> <li>Horsea Bridge and Tipner</li> <li>A27 Chichester (RIS3 pipeline)</li> <li>A27 Tangmere and Boxgrove</li> <li>A27 Fontwell</li> <li>A27 Arundel (RIS2)</li> <li>A27 Worthing (RIS2)</li> <li>A27 Long Term Worthing Solution</li> <li>A27 Lancing</li> <li>A27 Lewes Polegate (RIS3 pipeline)</li> </ul>	<ul style="list-style-type: none"> <li>High quality strategic highway between the Solent and Sussex Coast conurbations, delivering more reliable journeys</li> <li>Reduced conflicts between strategic/longer-distance and local traffic</li> <li>Reduced impact of highways on built up areas including Worthing and villages between Lewes and Eastbourne</li> <li>Opportunity to expand active travel and mass transit in areas relieved by interventions</li> <li>Improved access to high growth areas, including the Fawley / Waterside and growing port in Southampton</li> </ul>	<ul style="list-style-type: none"> <li>Boosting productivity through better skills matching, knowledge sharing and agglomeration</li> <li>Reducing the impact of transport operations on ecosystems</li> <li>Providing a safe road network with high-quality, fully connected, segregated infrastructure (where appropriate) that helps people overcome their fears of walking and cycling</li> <li>Prioritising vulnerable users over less vulnerable users where there are conflicts.</li> <li>Developing transport networks that minimise any adverse impacts of transport on human health – including noise and poor air quality</li> <li>Reducing the impact of existing transport networks and traffic on noise, air quality, and human health</li> <li>Improving transport network resilience to climate events</li> <li>Improving access for all members of society, especially individuals with additional needs</li> </ul>	<ul style="list-style-type: none"> <li>Boost prosperity for all and reduce the disparity in socioeconomic outcomes, in a sustainable manner</li> <li>Protect and enhance the natural and historic environment</li> <li>Safety for all transport system users</li> <li>Minimise adverse impacts on human health and promote healthy living</li> <li>Enable better and more equitable socioeconomic outcomes</li> <li>Move to net zero carbon and minimise disruption from climate change</li> </ul>



## Part 3

# Economic Dimension



# Alignment with Department for Transport Business Case Guidance

The table below sets out the DfT's requirements for the Economic Dimension and the level of detail expected at Strategic Outline Case stage. The final column of the table shows where the Economic Dimension addresses each requirement.

TAG Issue	TAG Requirement	Progress at SOC	Reference
Longlist appraisal	Assess the longlist of options (outlined in the strategic dimension) to a shortlist of options and identify the preferred way forward.	Outline	Part 2e & OAR
Methodologies, assumptions and data	Set out the methodologies, assumptions and data that have been used to underpin any transport modelling and appraisal	Outline	Part 3a & Appraisal Specification Report (ASR) & OAR
Social cost-benefit analysis of shortlist	Present and explore the main economic costs and impacts associated with the intervention from a UK social welfare perspective	Outline	Part 3a (costs and benefits) & 3b (benefits only)
Distributional analysis	Provide distributional analysis to understand the impacts on different social groups	Outline	To be included at further business case stages for specific schemes. Outer Orbital Integrated Sustainability Appraisal (ISA) provides overview of some distributional impacts.
Place-based analysis	Conduct place-based analysis where the proposal has geographically focused objectives or where impacts of national-level interventions may differ spatially (where this is proportionate)	Outline	Part 2f, 3b, OAR, & ISA To be developed further in later business case stages for specific schemes
Wider analysis	Include any extra analysis which provides useful insight to inform the decision-making process: this could include analysis of the various options' performance against the SMART objectives at the shortlist stage. This analysis should be proportionate and consistent with the strategic dimension	Outline	Part 3b
Value for money	Inclusion of all monetised impacts, non-monetised impacts and sensitivities	Outline	Part 3e
Uncertainty analysis	Analyse to understand how changes in different factors affect the value for money of the investment: this should show how likely it is that these changes may happen.	Not Required	N/A
Appraisal summary table	Based on TAG guidance	Not Required	N/A
Longlist appraisal	Assess the longlist of options (outlined in the strategic dimension) to a shortlist of options and identify the preferred way forward.	Outline	Part 2e & OAR
Methodologies, assumptions and data	Set out the methodologies, assumptions and data that have been used to underpin any transport modelling and appraisal	Outline	Part 3a & Appraisal Specification Report (ASR) & OAR
Social cost-benefit analysis of shortlist	Present and explore the main economic impacts associated with the intervention from a UK social welfare perspective	Outline	Part 3b

# Introduction

## Overview of the Economic Case

**The Economic Case presents the economic, environmental and social impacts of the SPOC Packages to inform consideration of value for money. The Economic Case considers the cumulative impacts for the SPOC as a whole, rather than at the individual Package of Interventions level and provides an overview of the most significant findings.**

The Economic Case includes:

- an overview of the approach and the sources of inputs for the assessment;
- assessment findings for the cumulative economic, environmental and social impacts (in comparison to 'Business as Usual') for the summary of Packages of Interventions being considered in the SPOC;
- commentary on the key assessment findings; and
- identification of the areas of greatest uncertainty for the assessment findings.

## Contents

**Part 3a provides an overview of the Package development and assessment approach, which is described in full detail in the OAR.**

This includes:

- the approach for the long-list assessment and an introduction to SEELUM, the land use model used for quantification of impacts;
- the assessment framework applied based on DfT guidance and the Appraisal Specification Report (ASR); and
- identification of the areas of greatest uncertainty for the assessment findings.

**Part 3b provides the findings of the assessment of Economy impacts.**

These address:

- the four sub-impacts for Economy impacts (for business users and transport providers, reliability impact on business users, regeneration impacts, and wider impacts) for the Packages of Interventions, with DfT's Transport Appraisal Guidance (TAG);

- capital cost estimates for the Packages of Interventions (see Part 3a); and
- indirect tax revenues from the SPOC Packages are not assessed at this stage.

**Part 3c provides the findings of the assessment of Environmental impacts.**

This addresses:

- the eight sub-impacts for Environmental impacts (sub-impacts noise, air quality, greenhouse gases, landscape, townscape, historic environment, biodiversity, and water environment) for the Packages of Interventions, in line with DfT's TAG.

**Part 3d provides the findings of the assessment of Social impacts.**

This addresses

- the ten sub-impacts for Social impacts (sub-impacts for commuting and other users, reliability impact on commuting and other users, physical activity, journey quality, accidents, security, access to services, affordability, severance, and option and non-use values) for the Packages of Interventions, in line with DfT's TAG.



# Part 3a

## Assessment Overview

# Economic Assessment Overview

## Assessment approach

### Long list assessment

A Multi-Criteria Assessment Framework (MCAF) was developed to provide a qualitative assessment of the strategic fit, economic viability, and deliverability of the interventions included in the Long List. The goal was to use the MCAF to sift out interventions that do not perform and to organise and compare options to help develop coherent Packages of interventions.

Each intervention is scored for alignment to national, local and regional policy. Assessment scores for strategic, economic and delivery typology also inform the decision of whether to park or proceed with each intervention. A sustainability assessment of typologies in the Integrated Sustainability Appraisal (ISA) also informs the MCAF scoring of interventions.

A high-level summary of the results of the MCAF can be found in the OAR.

### SEELUM testing

The South East Economy and Land Use Model (SEELUM) tests how investment in transport interventions coupled with changes to land use policy, affects transport outcomes and economic performance.

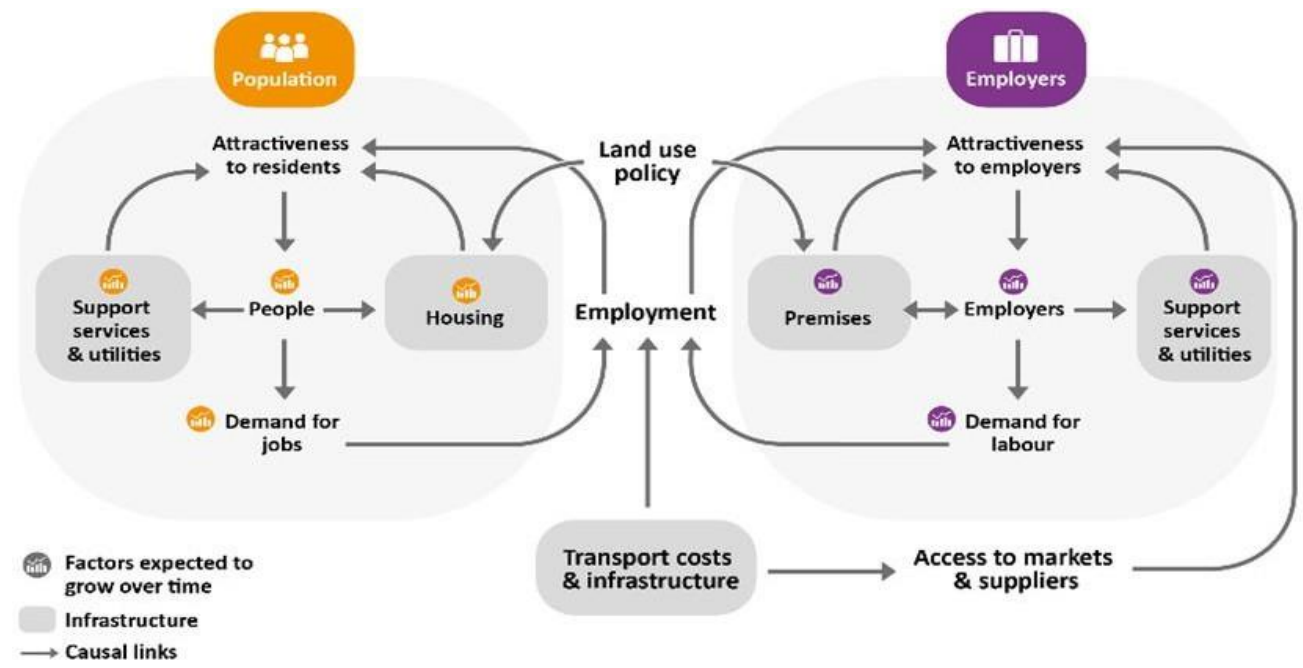
The model simulates how changes in transport connectivity and access affect how attractive zones are for employers and/or households to locate in. It simulates how land use evolves over time (see Figure 3.1).

It includes (relatively high-level) internal network models of highways and rail networks. These are used to model the impacts of congestion and crowding on journey times. SEELUM also models the carbon emissions of the highway and railway networks.

To test each Package adjustments are made to: Generalised Journey Times (GJTs) within and between each zone (by mode); and characteristics of links on the highway and railway network (notably capacity).

Each Package is modelled from a base year of 2018 for 32 years to 2050. Results are presented in the Options Assessment Reports (OARs) as a comparison to a Business as Usual (BaU) scenario, which is based on the Department for Transport’s National Trip End Model (NTEM) that also projects employment and population growth to 2050.

Figure 3.1: Schematic diagram of SEELUM’s analytical framework





## SEELUM Results

The table below presents the results of modelling the Placed Based Packages of Interventions for the Solent and Sussex Coast Area in SEELUM, and are in comparison to the "business as usual" forecasts. The Global Policy Package results are presented for the whole TfSE area in the Strategic Narrative.

Package	Pop.	New jobs	GVA (£m)	Total CO <sub>2</sub>	Car Trips (weekday return)	Rail Trips (weekday return)	Bus, Mass Transit and Ferry Trips (weekday return)	Total Trips (weekday return)	Capital Costs of Construction (£m)
South Hampshire Rail (Core)	1,050	1,550	285		-5,000	15,000	-		
South Hampshire Rail (Enhanced)	1,150	2,000	305	-	-5,000	15,000	-	10,000	3,700
Solent Mass Transit	1,300	1,000	165	-30,000	-70,000	-	110,000	5,000	1,800
Solent Active Travel	150	50	10	-10,000	-40,000	-	-5,000	-	350
Isle of Wight	1,950	1,500	165	-	-15,000	5,000	15,000	5,000	250
Sussex Coast Rail	700	350	80	-	-	5,000	-	5,000	350
Sussex Coast Mass Transit	850	550	120	-10,000	-35,000	5,000	55,000	5,000	450
Sussex Coast Active Travel	<50	<50	5	-5,000	-20,000	-	-5,000	-	250
Solent and Sussex Coast Highways	250	700	170	45,000	5,000	-	5,000	5,000	3,500
<b>Combined Impacts</b>	<b>6,331</b>	<b>7,918</b>	<b>1,250</b>	<b>(7,667)</b>	<b>(180,016)</b>	<b>46,710</b>	<b>168,709</b>	<b>32,663</b>	<b>7,483</b>

### Abbreviations

- MT: Mass Transit
- AT: Active Travel (walking and cycling)

### Reporting units

- GVA (Gross Value Added) is £millions GVA per annum in 2050 in 2020 prices
- Carbon emissions are CO<sub>2</sub> tonnes equivalent
- Changes in trips are weekday return trips
- Capital Costs are "Mid Cost" estimates in 2020 prices, up to and including construction

### Notes

- **The Combined Impacts results reflect the impacts of all the packages together, and therefore yield different results to the sum of the individual packages. This reflects displacement effects. For example: an individual may switch from car to bus in response to a MT package, and from car to bike in response to an AT package, but cannot switch to both when both packages are run together.**
- The carbon emissions reflect the impact of population and economic growth, as well as changes in the mode and length of trips.
- The mode of the trip shown represents the largest segment of a journey. In reality, a trip by MT is likely to include an AT element (e.g. walking to and from a bus stop).

# Economic Assessment Overview

## Appraisal assumptions

### The appraisal approach taken aligns with the DfT's TAG.

Where benefits are monetised, they are treated in a consistent basis assuming 2021 prices, a 3.5% discount rate to 2021, and market prices through applying a 19% adjustment factor.

All quantified metrics are reported for Year 4 after the introduction of the packages of interventions and 2050. The cumulative impact up to 2050 will also be presented.

Commentary on the key assessment findings and identification of the areas of greatest uncertainty for the assessment findings are also presented.

### Economic impacts

The four economic sub-impacts are assessed in a combination of qualitative, quantitative and monetary outputs, as specified in Appraisal Specification Summary Table in the ASR.

In line with the DfT's TAG, the economic impacts assessment considered journey time savings and reliability impacts (on business users and transport providers), land use development impacts (regeneration) and workforce and GVA impacts (wider impacts).

Each assessment finding, for each individual Package of interventions, are reported within the OAR. Cumulative economic impacts for the Packages of interventions within this SPOC area are provided at Part 3b.

For regeneration and wider impacts sub-impacts, SEELUM outputs for the change in housing units, employment premises, workforce, and GVA changes.

Capital cost estimates for the Packages of Interventions are provided proportionate to the level of each scheme design.

Indirect tax revenues are not assessed.

### Environmental impacts

The eight environmental sub-impacts are each assessed qualitatively in the sustainability assessment of typologies.

For greenhouse gas emissions, noise and air quality, SEELUM produces estimates of carbon dioxide emissions and vehicle-kilometre estimates used to provide quantitative and monetary outputs, as specified in the ASR Appraisal Specification Summary Table.

Each these assessment finding, for each individual Package of interventions, are reported within the ISA. These findings are combined to provide the cumulative environmental impacts at Part 3c.

### Social impacts

Only five of the ten social sub-impacts are assessed at this stage, in a combination of qualitative, quantitative and monetary outputs, as specified in Appraisal Specification Summary Table in the ASR.

The economic impacts assessment considered journey time savings and reliability impacts (on commuting and other users), physical activity, accidents, and access to services. Each of these assessment findings, for each individual Package of interventions, are reported within the OAR.

These findings are combined to provide the cumulative social impacts for the overview of Packages of interventions within this SPOC area at Part 3d.

For physical activity, SEELUM estimates the change in active travel demand and a qualitative assessment is presented. SEELUM's estimate of the change in private vehicle-kilometres will be used to monetise accident savings based upon Marginal External Cost values consistent with DfT guidance.

Distributional Impacts will be assessed at subsequent stages of the business case process in line with the DfT's TAG.

# Economic Assessment Overview (Continued)

## Uncertainties

### Overview of approach

The ISA assessment of shortlisted interventions has identified significant uncertainties throughout the analysis, each of which relate to the Solent and Sussex Sustainability Framework Objectives. A typology assessment has been carried out to identify how each intervention scores against the 13 ISA objectives, results ranged from significant positive effects to uncertain or no effects.

### Economy

- There are issues regarding the uncertainty around future demand for and supply of infrastructure, as well as the spatial and temporal distribution of movement.

### Environment

- The assessment of packages has identified a number of uncertain effects on noise and vibration. There are likely to be negative impacts on noise levels from large road and rail schemes. However, schemes such as active travel may have positive effects on noise levels. Uncertainty was generally recorded for soils and resources given that the majority of schemes are likely to result in the use of resources and production and disposal of waste in construction.

- Improvements to rail travel have an uncertain effect upon air quality – emissions will likely increase during construction, but the modal shift to public transport could contribute to improved air quality.
- The assessment of packages has identified uncertain effects regarding biodiversity, natural capital and landscape.

### Social

- Package 1a identified uncertain effects on safety due to a level crossing constraints in the area.
- Uncertainty has been identified in package 7 as there are safety concerns in relation to the use of smart motorways.

It is important to note that mitigation measures have been proposed with the aim of preventing, reducing or offsetting any significant adverse effect of implementing the proposed interventions. In doing so, monitoring will also manage the uncertainty of proposals and measure the performance of the Packages of Interventions against any environmental objectives.



## Part 3b

# Economic Impacts



# Summary of Economic Benefits

The Packages of Interventions considered in the SPOC have been assessed against the DfT's Transport Appraisal Guidance Economic sub-impacts. SEELUM modelling outputs provide quantified assessments for journey time impacts on Business Users & Transport Providers, Regeneration and Wider Impacts. A qualitative assessment of the reliability of business users has been determined using findings from the OAR.

Sub-impacts	Summary of Packages	Assessment outputs
<b>Business Users &amp; Transport Providers</b>	<ul style="list-style-type: none"><li>• Evidence-based journey time savings across all packages (apart from Isle of Wight Mass Transit interventions).</li><li>• Solent and Sussex Coast Mass Transit services deliver high-quality, faster, more frequent, and direct public transport routes. Would support significant mode shift from car to bus, ferry and tram.</li><li>• Improved capacity, service frequencies, interchange and connectivity on the rail network with improved access for communities.</li><li>• Improved capacity and connectivity will be achieved through upgrades to the strategic road network.</li></ul>	<ul style="list-style-type: none"><li>• The South Hampshire Rail Core Package could achieve rail travel journey time savings of up to 15 minutes per passenger.</li><li>• Enhanced Rail Package would support c.30 minute "City to City" (Southampton – Portsmouth) rail journey times.</li><li>• Package 7 (Highways) strengthens the resilience of transport networks by separating local and strategic traffic movements, reducing congestion and improving journey times. Highway journeys between Brighton and Solent coast would be faster and more reliable.</li></ul>
<b>Reliability Impact on Business Users</b>	<ul style="list-style-type: none"><li>• The SPOC packages present a largely positive impact on reliability as they would provide high-quality and reliable bus, rail, and highway networks.</li><li>• An accessible transport network will enable businesses to trade and compete more effectively in the global marketplace.</li></ul>	<ul style="list-style-type: none"><li>• SEELUM estimates a net change of approximately 180,016 fewer daily return car trips by 2050. This (in combination with higher quality public transport and active travel infrastructure and services) would lead to significant increases in reliability for all journeys.</li></ul>

# Summary of Economic Benefits

Sub-impacts	Summary of Packages	Assessment outputs
<b>Regeneration</b>	<ul style="list-style-type: none"> <li>Enhancements and upgrades to public transport (e.g. journey time savings and increased capacity) will support growth in housing and employment.</li> <li>All interventions within the Enhanced South Hampshire Railways Package have the potential to support the regeneration of the Mayflower Quarter, which will offer facilities for business, homes, retail and leisure, the mixed use re-development will also re-connect the waterfront with the city centre, and provide areas of greenspace.</li> </ul>	<ul style="list-style-type: none"> <li>Solent Mass Transit interventions will support 1,200 additional housing units and 1,116 additional jobs by Year 4.</li> </ul>
<b>Wider and Place Based Impacts</b>	<ul style="list-style-type: none"> <li>Upgrades to public transport mass transit networks and highway developments (upgrades to sections of the A27) will support increased productivity from better access to a wider labour market.</li> <li>A more accessible and reliable transport network will generate additional employment opportunities, particularly in larger urban areas such as Hastings, Solent coast, Brighton and Hove, and Ashford Areas.</li> <li>Greater connectivity and capacity across the Solent and the wider SE Region may also help to facilitate increased tourism opportunities, contributing further to the local and regional economy.</li> </ul>	<ul style="list-style-type: none"> <li>The Enhanced South Hampshire Rail Package, bringing faster journeys between Southampton and Portsmouth, will generate the largest contribution to GVA with an additional £245,000,000 in 2050.</li> <li>2,001 additional jobs will be filled in 2050 on account of the improvements to the South Hampshire rail network – for instance, shorter journey times between Portsmouth and Southampton will unlock a greater catchment area for employment opportunities.</li> <li>There is a strong alignment of the location of interventions and those areas with highest levels of deprivation – those most in need of levelling-up (see Figure 2.36 for place-based GVA impacts of rail packages).</li> <li>Unquantified impacts include enhancing local accessibility to employment opportunities and key services, enhancements to public realm and pride in place (along with reduced crime and increased safety, well-being, and health) of left-behind communities.</li> </ul>



## Part 3c

# Environmental Impacts

# Summary of Environmental Benefits

The Packages of Interventions considered in the SPOC have been assessed against the DfT's Transport Appraisal Guidance Environmental sub-impacts. The Integrated Sustainability Appraisal (ISA) has informed the summary of environmental benefits. SEELUM modelling outputs provide quantified assessments for noise, air quality, and greenhouse gas emissions.

Sub-Impacts	Summary of Packages	Assessment Outputs
<b>Noise</b>	<ul style="list-style-type: none"> <li>Improvements to Mass Transit networks within the study area will increase the uptake of rail journeys (up to 34,000 more rail journeys per weekday) and as a result will reduce car travel which is likely to have a beneficial effect on transport related noise pollution. However, highway developments will provide greater highway capacity and therefore will likely increase noise levels.</li> <li>The introduction of strategic mobility hubs in the Solent and Sussex Coast Areas could encourage increased uptake in active travel modes by making it easy to combine transport modes and making journeys frictionless. As such, higher demand for public transport will reduce road traffic, subsequently improving noise levels in the study area.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed BRT system running along Brighton seafront could result in 65,000 fewer car journeys per weekday, thus improving congestion and increasing connectivity across the Sussex Coast conurbation.</li> <li>The introduction of LRT, BRT, and railway options could bring about 60,000 additional active travel trips (walking and cycling trips), therefore this will contribute to improved noise levels in the Sussex and Solent Coast area.</li> <li>Strategic highway upgrades to the A27 and M27 to separate local and strategic traffic will result in 2,974 more car trips per day by 2050.</li> </ul>
<b>Air Quality</b>	<ul style="list-style-type: none"> <li>Mass Transit interventions (e.g. Bus Rapid Transport Systems serving the Sussex and Solent Coast areas) will witness a reduction in vehicle travel and single occupancy journeys, which in turn will help to decrease air pollution through reduced levels of congestion.</li> <li>Active travel solutions such as additional cycleways between Chichester and Bognor Regis could improve air quality as they encourage a modal shift away from private car use.</li> <li>Improvements in air quality within the Sussex and Solent area will result in beneficial impacts on population within the area, particularly for those who are older, younger and suffering from respiratory illnesses. Further, improved air quality will make walking or cycling more attractive for shorter journeys.</li> <li>Highway network improvements represent the opportunity to improve air quality (particularly in AQMAs) if the operation of the new infrastructure separates local and strategic traffic, relieves congestion and facilitates new and/or improved local placemaking. This could result in AQMA objectives being met.</li> </ul>	<ul style="list-style-type: none"> <li>A high-quality mass transit and other intervention will generate 170,000 additional return bus journeys per weekday, 45,000 more return rail journeys, and 180,000 fewer return car journeys – improving air quality across the area.</li> <li>Placemaking improvements will lead to improvements in air quality in urban areas.</li> </ul>



# Summary of Environmental Benefits

Sub-Impacts	Summary of Packages	Assessment Outputs
<b>Greenhouse Gases</b>	<ul style="list-style-type: none"> <li>The SPOC Packages combined will reduce road CO<sub>2</sub> emissions by 10,000 tonnes by the end of 2050. Almost all interventions will incur significant GHG emissions through the carbon associated with the construction, maintenance, and operation of the project.</li> <li>Improvements to the public transport and active travel networks will support a modal shift away from private car use and single occupancy journeys, thus providing a decrease in overall GHG emissions – all SPOC Packages combined reduce CO<sub>2</sub>e emissions by 55,000 tonnes by 2050.</li> </ul>	<ul style="list-style-type: none"> <li>Strategic highway updates to the A27, M27 and A326 to separate local and strategic traffic will encourage increased car use, leading to an increase of 45,000 tonnes CO<sub>2</sub>e by 2050.</li> <li>Combined Global Policy Interventions deliver significant reductions in carbon emissions.</li> </ul>
<b>Landscape</b>	<ul style="list-style-type: none"> <li>The Solent and Sussex Coast Area boasts varied landscapes protected by two national park authorities. The interventions are constrained by the sensitive or protected nature of environments such as the South Downs National Park, which is likely to be negatively affected by new highway developments along the A27. Disruption to the local tranquillity, contaminated soil, and significant land take all undermine the quality of local sensitive environments.</li> <li>During new road development, there is opportunity for upgrade works to reuse existing materials and therefore promote waste minimisation and sustainable use of materials.</li> </ul>	<ul style="list-style-type: none"> <li>Small scale highway updates in Sussex such as the A29 realignment scheme illustrates both direct and indirect impacts on landscapes. Given the scheme's close proximity to the South Downs National Park, there is likely to be a negative impact on the surrounding landscape.</li> </ul>
<b>Townscape</b>	<ul style="list-style-type: none"> <li>Interventions that reduce congestion, noise levels, and GHG emissions (most notably the proposed Sussex and Solent Coast BRT systems) will have a positive impact on local townscape. Improvements to public transport will bring about positive placemaking opportunities.</li> <li>Railway and highway developments, particularly the construction of the Southampton Tunnel, will negatively affect elements of townscape character due to the associated impacts from additional lighting, street fixtures and maintenance equipment.</li> </ul>	<ul style="list-style-type: none"> <li>The active travel options presented throughout the SPOC Packages will result in 20,000 fewer daily car trips in 2050, therefore improving the city's townscape through a mode shift from car to active travel.</li> </ul>

# Summary of Environmental Benefits

Sub-Impacts	Summary of Packages	Assessment Outputs
<b>Heritage of Historic Resources</b>	<ul style="list-style-type: none"> <li>The Solent and Sussex Area is home to some of the country's most iconic historical environments and cities. There are opportunities to protect and enhance historic environments through improved design and landscaping.</li> <li>Several SPOC Packages are located within close proximity to cultural heritage sites. The construction of railway and highway developments is likely to disrupt historic landscapes, listed buildings, and conservation areas.</li> <li>However, improving public and active transport access to natural, protected, and historic environments will have beneficial effects on placemaking.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed LRT options along the Sussex Coast are set to run pass several listed buildings and monuments. Therefore, insensitive design and land take could result in negative effects on these designated heritage assets.</li> </ul>
<b>Biodiversity</b>	<ul style="list-style-type: none"> <li>Given the area's outstanding natural environment, interventions that support a modal shift to sustainable transport will benefit biodiversity through reduced disturbance to habitats.</li> <li>There are opportunities to achieve biodiversity net gain.</li> <li>The development of linear infrastructure within the OOA is likely to cause small scale loss of habitat and disruption to sensitive environments.</li> </ul>	<ul style="list-style-type: none"> <li>The Southampton Tunnel proposals would cross in close proximity to the Solent and Southampton Water SPA and Ramsar, Chessell Bay LNR, Lee-On-The Solent to Itchen Estuary and River Itchen SSSIs. Careful design will be needed to ensure that infrastructure required for these options doesn't result in degradation and disturbance of these significant sites and the unique habitats and species that reside within them.</li> </ul>
<b>Water Environment</b>	<ul style="list-style-type: none"> <li>The interventions have a predominantly neutral or uncertain impact on the water environment.</li> </ul>	



## Part 3d

# Social Impacts

## Summary of Social Benefits

The Packages of Interventions considered in the SPOC have been assessed against five of the DfT's Transport Appraisal Guidance Social and Distributional sub-impacts. SEELUM modelling outputs provide quantified assessments for accidents, physical activity, and journey time impact on Commuting and Other Users. A qualitative assessment of the reliability impact of commuting and other users and access to services has been determined using findings from the OAR.

Sub-Impacts	Summary of Packages	Assessment Outputs
<b>Commuting and Other Users</b>	<ul style="list-style-type: none"> <li>Evidence-based journey time savings across all packages (apart from Isle of Wight Mass Transit interventions).</li> <li>Solent and Sussex Coast Mass Transit services deliver high-quality, faster, more frequent, and direct public transport routes. Would support significant mode shift from car to bus, ferry and tram.</li> <li>Improved capacity, service frequencies, interchange and connectivity on the rail network with improved access for communities.</li> <li>Improved capacity and connectivity will be achieved through improvements to the strategic road network focussed on separating local and strategic traffic.</li> </ul>	<ul style="list-style-type: none"> <li>The South Hampshire Rail Core Package could achieve rail travel journey time savings of up to 15 minutes per passenger.</li> <li>Enhanced Rail Package would support c.30 minute "City to City" (Southampton – Portsmouth) rail journey times.</li> <li>Package 7 (Highways) will strengthen the resilience of transport networks by separating local and strategic traffic movements, reducing congestion and improving journey times.</li> </ul>
<b>Reliability Impact on Commuting and Other users</b>	<ul style="list-style-type: none"> <li>The SPOC packages present a largely positive impact on reliability as they would provide high-quality and reliable bus, rail, and highway networks.</li> <li>An accessible transport network will provide reliable access for residents to employment, education, healthcare and leisure.</li> </ul>	<ul style="list-style-type: none"> <li>The combined SPOC packages could lead to a reduction of up to 180,000 weekday return car journeys. This (in combination with higher quality public transport and active travel infrastructure and services) would lead to significant increases in reliability for all journeys.</li> </ul>
<b>Physical Activity</b>	<ul style="list-style-type: none"> <li>The Packages combined result in an increase in bus, rail, and walking trips, each of which support a modal shift away from private car use. As a result, public transport encourages walking/cycling trips which could have beneficial effects on physical activity and associated health benefits.</li> <li>With the exception of active travel options, highway development will encourage continued reliance on private car use. Having said this, both the Bognor Regis/ Littlehampton MRN and the A29 Schemes have pedestrian and cycle provision included in the design, therefore encouraging users to walk/cycle in the first and last mile of their journey.</li> </ul>	<ul style="list-style-type: none"> <li>The SPOC Packages combined will result in 180,000 fewer weekday return car trips by 2050. There will be 45,000 additional return rail journeys per day by 2050 and 170,000 more return bus journeys per day across all the Packages combined.</li> <li>Significant mode shift from car to active travel will generate associated health benefits.</li> </ul>



# Summary of Social Benefits

Sub-Impacts	Summary of Packages	Assessment Outputs
<b>Accidents</b>	<ul style="list-style-type: none"> <li>The modal shift from car to public transport and active travel has the potential to reduce the risk of major road casualties.</li> <li>New road and highway developments are built to high standards of safety.</li> </ul>	<ul style="list-style-type: none"> <li>185,000 fewer vehicle kilometres travelled a day as a result of all packages in 2050 compared to Business as Usual.</li> <li>Qualitative assessment as accidents / collisions resulting in KSIs reduced.</li> </ul>
<b>Access to Services</b>	<ul style="list-style-type: none"> <li>Improved access to services will connect individuals within the Sussex and Solent area to a wider range of jobs, services and facilities.</li> <li>Improved connectivity to the public transport network will particularly benefit those without access to a private car.</li> <li>Improvements to junctions along the A27 will help to separate local and strategic traffic, improve connectivity and the efficiency of the transport network.</li> </ul>	<ul style="list-style-type: none"> <li>The South Hampshire Rail Core Package could achieve rail travel journey time savings of up to 15 minutes per passenger.</li> <li>Enhanced Rail Package would support c.30 to 35 minute “City to City” (Southampton – Portsmouth) rail journey times.</li> </ul>



## Part 3e

# Conclusion and Value for Money Statement

# Conclusion and Value for Money Statement

The SPOC Packages will deliver an efficient, multi-modal transport system that will transform travel in the SPOC area. The impacts of the SPOC Packages support the delivery of the strategic objectives outlined here.

## Climate Change

- Most interventions are likely to result in an increase in GHG emissions through the carbon associated with the construction, maintenance and operation of interventions. However, the improvement of the rail and bus network could reduce GHG emissions over their operational lifecycles and encourage modal shift towards public transport.
- Combined Global Policy Interventions deliver significant reductions in carbon emissions.
- Mode shift from car to active travel modes will result in a significant contribution towards reducing carbon emissions and improving local air quality levels.

## Safety

- Upgrades to the strategic highway network will likely reduce accident levels given the high design standards introduced.
- Significant mode shift from car to active travel has the potential to reduce the risk and severity of accidents.

## Health and Wellbeing

- Improvements to rail and bus travel will support a shift from private car use to public transport, which will encourage active travel as users are likely to choose walking or cycling for the first and last mile of their journeys.
- Less vehicle trips will reduce GHG emissions and help to improve localised air quality.
- Several Packages include plans to unlock active travel opportunities, bringing about positive effects on both physical and mental health.

## Economy

- Upgrades to the public transport network within the Sussex and Solent area will unlock access to an enlarged labour market and increased agglomeration.
- In turn, greater access and connectivity to the Sussex and Solent area could facilitate tourism opportunities, which will further boost the local and regional economy.

## Society

- The SPOC Packages have the potential to support better placemaking through levelling up mechanisms. This will be achieved by reducing the number of cars on the road, improving levels of congestion, and reducing noise and air pollution levels.
- All Packages will connect communities to a wider range of jobs, services and facilities both within and outside of the study area. This will particularly benefit those without access to a private car.

## Natural and Historic Environment

- All packages will adopt the principles of environmental net gain through their design development.
- Several interventions are located in close proximity to some of the county's most iconic historical and natural environments.
- Considerate design is observed in the SPOC packages to avoid disturbance or damage to protected sites such as the South Downs National Park.

# Conclusion and Value for Money Statement

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## Value for Money Statement

- The value for money for the packages will consider the strategic fit and the quantified economic appraisal results. The quantified economic results are likely to vary widely between different types of schemes, but as a whole the SPOC is anticipated to represent value for money and to support the region in delivering across a number of policy ambitions.
- In addition to the monetised benefits captured above, the SPOC Packages are anticipated to result in a range of social benefits. The interventions will provide sustainable public transport alternatives, in turn reducing congestion and traffic delays which will improve the quality of life for residents within the Solent and Sussex Coast Area and achieve transport equality.
- There are likely to be several net environmental disbenefits as a result of the scheme. Noise, GHG emissions and air quality are likely to worsen during the construction stages of large-scale road and rail projects. However, it is important to consider the long term gains in generating a significant shift from private car use to public transport which supports environmental objectives.





## Part 4

# Financial Dimension

# Introduction

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## Overview of the Financial Dimension

**The Financial Dimension considers the affordability of the Packages for the Solent and Sussex Coast Area.**

The Financial Dimension includes:

- Capital funding requirements;
- Maintenance and renewal funding requirements; and
- Affordability considerations.

## Contents

**Part 4a sets out the indicative funding requirement for the SPOC Packages.**

It presents:

- an overview of the cost estimation approach and key assumptions;
- the capital cost estimate for all of the Packages of Interventions; and
- maintenance and renewal estimates

**Part 4b outlines affordability considerations.**

It sets out:

- considerations for funding and financing the package; and
- potential spend profile.

# Alignment with Department for Transport Business Case Guidance

The table below sets out DfT’s requirements for the Financial Dimension and the level of detail expected at Strategic Outline Case stage. The final column of the table shows where the Financial Dimension addresses each requirement.

TAG Issue	TAG Requirement	Progress at SOC	Reference
Introduction to affordability	Outline the approach taken to assess affordability	Outline	Part 4b
Budgets and funding cover	Provide analysis of the budget and funding cover for the proposal: set out, if relevant, details of other funding sources	Outline	Part 4b
Costs	Provide details of the expected whole life costs, when they'll occur, breakdown and profile of costs by those parties on whom they fall, and any risk allowance required.	Outline	Part 4a & 4b
Accounting implications	Describe the expected impact on the organisation's balance sheet	Not Required	N/A



## Part 4a

# Funding Requirement



# Capital Costs

## Overview

The capital cost estimates have been prepared to a level of detail commensurate with the maturity of the design of the interventions.

Items and quantities have been priced using either published costs or built up based upon industry standard rates.

Where intervention estimates have been built up, percentage allowances have been added for design fees, STATS and land costs.

To reflect the maturity of the design a risk allowance has been applied.

All estimates have a base year of 2020.

The maintenance and renewal estimates are based on an allowance of the capital cost estimate.

Capital cost estimates for the interventions are based on current published OAR, SOC, OBC and FBC estimates where these exist and have been located.

Those interventions that have no published cost information available have had their construction costs built up based on type of intervention (rail, MRT, highways, active travel and placemaking), high level scope (route lengths, number of stations, allowances for structures, major junction improvements etc), location (urban or rural), nature (standard or high spec/'statement' intervention, all new or upgrades).

The resulting items and quantities have been priced using historic project data and industry standard published data, with cognisance made of the location and nature of the intervention. Allowances have been made for main contractor's preliminaries and overhead and profit on the same basis.

Percentage allowances to cover for professional/client fees, STATS and land costs have been applied to the construction costs at levels based on amounts allowed for generally in business cases and from experience in working on rail and highway schemes with Network Rail and National Highways.

## Risk

To reflect the lack of maturity of the design on which these 'bottom up' estimates are based, risk allowances have been applied at levels commensurate with SOC estimates, informed by TAG as follows detailed in the table below.

Mode	Allowance	Rationale
Rail and Mass Rapid Transit	56%	Latest TAG (as of May 2021) SOC level OB for rail – Considered to be similar for MRT
Highways and Active Travel	46%	Latest TAG (as of May 2021) SOC level OB for roads
>£250m and complex schemes	200%	Supplementary Green Book Guidance on OB - upper value for development

## Price Ranges

Estimates have been presented as low, medium and high range of costs. This reflects a level of uncertainty in cost estimating accuracy, due to the lack of maturity of the design for many schemes, but these are typically +/- 10-15% in relation to the medium cost.

The exception to this is the South Hampshire Rail (Enhanced) package of interventions where the range is significantly greater, as there is less certainty around these schemes at present.

# Capital Costs

## Nominal costs

Construction inflation in the period 1990 - 2020 averaged 3% (compound) per annum (according to BCIS Road Tender Indices).

Based upon the assumed delivery programme for the interventions and packages of interventions forecast construction inflation has been applied at an annual 3% compound interest to the 2020 capital cost estimates (medium) for each intervention to the final year of construction (opening year).

## Example cost calculation based on rates

As mentioned above, where capital costs were not available from published sources, such as OAR, SOC, OBC and FBC, estimates were calculated based upon rates of the type of intervention.

Estimates also allowed for Indirect Construction Costs, Project Design Team Fees, and Risk.

An example is provided to the right.

Ref	Description	Qty	Unit	Rate	Amount
<b>1</b>	<b>Direct Construction Works</b>				
					0.00
	New four platform station west of the current stat	1.00		2,500,000.00	2,500,000.00
					0.00
	over bridge	1.00		650,000.00	650,000.00
					0.00
	Decommission old station	1.00		2,200,000.00	2,200,000.00
					0.00
	Resignalling	1,000.00	m	1,000.00	1,000,000.00
	Passing Loops	400.00	m	5,000.00	2,000,000.00
					0.00
					0.00
					0.00
					0.00
					0.00
					0.00
	<b>TOTAL DIRECT CONSTRUCTION COSTS:</b>				<b>8,350,000.00</b>
	<b>ADD</b>				
<b>2</b>	<b>Indirect Construction Costs</b>				
2.01	Preliminaries			20%	1,670,000.00
2.02	Overheads and Profit			6%	601,200.00
	<b>ADD</b>				<b>2,271,200.00</b>
<b>3</b>	<b>Project/Design Team Fees and Other Project Costs</b>				
3.01	Design Team Costs			10%	835,000.00
3.02	Project Management Team Costs			15%	1,252,500.00
3.03	Other Project Costs				
					<b>2,087,500.00</b>
	<b>ADD</b>				
<b>4</b>	<b>Risk</b>				
4.01	Total Risk Allowance			56%	<b>7,116,872.00</b>
					<b>19,825,572.00</b>

# Capital Costs

The Table below presents the Capital Cost Estimates for the Solent and Sussex Coast Packages.

Package Description	Low Cost (£m, 2020 prices)	Mid Cost (£m, 2020 prices)	High Cost (£m, 2020 prices)
South Hampshire Rail (Core)	400	600	900
South Hampshire Rail (Enhanced)	3,300	3,700	3,900
Solent Mass Transit	1,600	1,800	1,900
Solent Active Travel	300	350	400
Isle of Wight	200	250	250
Sussex Coast Rail	150	350	650
Sussex Coast Mass Transit	400	450	450
Sussex Coast Active Travel	250	250	300
Solent and Sussex Coast Highways	3,100	3,500	4,100
<b>Total Solent and Sussex Coast</b>	<b>9,700</b>	<b>11,200</b>	<b>12,800</b>

# Maintenance and Renewals

## Maintenance and Renewals

Having reviewed historical data of similar types of schemes, maintenance and renewals average circa:

- 2.56% of capital costs for rail, over a 30-year period.

This is made up of a typical rate of:

- 0.08% per year for maintenance
- + 0.1% in year 20 for renewal
- + 0.16% in year 30 for a further renewal

7.5% of capital costs for MRT, active travel and highways, over a 30-year period.

This is made up of a typical rate of:

- 0.1% per year for maintenance
- + 1.5% in year 20 for renewal
- + 3% in year 30 for a further renewal

The table shows a flat rate of 2.56% and 7.5% respectively applied against the 2020 base price of each package of interventions.

Annual maintenance and renewal cost estimates for the Solent and Sussex Coast Packages are presented in the table to the right.

Package Description	Mid Cost (£m, 2020 prices)
South Hampshire Rail (Core)	15
South Hampshire Rail (Enhanced)	95
Solent Mass Transit	135
Solent Active Travel	30
Isle of Wight	20
Sussex Coast Rail	25
Sussex Coast Mass Transit	35
Sussex Coast Active Travel	220
Solent and Sussex Coast Highways	260
<b>Total Solent and Sussex Coast</b>	<b>635</b>





## Part 4b

### Affordability

# Funding Sources

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## Funding Sources

**There are a number of funding sources to potentially support infrastructure investment in the South East.**

These funding sources, identified below, vary in the likely amount of funding they will generate and the challenges associated with their implementation. Additionally, new funding sources may emerge in response to environmental, economic and social changes over the life of TfSE's Transport Strategy.

Potential funding sources include:

- Central Government funding, e.g. Housing Infrastructure Fund, Transforming Cities Fund
- Rail Enhancement/Renewals funding, e.g. Rail Network Enhancements Pipeline
- National Roads Fund, e.g. Roads Investment Strategy, Major Road Network
- Third party contribution, e.g. from major private sector investors, land/asset owners, and developers
- Local rates/levies, e.g. Work Place Parking Levy, Business Rate Supplement

## Affordability

**To afford the identified cost of the proposed packages a range of funding and financing sources will be required.**

A large proportion of this funding should be secured from local sources, with the funding strategy seeking to capture part of the value from the investment that accrues to a range of local beneficiaries.

The development of the funding strategy will therefore consider ways of capturing the uplift in benefits enabled by the interventions as this will reduce reliance on the public purse. Capturing these benefits to generate funding for transport infrastructure can be achieved by developing an appropriate funding package.

Currently, Transport for the South East do not have the powers to raise funding. Dependent on the level of devolution granted by central government, TfSE could gain these powers, as well as utilising the powers available to local councils and authorities that are partners to TfSE.

Given the scale of investment proposed and the range of transport infrastructure interventions, a portfolio of funding sources will be required reflecting the nature of beneficiaries and the criteria for the funds.

An additional potential funding source will be farebox revenue from the surplus from public transport services, once operating costs are met.

TfSE would not collect these additional funds themselves so they would be required to work with local transport providers to understand if this is a viable funding mechanism for transport infrastructure improvements.

# Developing the Indicative Spend Profile

An estimated total implementation time was calculated using sub-categories of intervention displayed on the table overleaf.

## Current Stage

Stages of scheme development for each intervention type are identified below and used in the table overleaf. The project stages used were:

- Pre-SOBC (Preparation for the Strategic Outline Business Case)
- SOBC (Strategic Outline Business Case)
- OBC (Outline Business Case)
- FBC (Full Business Case)
- Pre-DCO (Development Consent Order) / PI (Public Inquiry)
- DCO (Development Consent Order) / PI (Public Inquiry)
- Delivery (or construction / implementation)

Where information on the project stage was missing or clearly in a very early concept stage, the intervention was assumed to be at the Pre-SOBC stage.

For smaller or simpler interventions, not all stages may be required.

## Implementation Time

The total implementation time assumptions for each of these range from 0-2 years for an active travel service improvement to 15-20 years for a new offline rail infrastructure scheme (see table overleaf).

If there was published information for a particular intervention on the construction start year, end year and/or construction duration then this was applied instead of the assumed construction time.

## Phasing

A high level forecast was also calculated, categorising the schemes into:

- Short-term
- Medium-term
- Long-term

Short-term schemes were judged to have a construction start date in 2030 or before. Medium-term schemes were judged to have a construction start date between 2031 and 2040. Long-term schemes were judged to have a construction start date 2041 onwards.

For the spend profile, an even distribution of was assumed between the construction start year and construction end year for each intervention. The total for all the interventions in that year provides the total construction spend estimated for each particular year.

As only a small proportion of total capital spend takes place prior to construction, all capital spend were assumed to be incurred during construction.

# Developing the Indicative Spend Profile

Indicative timescales for different intervention categories										
Category	Sub-Category	Time	Max Years	Pre-SOBC	SOBC	OBC	FBC	Pre-DCO/PI*	DCO/PI*	Delivery
Rail	Rail - New Offline Rail Infrastructure	15-20 years	20	20	15	12	10	8	6	5
Rail	Rail - New Online Rail Infrastructure	5-10 years	10	10	7	6	5	4	3	2
Rail	Rail - Service Improvement	0-7 years	7	7	5	4	3	N/A	N/A	1
Rail	Rail - Reinstating Line	10-15 years	15	15	12	10	8	7	5	4
Rail	Rail - Level Crossing Removal	5-7 years	7	7	6	5	4	3	2	1
Mass Rapid Transit	MRT - New BRT/MRT	5-10 years	10	10	7	6	5	4	3	2
Mass Rapid Transit	MRT - New Ferry/Waterway	5-8 years	8	8	6	5	4	N/A	N/A	2
Mass Rapid Transit	MRT - Service Improvement	0-5 years	5	5	4	3	2	N/A	N/A	1
Mass Rapid Transit	MRT - New Strategic Mobility Hub	3-5 years	5	5	4	3	2	2	1	1
Mass Rapid Transit	MRT - Infrastructure Improvement	3-5 years	10	10	8	7	6	N/A	N/A	1
Active Travel	Active Travel - New Cycleway/Footways	2-5 years	5	5	4	3	2	N/A	N/A	1
Active Travel	Active Travel - Improved Cycleways/Footways	1-3 years	4	4	3	2	1	N/A	N/A	1
Active Travel	Active Travel - Service Improvement	0-2 years	4	4	3	2	1	N/A	N/A	1
Active Travel	Active Travel - Mobility Hubs	2-3 years	3	3	3	3	2	2	1	1
Active Travel	Active Travel - Online Road Improvements	2-3 years	3	3	3	3	2	N/A	N/A	1
Active Travel	Active Travel - Offline Road Improvements	3-5 years	5	5	4	3	3	2	1	1
Highways	Highways - Junction Improvement	3-5 years	5	5	4	3	3	2	1	1
Highways	Highways - Widening	3-5 years	5	5	4	3	3	2	1	1
Highways	Highways - New Online Infrastructure Improvement	3-5 years	5	5	4	3	3	2	1	1
Highways	Highways - Bridge/Tunnel	15-20 years	20	20	15	12	10	8	6	5
Highways	Highways - Bypass/Relief road	10-15 years	15	15	12	10	8	7	5	4
Highways	Highways - Lorry Park	5-7 years	7	7	6	5	4	3	2	1
Highways	Highways - Service Improvement	2-5 years	4	4	3	2	1	N/A	N/A	1

\* If required.



# Developing the Indicative Spend Profile

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## Potential Scheme Promoters

**An indicative spend profile for the SPOC interventions has been developed. This will be developed further as work progresses.**

To develop an indicative spend profile by scheme promoter, a category was applied to each intervention according to its type.

The assumed scheme promoters spending categories and the corresponding funding source were as follows, but noting that there is an important role for the private sector, partnerships, and innovative funding and financing tools:

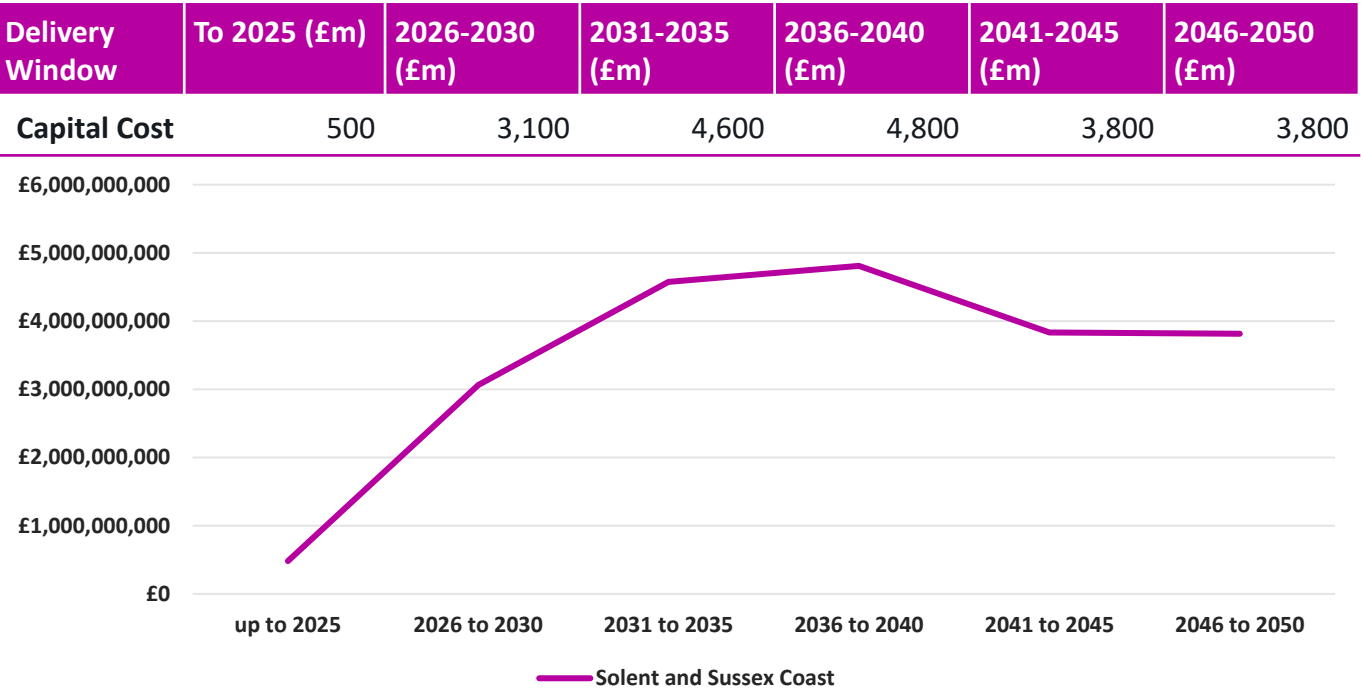
- **Rail** – Network Rail
- **Mass Rapid Transit** – Local Transport Authorities
- **Active Travel** – Local Transport Authority
- **Strategic Road Network** – National Highways
- **Major Road Network** – Local Transport Authority

# Indicative Spend Profile

## Spend by potential scheme promoter

Scheme promoter	Mid Cost (£m), 2020 prices
Network Rail	4,700
National Highways	3,200
Local Transport Authority	3,300
Total	11,200

## Spend profile (in outturn prices)



# Funding and Financing

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## Financing upfront costs

**To bridge the mismatch in timing between the costs of implementing the interventions and the realisation of the resulting funding streams, financing for the packages will be required.**

As with the funding sources described above, there are a number of potential financing opportunities, each with different criteria and challenges to TfSE. These include:

- Public Work Loans Board, the largest lender to local authorities
- UK Infrastructure Bank, recently established by government to increase infrastructure investment
- Commercial Lending, an option if more attractive options such as PWLB or UKIB are unavailable

## Funding and Financing Strategy

**A robust funding and financing strategy is required to ensure the affordability of the packages set out in this SPOC.**

At this stage it is anticipated that the strategy will be framed by the following principles:

- Drawing on local funding sources for a significant proportion of funding required to deliver the transport infrastructure proposals
- Funding sources to cover operating, maintenance and ideally renewal costs
- TfSE working with local authorities to ring-fence revenue for transport infrastructure investment
- Attracting new investment (with associated taxes) to the region through enhanced connectivity brought by the new infrastructure

Further detail on the funding and financing strategy will be set out in the Strategic Investment Plan, which will document the anticipated investment profile over the life of the Transport Strategy and the associated funding and financing mechanisms required to deliver them.

The Strategic Investment Plan will further explore the requirement for government funding, which will partially be used for the development of schemes.



## Part 5

# Commercial Dimension



# Introduction

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## Overview

**The Commercial Dimension addresses the commercial viability of delivering the Packages of Interventions.**

The Commercial Dimension outlines the viable procurement options to engage the appropriate service providers in the delivery of the Package of Interventions. The level of detail reflects the early stage of programme development and the level of detail available for the schemes identified in the Packages of Interventions.

It therefore demonstrates the various procurement options available without determining the preferred procurement route, and in doing so identifies the potential roles for TfSE and its partners in the delivery of the Transport Strategy.

The Commercial Case for the Packages of Interventions will be developed in further detail as part of the Strategic Investment Plan and within the individual Packages of Interventions specific OBC stage.

## Contents

### Part 5a Viability

This identifies the elements needed to structure a procurement strategy, such as:

- understanding of the services;
- output specification;
- market assessment;
- deliverability assessment, and
- Risk assessment and management.

### Part 5b Procurement

Outlines the available routes in terms of:

- procurement models;
- delivery models; and
- contract strategies.

## Alignment with Department for Transport Business Case Guidance

The table below sets out DfT's requirements for the Commercial Case and the level of detail expected at Strategic Outline Case stage. The final column of the table shows where the Commercial Dimension addresses each requirement.

TAG Issue	TAG Requirement	Progress at SOC	Reference
Commercial approach	Outline the approach taken to assess commercial viability	Complete	Part 5a
Output-based specification	Summarise the requirement in terms of outcomes and outputs, supplemented by full specification as an annex	Outline	Part 5a
Procurement strategy	Detail the procurement and purchasing options including how they will secure the economic, social, and environmental factors outlined in the economic dimension	Outline	Part 5b
Human resource issues	Describe any personnel, people management and trade union implications, where applicable, including TUPE regulations	Partial	Part 5b
Sourcing Options	Explain the options for sources of the provision of services to meet the business need: this may include partnerships, frameworks and/or existing supplier arrangements, with the rationale for selecting preferred sourcing option.	Outline	Part 5b
Payment mechanisms	Set out the proposed payment mechanisms that will be negotiated with the providers	Not Required	N/A
Pricing framework and charging mechanisms	Include incentives, deductions and performance targets	Not Required	N/A
Risk allocation and transfer	Present an assessment of how the types of risk might be apportioned or shared, with risks allocated to the party best placed to manage them subject to achieving value for money	Not Required	N/A
Contract length	Set out scenarios and rationale for contract length, including proposed key contractual clauses	Not Required	N/A
Contract management	Provide a high -level view of implementation timescales: detail additional support for in-service management during rollout and closure and set out arrangements for managing the contract through project or service delivery	Not Required	N/A



## Part 5a

# Viability Considerations

# Viability Considerations

## Understanding the Services

At this stage TfSE will act as the leading promoter of the Packages of Interventions. It has been established that this includes a variety of projects, stakeholders and potential service providers.

Confirmation of the scope and key service requirements of each Package of Interventions will be the first step towards the understanding of its viability.

TfSE in discussion with relevant partners identified hereafter should seek to confirm in principle:

- ‘Core’ services to be procured to justify the investment and achievement of benefits as set out in the Strategic Dimension;
- ‘Desirable’ additional services which can be still justified on a VfM basis; and
- ‘Optional’ services that are beneficial, possible and affordable.

**Table 5.1** presents our assumptions for the proposed key delivery partners for each Package of Interventions included in this SPOC. It is likely to be a combination in many instance, either for a single intervention or different interventions within a package.

Table 5.1: Packages of Interventions

Package of Intervention	Proposed Key Delivery Partners
Solent (Core)	DfT – Network Rail – Local Authorities – Operators – Private Sector
Solent (Enhanced)	DfT – Network Rail – Local Authorities – Operators – Private Sector
Solent Mass Transit	DfT – Local Authorities – Network Rail – National Highways – Operators – Private Sector
Solent Active Travel	DfT – Local Authorities – Sustrans – National Highways – Private Sector
Isle of Wight	DfT – Network Rail – Local Authorities – Operators – Private Sector – Sustrans
Sussex Coast Rail	DfT – Network Rail / HS1 – Local Authorities – Operators – Private Sector
Sussex Coast Mass Transit	DfT – Local Authorities – Network Rail – National Highways – Operators – Private Sector
Sussex Coast Active Travel	DfT – Local Authorities – Sustrans – National Highways – Private Sector
Solent and Sussex Coast Highways	DfT – National Highways – Local Authorities – Private Sector
Global Policy Package	DfT – National Highways – Network Rail – Other Government Departments and their agencies – Operators – Local Authorities – Operators – Private Sector

For many interventions, it is likely TfSE will be a key delivery partner, and for some interventions, it may be beneficial for TfSE to be a (co-)scheme promoter. In many instance, DfT are likely to be a key delivery partner through funding or interventions requiring ministerial approval.



# Viability Considerations

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## Output Specification

**To ensure the ‘right thing, is being bought in the right way’ a clear output specification will be required for each Intervention.**

Reflecting the level of definition for many of the Interventions under consideration in this SPOC, the Deliverability Assessment undertaken for the Options Assessment Report (OAR) considered a range of criteria at a high level for each typology. (These are set out under MCAF below.)

Central to ensuring a robust procurement strategy will be determining a detailed output specification for each intervention and reconfirming their deliverability and areas of risks.

## Market Assessment

**The range of intervention typologies represented in the SPOC Packages are generally reasonably technically mature proposals and therefore there is confidence that the supplier market has the capability and capacity to deliver them.**

As illustrated in the MCAF analysis of deliverability for the OAR, each of the typologies was assessed not to present a significant technical risk and an established supplier market is known to exist (e.g. for highway and rail enhancements, mass rapid transit, mobility hubs).

Additionally, the Packages of Interventions identified in this SPOC provide a divisible programme of schemes. This provides flexibility in the scale and timing of delivery of the interventions, aiding the development of a pipeline and hence ensuring supplier capacity.

## Sponsorship/ Procurement Options

**The range of typologies and divisible nature of the Packages of Interventions identified in this SPOC provides an opportunity to select the best sponsorship and delivery model for each Intervention or Package of Interventions.**

Given this flexibility, there are a range of routes to market. It is anticipated that a number of separate scheme promoters and delivery contracts will be required.

Further, given the anticipated timescales for delivering the full set of Packages, it is likely that the procurement options available to the scheme promoters, particularly in terms of specific contracts, will change during the lifecycle of the project. Therefore, the commercial and procurement strategy will evolve as the programme develops.

Potential sponsors will include, among others:

- TfSE
- Local Transport Authorities
- National Highways
- Network Rail
- DfT

## Viability Considerations

The Multi Criteria Assessment Framework applied at the OAR stage included a high-level assessment of the deliverability of each intervention. Each intervention was scored on a scale of 1 to 5 against the following criteria:

- **Capital costs:** Interventions were assigned a score based on their anticipated cost range. Interventions expected to incur high capital costs were assigned a score of 1, while those with lower costs were assigned a score of 5.
- **Value for Money:** Value for Money assessments were broadly based on the scale of funding each intervention is expected to need. For example, larger Nationally Significant Infrastructure Projects were generally assigned lower scores than interventions requiring less public funding.
- **Affordability:** Affordability was assessed against the likelihood that funding can be provided. It considered the attractiveness of the project to delivery partners to provide funding, and whether there is a need for additional funds from non-government sources. Interventions with high levels of affordability were allocated a score of 5, and those deemed least affordable were allocated a score of 1.
- **Timescales:** Interventions were assigned timescale bands, which encompassed short term (considered those that would be delivered within five years), medium term (delivered within five to fifteen years), and long-term (greater than fifteen years beyond the Local Plan end date) in line with Local Plan needs.
- **Technical Complexity:** Technical complexity was based on benchmarking against comparable schemes. 'Riskier' projects were assigned lower scores than less risky projects.
- **Acceptability:** At this stage of the assessment, it was assumed that those interventions with smaller budgets are more likely to be developed, funded, and supported by both the general public and politicians than those of a much greater scale of impact.
- **Evidence Base:** Finally, the Project Team reviewed the evidence base informing the development of each proposed Intervention. Those interventions that can cite projects that have been successfully delivered in the UK were awarded higher scores than those supported by 'thinner' evidence bases.

Only the interventions which were assessed as being deliverable, namely were scored more highly, were progressed to the packaging of interventions stage and considered in this SPOC.

# Viability Considerations

## Risk Assessment

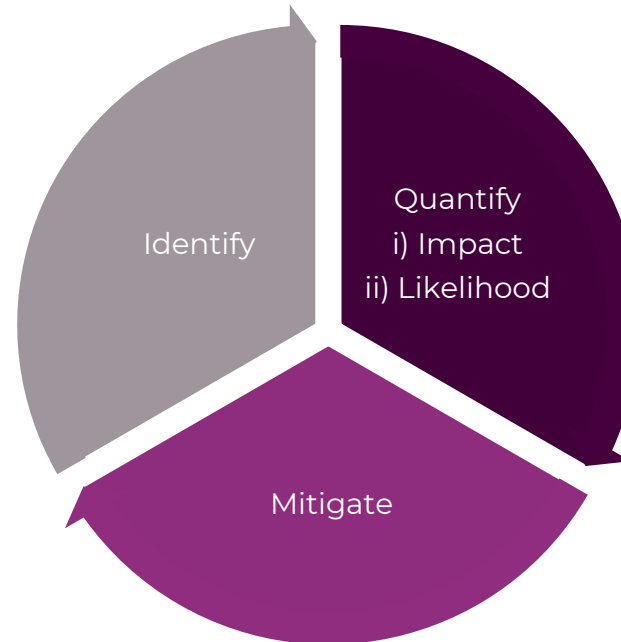
For each Package risks should be identified, quantified and mitigated in line with the methodical approach outlined within HM Treasury's Green Book.

The scheme risks can largely be grouped into the following categories:

- Risks to the project programme
- Political risks
- Risks to scheme cost
- Risks to scheme funding
- Risks to operations
- Design and information risks
- Health and safety risks
- Reputational risks

Risk should be quantified by assessing the likelihood (or probability) of them occurring, denoted as 'P', and the severity of impact on the project, denoted as 'I'. Using a 5-point scale from 1 (low) to 5 (high) the significance of these factors can be scored. These scores are multiplied by each other ( $P \times I$ ) to determine the total risk score, which ranges from 0-25.

Figure 5.1: Approach to Risk Assessment



An illustration of an approach to risk assessment is shown in **Figure 5.1**.

Following the initial assessment of scheme risks, a systematic approach should be adopted to respond to risks and allocate responsibility to the most appropriate party in line with the governance arrangements.

One of the following four strategies can be adopted for each risk when developing a suitable response plan:

- **Accept or tolerate** consequences in the event that the risk occurs, where a) the cost of taking any action exceeds the potential benefit gained; or b) there are no alternative courses of action available
- **Treating the risk:** continuing with the activity that caused the risk by employing four different types of control – preventative, corrective, directive and detective controls
- **Transferring the risk:** risks transferred to a third party e.g. insurer or contractor
- **Terminating** the activity that gives rise to the risk

Following the implementation of these strategies, if a risk can be treated and its effects mitigated, the risks should be 're-scored', and this new score included in the risk register.

# Management of Risks

## Governing Principle

**The governing principle, as described by HM Treasury, is that specific risks should be allocated to the party best able to manage it, subject to the risk premium.**

This is intended to share risk between the promoter, stakeholders and potential service providers. As the development of the Packages of Interventions progresses and the commercial strategy to support their delivery is developed, the following principles should be taken into account:

- The public sector should consider transferring risk to the private sector when the service provider is better able to influence the outcome than the procuring authority.
- The degree to which risks may be transferred depends on the specific proposal under consideration.
- The private sector should be encouraged to take the risks it can manage more effectively than the public sector; particularly where it has clear ownership, responsibility and control.
- The successful negotiation of risk transfer requires a clear understanding by the procuring authority of the risks presented by a proposal; the broad impact that these risks may have on the service provider's incentives and financing costs (cost drivers); and the degree to which risk transfer offers Value for Money.

## Consideration of Risks

**TfSE should seek to apportion or share the different types of risks between parties, with risks allocated to the party best placed to manage them subject to achieving value for money.**

The delivery of the Packages should be set in a way that:

- allocates risk appropriately across contracts;
- incentivises the intended outcomes in terms of performance, efficiency and innovation;
- facilitates the delivery of the project to time and budget; and
- secures the targeted economic, social and environmental benefits of the project as discussed with stakeholders and agreed with decision makers.

**A Draft Risk Register for this SPOC is presented in the Management Case.**



## Part 5b

# Procurement and Sourcing Options



# Procurement and Sourcing Options

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## Sourcing Options

In place of the Official Journal of the European Union's Tenders Electronic Daily (OJEU/TED), the Find a Tender Service (FTS) is the new UK e-notification service where notices for new procurements are required to be published.

All public-sector tenders valued above £4,551,413 (for infrastructure projects) must be advertised. Furthermore, Public Contract Regulations PCR 2021 indicate that:

- Minimum thresholds for sub-central governments is £25,000
- Public supply and services contract and their design context threshold is £213,477

There are several procurement procedures available to schemes to which the FTS/OJEU values apply. These each have particular benefits and use cases, as follows.

## Open Procedure

This procedure allows an unlimited number of interested parties to tender against defined parameters. There are no restrictions (e.g. pre-qualification) on the parties who are permitted to tender, meaning that some parties may not be suitable to carry out the work. This procedure is straightforward and transparent but can attract a large number of potential bidders (which will require a greater degree of assessment and resource requirements).

This route is not usually recommended for construction projects due to the high number of tenders that could be expected and the particular skills and experience that may be required of potential bidders.

## Restricted Procedure

This is a two-stage procedure. The first stage allows the contracting authority to set the minimum criteria relating to technical, economic and financial capabilities that the potential bidders must satisfy. Following evaluation of the responses to the first stage a minimum of five bidders (unless fewer qualify) are invited to tender in the second stage. This process is typically used to appoint consultants or contractors on traditionally procured projects.

## Accelerated Restricted Procedure

As for the Restricted Procedure, but used where, for reasons of urgency, the contracting authority must procure the contract in a reduced time frame. Any contracting authority wishing to use this procedure must be able to demonstrate the reasons of urgency.

# Procurement and Sourcing Options

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## Competitive Dialogue Procedure

This procedure is appropriate for complex contracts where contracting authorities:

- Are not objectively able to define the technical means capable of satisfying their needs or objectives, and / or
- Are not objectively able to specify the legal and/or financial make-up of a project.

This is a multi-stage procedure. The first stage is a pre-qualification to select the potential bidders to participate in the dialogue. In the second stage, the contracting authority enters into a dialogue with the potential bidders to identify and define the means best suited to satisfying their needs. Any aspect of the contract may be discussed, including technical requirements for the works to be delivered and the commercial / contractual arrangements to be used. The dialogue may be conducted in successive phases with the remaining bidders being invited to tender.

By the end of the dialogue phase the contracting authority's requirements will have been determined such that the scheme can be tendered. In the final stage, the remaining bidders from the dialogue phase are invited to tender for the scheme.

## Competitive Procedure with Negotiation

Within this procedure, bidders initially submit tenders based on the information issued by the contracting authority. The contracting authority is then able to review the tenders it has received and negotiate with the bidders, following which the tenders will be resubmitted. This procedure may therefore be useful where the requirements are well developed initially, and full tender documents can be produced but it is felt that there may be advantage in retaining the ability to hold negotiations if there are certain aspects which bidders raise.

## Preferred Procurement Procedure

Considering the size, complexity and value of the Packages and Interventions within the SPOC, it is likely that a combination of the above procurement procedures will be used to procure the necessary services to support the delivery of TfSE's Transport Strategy.

As the SPOC interventions will be delivered using a programme approach, the opportunity to deliver individual interventions or packages of work within the programme will dictate the procurement and sourcing options for individual packages of work.

# Procurement and Sourcing Options

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## Programme Sequencing

There may be a requirement in due course to prioritise the Packages of Interventions. For this purpose, a framework for programme sequencing could be based on:

- objective fit / benefit impact / cost-benefit analysis;
- deliverability – ease of delivery based on sponsor funding and staffing resource availability;
- profitability – potential of revenue generation;
- by nature of intervention - geography, value, ongoing liability; and
- link to wider benefits; and
- Interdependencies with other Packages and Interventions.

Further consideration of the programming of the interventions will be addressed in the Strategic Investment Plan.

## Challenges/Blockers

The risks identified during the viability review should be taken forward through procurement. Risk should be captured in contracts and passed on where possible. Additional risks related to the chosen procurement method should also be considered.

## Additional Resourcing

TfSE will provide resource where appropriate. This could involve:

- business case and scheme development, including use of analytical framework;
- scheme prioritisation, (securing) funding, and advocacy;
- procurement and sourcing supply chains for development / planning and construction / operations; and
- staff resource and resource funding to support the above as well as build capacity and capability within scheme promoters' own organisations.

In addition, Transport for the South East has recently been awarded funding by the Department for Transport to support Local Transport Authorities in the delivery of their Local Transport Plans. The support will help LTAs to enhance their capability in key areas, such as the development of business cases, scenario planning and undertaking carbon impact assessments. The initial stage of the work will involve identifying the capability gaps, with the latter stages providing support to address these areas.

This work will form the initial stages of the development of our Centre of Excellence proposal and will help to determine how TfSE supports the proposals identified by local transport authorities over the rest of the financial year.



## Part 6

# Management Dimension

# Management Case

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## Overview

**The Management Dimension sets out the proposed approach for managing the delivery of the SPOC Packages.**

The Management Dimension identifies the need for robust arrangements to be in place for:

- Delivery
- Monitoring and evaluation of the scheme (including feedback into the organisation's strategic planning cycle)

For each Package of Interventions, there will need to be a **Management Plan** to ensure that each intervention is being managed in accordance with best practice, government guidance, subjected to independent assurance and that the necessary arrangements are in place for:

- Change and contract management
- Risk management
- Benefits realisation
- Lessons management
- Data information security
- Project closure

## Contents

### Part 6a Governance Arrangements

This identifies the considerations for establishing:

- Programme management
- Governance structure
- Communications plan

### Part 6b Delivery Plan

Outlines the areas to address to ensure the successful delivery of the SPOC Packages, including:

- Project plan
- Benefits realisation plan

### Part 6c Delivery Risks

Addressing management of delivery risks in terms of planning, strategies and mitigation.



# Alignment with Department for Transport Business Case Guidance

The table below sets out the DfT’s requirements for the Management Dimension and the level of detail expected at Strategic Outline Case stage. The final column shows where the Management Dimension addresses each requirement.

TAG Issue	TAG Requirement	Progress at SOC*	Reference
Introduction and objectives	Outline the approach taken to assess if the investment is deliverable	Complete	Part 6a
Evidence of similar projects	Provide evidence of similar projects that have been successful to support the recommended project approach.	Complete	To be included at further business case stages
Governance, organisational structure and roles	Describe key roles, accountability's, roles and responsibilities and how they are resourced	Complete	Part 6a
Assurance	Assurance strategy and plan with key assurance and approval milestones	Complete	To be included at further business case stages
Programme or project reporting	Describe the reporting arrangements including delegated authorities, exception reporting, tolerances and change control	Outline	Part 6b
Programme or project scope, dependencies and constraints	Set out deliverables and decisions that are provided/ received from other projects and any constraints	Outline	To be included at further business case stages
Project implementation	Summarise the key-work packages, product and work break down structures for executing work	Outline	Part 6b
Programme or project plan	Outline a plan with key milestones, progress and include a critical path	Outline	Part 6b
Stakeholder engagement and communications	Set out the communications strategy and plans that accounts for all stakeholders, aligning with those outlines in the strategic dimension	Outline	Part 6a
Risk and issues management	Provide arrangements for risk management and issues that are likely to affect delivery and implementation	Outline	Part 6c
Lessons management	Produce a strategy and plan for learning from other proposals, learning throughout the proposal and sharing lessons with other teams.	Outline	To be included at further business case stages
Benefits management	Produce a longlist of prioritised benefits and a Benefits Logic Map to show how benefits contribute to strategic objectives.	Outline	Part 3e
Data Information Security	Explicitly address the protection of critical systems, digital assets and commercially sensitive data	Outline	To be included at further business case stages
Benefits management and evaluation	Set out the approach to managing the realisation and a credible plan for the evaluation of benefits including a set of Benefit Profiles	Outline	Part 6b
Project Closure	Summarise arrangements for project closure and how data will be captured for future benchmarking	Outline	To be included at further business case stages

\***Note:** Given the early stage of the work not all SOC requirements have been completed at this stage.



## Part 6a

# Governance Arrangements

# Programme Management and Governance

## Managing, Successful Programmes

The Cabinet Office’s recommended methodology for the delivery of programmes is Managing Successful Programmes (MSP).

MSP represents proven good practice for successfully delivering transformational change and is drawn from the experiences of both public and private sectors. TfSE’s approach will align with this.

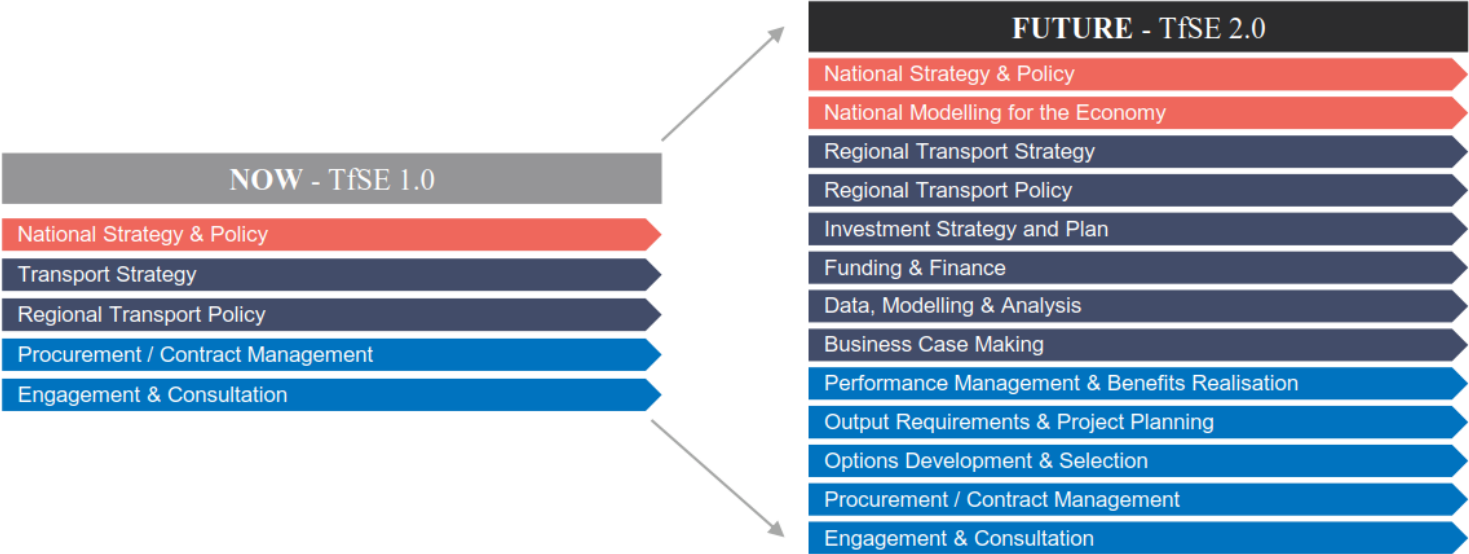
## TfSE Future Capability Requirements

To deliver the Transport Strategy and successfully manage the SPOC Programme it is recognised that TfSE will need to grow and develop new capabilities to undertake a greater range of activities, including the governance of major programmes.

This is captured in the Future Organisation Report (Arup) and an example structure for TfSE is shown in **Figure 6.1**.

An organisational set up such as TfSE 2.0 would enable TfSE to lead and work more directly on the Package of Interventions Delivery Plans, monitor benefit realisation plans and take Senior Responsible Officer roles where suitable.

Figure 6.1: TfSE Project Governance (Source: Future Organisation Report, 2021)



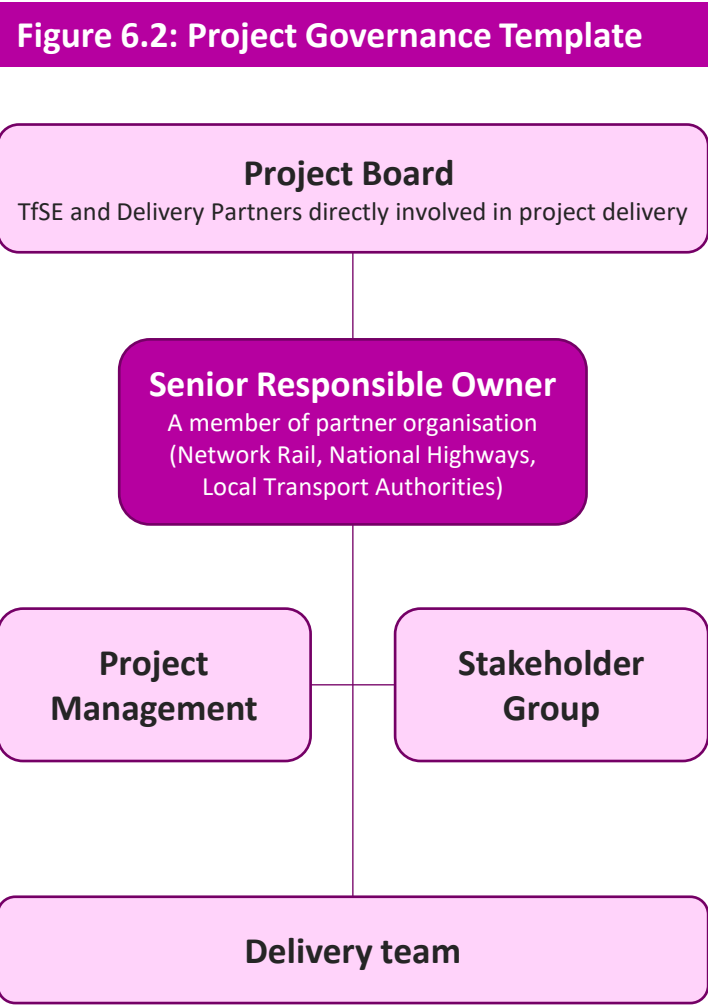
The successful delivery of the programmes and projects will build upon the experience of the delivery partners.

# Programme Management and Governance

## Governance Structure

Project specific governance will need to be defined for each project. The overall structure should include a **Senior Responsible Owner (SRO)**, a **Project Board**, and **key stakeholder group**. An example structure is shown in **Figure 6.2**.

- The SRO will be the Sponsor of the Project and, as such, will be responsible for the project outcomes and delivery.
- The SRO can be a member of the project delivery partner organisation (e.g., Network Rail, National Highways, Local Transport Authorities).
- The board should include members of TfSE and key delivery partners directly involved in the project delivery.
- The project board should meet regularly to review project progress and make decisions. The board will review the business case at appropriate project plan milestones.
- The stakeholder group will include organisations indirectly linked to the delivery of the project but interested in the project outcomes.



## Strategy, Framework and Plans

For each Package of Interventions the **Management Plan** will include:

- Estimated timing of the delivery of each intervention in the Package;
- Identified ‘owners’ and/or ‘sponsors’ for each intervention;
- Estimated costs for each intervention;
- Governance frameworks (or options thereof) to support the delivery of the Packages; and
- Key Delivery Risks.

# Stakeholder Engagement

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## Stakeholders

**The Area Study Programme has been supported by extensive stakeholder engagement activity.**

As set out in the Introduction to this SPOC, at the outset of this study, TfSE and the Technical Advisor team undertook a stakeholder mapping exercise for the Solent and Sussex Coast Area to categorise key organisations and individuals according to their interest and influence.

This exercise enabled TfSE to define four distinct tiers of stakeholder. For each of these tiers, a tailored engagement approach has been followed.

TfSE has refreshed the Stakeholder Mapping exercise undertaken at the beginning of the Area Study Programme to update their approach for the Strategic Investment Plan development and forthcoming consultation.

## Stakeholder and Communication Plan

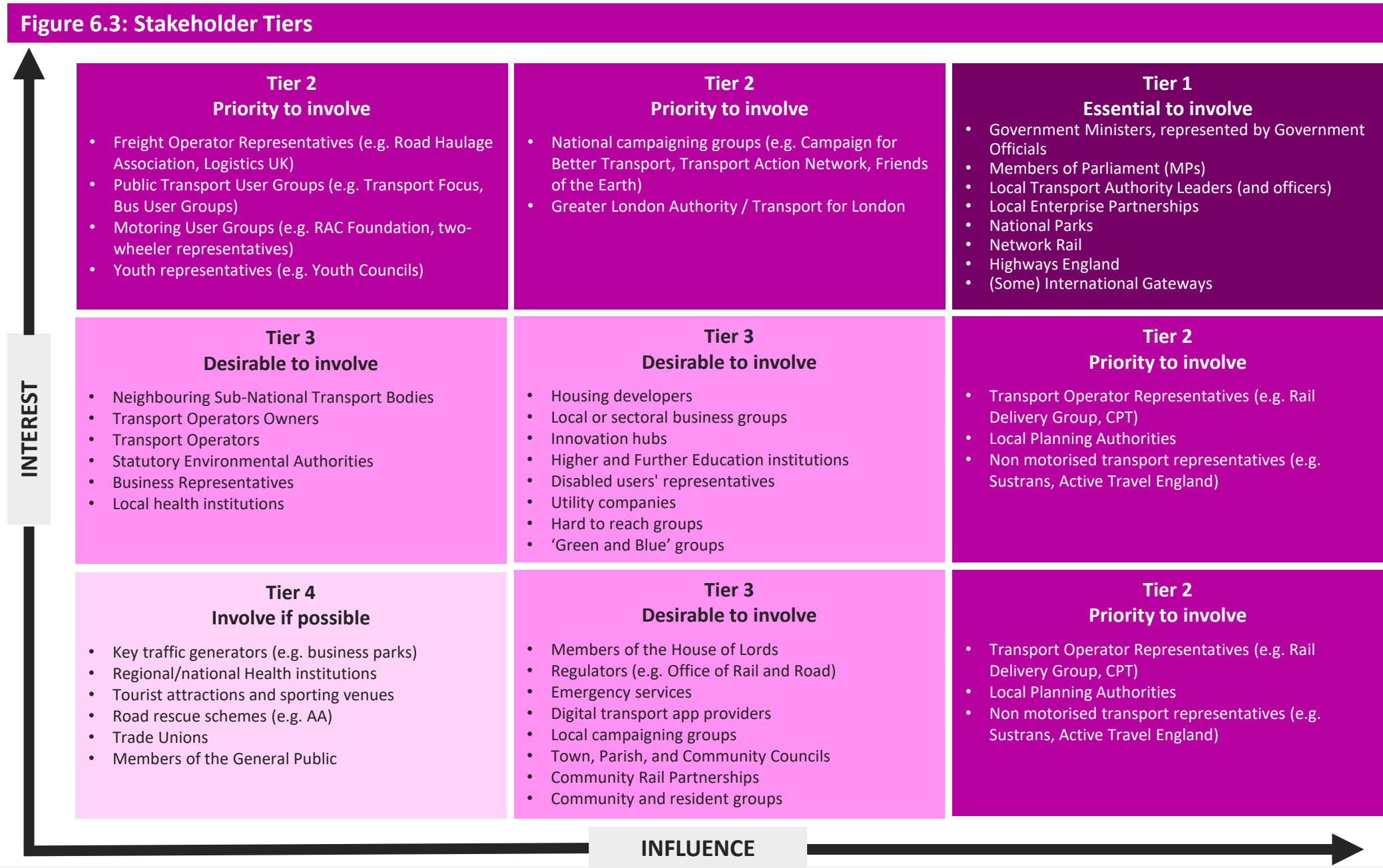
**Building on the stakeholder engagement to date, it is proposed that a Stakeholder and Communications Plan be developed to support the delivery of the Strategic Investment Plan.**

Given the wide range of stakeholders across the region, their differing views and specific local contexts, this Stakeholder and Communications Plan will reconfirm the stakeholders and their tiers, set out how and when and by whom they will be engaged, and the input sought from them and its purpose in the overall project programme. This is summarised in **Figure 6.3** overleaf.

The profile of stakeholders who will need to be engaged in future stages may be different to those involved at earlier stages. For example, there will likely need to be more engagement with potential funders and delivery partners (developers, constructors, operators, etc) to ensure the development of the Packages of Interventions are informed by the best available advice.



# Stakeholder Mapping





## Part 6b

### Delivery Plan

# Delivery Plan

## Project Management

**PRINCE – PRojects IN Controlled Environment (PRINCE2)** represents proven good practice in project management and is drawn from the experiences of both public and private sectors over many years.

PRINCE2 is the Cabinet Office's recommended methodology for the delivery of projects and will be appropriate for the programme and project framework for the further development of the SPOC Packages and their successful delivery and realisation of forecast benefits.

In developing the Package Delivery Plans, consideration will be given to:

- Projects: structure
- Reporting arrangements
- Governance arrangements
- Key roles and responsibilities
- Appointed personnel and any vacancies

A Senior Responsible Owner will be identified in the Delivery Plan.

## Senior Responsible Owner

**The SRO is accountable for the programme (at the SPOC level and Package level as appropriate), and for ensuring that it meets its objectives and delivers the expected benefits.**

The individual who fulfils this role should be able to lead and champion the programme and must be empowered to direct the programme and take decisions; for example, whether to delay or stop any part of the programme. The SRO must have sufficient seniority and authority to provide leadership to the programme and take on accountability for delivery.

The day-to-day leadership may be undertaken by a Programme Director, but this is not an alternative to the SRO role.

The Package programme business case will identify an SRO as suitable based on the project type and availability. It is anticipated that SRO could be sourced from:

- Network Rail for rail related projects and possibly DfT and TfSE;
- National Highways and possibly DfT for Strategic Road Network related projects; and
- Local Authorities or TfSE for local highway, placemaking or policy related projects.

## Programme Plan

**The Programme Plan is used to control and track the progress and delivery of the programme and resulting outcomes.**

It supports the Delivery Plan and describes how, when and by whom a specific project, milestone or set of targets will be achieved. It is the detailed analysis of how identified programme targets, milestones, deliverables and products will be delivered to timescales, costs and quality.

The current assumptions for the indicative durations for the different types of interventions comprising the different Packages are presented overleaf in the tables over. Planning timescales needs to reflect the scale and complexity of the scheme and its current stage (e.g. pre-SOBC, SOBC, OBC etc) and what powers and consents are required along with major considerations such as securing funding and land assemblage.

For each Package a Programme/Project Plan will be developed indicating milestones and critical paths.

## Delivery Plan – Assumption Summary (Rail and Mass Rapid Transit)

Category	Sub-Category	Timeframe	Implementation
Rail	New Offline Rail Infrastructure	15-20 years	5 years
Rail	New Online Rail Infrastructure	5-10 years	2 years
Rail	Service Improvement	2-7 years	1 years
Rail	Reinstating Line	10-15 years	4 years
Rail	Level Crossing Removal	5-7 years	1 years

Category	Sub-Category	Timeframe	Implementation
MRT	New BRT/MRT	5-10 years	3 years
MRT	New Ferry/Waterway	5-8 years	2 years
MRT	Service Improvement	2-5 years	1 years
MRT	New Strategic Mobility Hub	3-5 years	2 years
MRT	Infrastructure Improvement	3-5 years	1 years

## Delivery Plan – Assumption Summary (Active Travel and Highways)

Category	Sub-Category	Timeframe	Implementation
Active Travel	New Cycleway/Footways	2-5 years	1 year
Active Travel	Improved Cycleways/Footways	1-3 years	1 year
Active Travel	Service Improvement	0-2 years	1 year
Active Travel	Mobility Hubs	2-3 years	1 year
Active Travel	Online Road Improvements	2-3 years	1 year
Active Travel	Offline road improvements	3-5 years	1 year
Active Travel	New Cycleway/Footways	3-5 years	1 year

Category	Sub-Category	Timeframe	Implementation
Highways	Junction Improvement	3-5 years	1 year
Highways	Widening	3-5 years	1 year
Highways	New Online Infrastructure Improvement	3-5 years	1 year
Highways	Bridge/Tunnel	15-20 years	5 years
Highways	Bypass/Relief Road	10-15 years	4 years
Highways	Lorry Park	5-7 years	2 years
Highways	Service Improvement (e.g. CAZ)	3-5 years	1 year



# Benefits Realisation Plan

## Benefits Management

A benefit is defined as *“the measurable improvement resulting from an outcome perceived as an advantage by one or more stakeholders, which contributes towards one or more organisational objectives”*.

In the 30-year Transport Strategy TfSE outlines its goals, priorities and principles to achieve a sustainable transport strategy which has the potential to deliver £450 billion GVA backing high growth sectors and create 475,000 jobs.

To support the realisation of this benefits management should be undertaken throughout the project lifecycle and into operations/business-as-usual, not just during investment decision-making. The identification of benefits should happen before a project is even initiated, informed by a defined problem, strategy or policy.

At a strategic level TfSE has undertaken this benefit identification within the Transport Strategy. These benefits are then developed throughout the project lifecycle, and then typically measured during project delivery and after the project has closed.

## Best Practice

For benefits management to be successful the SROs should consider applying the following principles throughout the lifecycle:

- Benefits management should be integrated into other project management activities and should be a regular, continuous activity.
- Project benefits should be identified, quantified and managed in line with the programme to ensure consistency between projects.
- Benefits management should be evidence-based and driven by data.
- As far as practicable, benefits should be specific enough and isolated enough so that their realisation can be directly attributed to the project/programme.

## Outputs, Outcomes, and Impacts



The TfSE Transport Strategy KPIs should form the basis from which the Package business case should develop the initial desired outputs, outcomes and impacts for the Packages of Interventions programme. This should align with the Theory of Change Framework, as presented in Part 2f.

These desired outputs, outcomes and impacts are the actual benefits that are expected to be derived from the programme:

- **Desired outputs** – tangible effects that are funded and result from the programme.
- **Desired outcomes** – what happens as a result of the outputs.
- **Desired impacts** – the final impacts brought about by the scheme in the short, medium and long term as a result of the outputs and outcomes.

The TfSE Transport Strategy KPIs, as set in ‘A bold vision for a brighter future’ monitoring section are set out below. These describe the desired outputs, outcomes and impacts in the Economic, Social and Environmental dimensions.

# Benefits Realisation Plan – Priorities and Indicators

	Strategic Priorities	Indicators
 Economic	Better connectivity between our major economic hubs, international gateways (ports, airports and rail terminals) and their markets.	<p>The delivery of improved road and railway links on corridors in need of investment.</p> <p>Improved public transport access to Heathrow and Gatwick Airports.</p> <p>Improved long-distance rail services (measured by journey time and service frequency).</p>
	More reliable journeys for people and goods travelling between the South East's major economic hubs and to and from international gateways.	<p>Improved Journey Time Reliability on the Strategic Road Network, Major Road Network, and local roads (where data is available).</p> <p>Improved operating performance on the railway network, measured by Public Performance Measure (PPM) and other available passenger and freight performance measures, where available (e.g. right time delivery).</p>
	A transport network that is more resilient to incidents, extreme weather and the impacts of a changing climate.	<p>Reduced delays on the highways network due to poor weather.</p> <p>Reduced number of days of severe disruption on the railway network due to poor weather.</p> <p>Metrics relating to reduced delay on road network suffering from Road Traffic Collisions.</p>
	A more integrated approach to land use and transport planning that helps our partners across the South East meet future housing, employment and regeneration needs sustainably.	<p>The percentage of allocated sites in Local Plans that are developed in line with Local Plans.</p>
	A 'smart' transport network that uses digital technology to manage transport demand, encourage shared transport and make more efficient use of our roads and railways.	<p>Increase in the number of bus services offering 'Smart Ticketing' payment systems.</p> <p>Number of passengers using 'Smart Ticketing'.</p> <p>Number of passengers using shared transport.</p>
 Social	A network that promotes active travel and active lifestyles to improve our health and wellbeing.	<p>Increase in the length of the National Cycle Network in the South East.</p> <p>Increase in the length of segregated cycleways in the South East.</p> <p>Increase mode share of trips undertaken by foot and cycle.</p> <p>Number of bikeshare schemes in operation in the area.</p> <p>Mode share of walking and cycling.</p>

# Benefits Realisation Plan – Priorities and Indicators

	Strategic Priorities	Indicators
 Social	Improved air quality supported by initiatives to reduce congestion and encourage further shifts to public transport.	Reduction in NOx, SOx and particulate pollution levels in urban areas.
	An affordable, accessible transport network for all that promotes social inclusion and reduces barriers to employment, learning, social, leisure, physical and cultural activity.	A reduction in the indicators driving the Indices of Multiple Deprivation in the South East, particularly in the most deprived areas in the South East area.
	A seamless, integrated transport network with passengers at its heart, making it simpler and easier to plan and pay for journeys and to interchange between different forms of transport	Increase in the number of cross-modal interchanges and/or ticketing options in the South East.
	A safely planned, delivered and operated transport network with no fatalities or serious injuries among transport users, workforce or the wider public.	Reduction in the number of people Killed and Seriously Injured by road and rail transport.
 Environmental	A reduction in carbon emissions to net zero by 2050 to minimise the contribution of transport and travel to climate change.	Reduction in carbon emissions by transport.
	A reduction in the need to travel, particularly by private car, to reduce the impact of transport on people and the environment.	<p>A net reduction in the number of trip kilometres undertaken per person each weekday.</p> <p>A reduction in the mode share of the private car (measured by passenger kilometres).</p>
	A transport network that protects and enhances our natural, built and historic environments.	<p>No transport schemes or interventions result in net degradation in the natural capital of the South East, instead aiming for environmental net gain for priority ecosystem services (such as natural flood risk management).</p> <p>No transport schemes or interventions result in a net loss of biodiversity, but seek to achieve a minimum of 10% net gain in biodiversity managed for 30 years, in line with the requirements of the Environment Bill.</p>
	Use of the principle of 'biodiversity next gain' ( i.e. development that leaves biodiversity in a better state than before) in all transport initiatives	<p>Use of the principle of 'biodiversity next gain' in all transport initiatives.</p> <p>No transport schemes or interventions result in a net loss of biodiversity, but seek to achieve a minimum of 10% net gain in biodiversity managed for 30 years, in line with the requirements of the Environment Bill.</p>
	Minimisation of transport's consumption of resources and energy.	Reduction in non-renewable energy consumed by transport.



## Part 6c

# Delivery Risks

# Delivery Risks

## Planning Risk Management

**Risk management is a structured approach to identifying, assessing and controlling risks that emerge during the course of the policy, programme or project lifecycle.**

Its purpose is to support better decision making through understanding the risks inherent in a proposal and their likely impact.

Effective risk management supports the achievement of wider aims, such as:

- effective change management;
- the efficient use of resources;
- better programme and project management;
- minimising waste and fraud; and
- innovation.

## Risk Management Strategy

**Strategies for the proactive and effective management of risk involve:**

- identifying possible risk in advance and putting mechanisms in place to minimise the likelihood of them materialising with adverse effects;
- having processes in place to monitor risks, and access to reliable, up-to-date information about risks;
- the right balance of control to mitigate against the adverse consequences of the risks if they should materialise; and
- decision making processes supported by a framework for risk analysis and evaluation.

Risk management strategies for individual policies, programmes and projects should be adopted in a way that is appropriate to their scale.

## Risk Mitigation and Management

**Recognised methods for the mitigation of risk throughout the lifespan of the policy, programme or project include:**

- early consultation;
- avoidance of irreversible decisions.
- pilot studies;
- flexible design;
- precautionary action;
- procurement and contractual mitigation;
- manage reliance on technology; and
- alternative options.

Programme risk registers should be developed for each Package of Interventions to include the risks to the project delivery and consideration of the above-mentioned mitigation methods.

A draft programme risk register has been developed and is presented below.



## Draft Risk Register (1 of 3)

Risk	Impact	Likelihood	Mitigation	Owner	P	I	Risk
Project Programme External Dependencies	Project realisation and benefit realisations are delayed because of external Package of Interventions dependencies (e.g., DfT funding programmes)	Likely	Identify external dependencies and seek alternatives. Where alternatives are not possible identify critical path on Package programme and liaise with external stakeholders as soon as practical	TfSE	3	5	15
Project Cost	Value for Money and Benefit Realisation can be affected (negatively) by raising cost (or positively by decreasing cost)	Very Likely	Consideration of risk and optimism bias In the cost plan should be accounted for, e.g. in relation to optimism and effects of the wider UK economy on project capital cost (labour, material...)	TfSE	5	3	15
Funding	Scheme realisation might be impacted by change in funding availability	Likely	Alternative funding plans should be explored to mitigate the risk of funding un-availability including capturing point of no-return on Package	TfSE	3	5	15

## Draft Risk Register (2 of 3)

Risk	Impact	Likelihood	Mitigation	Owner	P	I	Risk
Project Programme Inter - Dependencies	Benefit realisation and programme delays due to dependencies between Packages of Interventions	Likely	Identify dependencies between packages either due to practical programme rationale (e.g. deliver station and cycle interchange prior to opening MRT) or benefit realisation (e.g. passengers unable to reach MRT station due to missing first/last mile links)	TfSE	3	4	12
Political Risk	Policy is driven by political agenda and changes in political leadership might impact the realisation of project and benefits	Likely	Keep all political stakeholders apprised of programme benefits and progress	TfSE	4	3	12
Design, Information & Engagement	High level nature of specification of package interventions inherently carries risks associated with implications of ultimate design, which will be confirmed at a later stage and stakeholder opposition	Very Likely	Set up and keep updated a package specific risk register as soon as practical and communicate benefits clearly	TfSE	4	3	12

## Draft Risk Register (3 of 3)

Risk	Impact	Likelihood	Mitigation	Owner	P	I	Risk
Operational	Package of Interventions need to be defined in more detail to confirm operating company's interest in participating in their delivery	Likely	Define the scope of the intervention in further detail and consult operating companies on viability and interest	TfSE	3	3	9
Reputational Risk	Risk related to misperceptions over timescales, nature of interventions and their impacts	Likely	An information management plan should be drafted including the level of information access and protection of sensitive information, with clear definition of roles and responsibilities for disseminating information	TfSE	3	3	9
Health and Safety	Risk of project delays and costs resulting from exposure to future waves of COVID-19 and health and safety of staff working on Package development	Likely	Each organisation involved should keep a risk register and sign up to TfSE risk management processes. Each organisation should follow UK government advice on COVID-19 related practices in relation to the work environment	TfSE and other parties involved	3	2	6

**For further information  
please contact**

**Sarah Valentine**

TfSE Client Project Manager

[Sarah.Valentine@eastsussex.gov.uk](mailto:Sarah.Valentine@eastsussex.gov.uk)

**Steven Bishop**

Technical Advisor Programme

Director

[Steven.Bishop@steergroup.com](mailto:Steven.Bishop@steergroup.com)

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