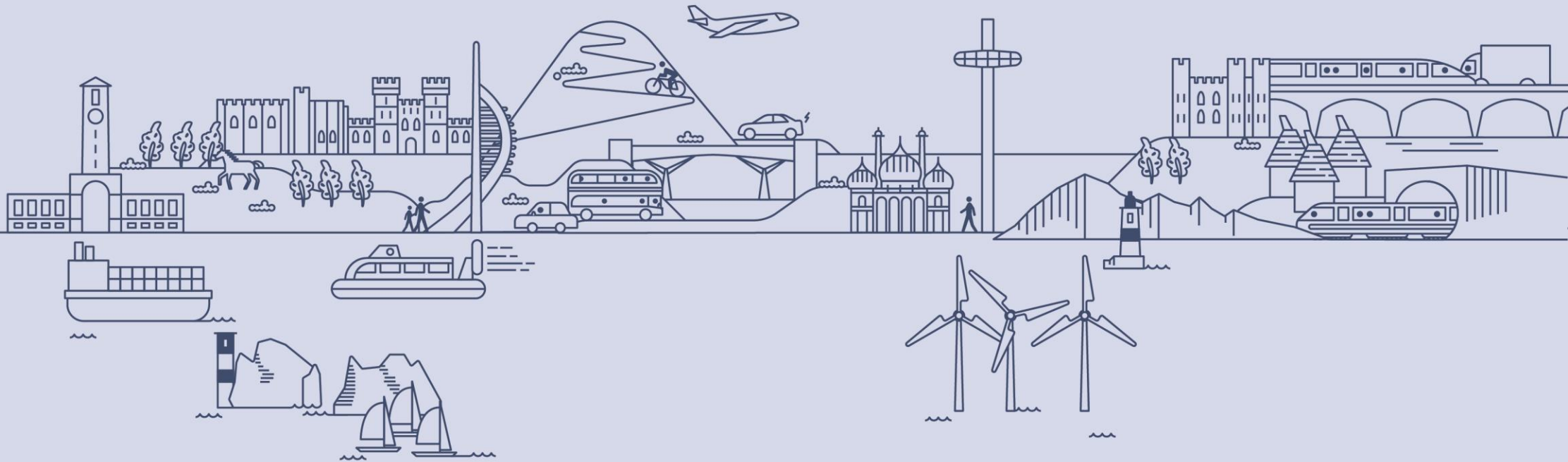# Bus, Shared Mobility and Mass Transit Thematic Plan

Version 2

March 2023

Part 1: Introduction

Introduction

Purpose

This Thematic Plan outlines TfSE's ambitions for bus, shared mobility and mass transit in the South East.

This plan forms part of TfSE's Area Study Programme, which developed Strategic Outline Programme Cases for four areas within South East England. It complements five other Thematic Plans (see **Figure 1.1** overleaf) for Highways, Railways, Decarbonisation, Strategic Active Travel and Micromobility, and Levelling Up.

This plan describes the current issues and challenges facing bus, shared mobility and mass transit in the South East. It also explores how bus, shared mobility and mass transit could develop to counter future threats and leverage future opportunities.

This plan then outlines five packages of Interventions that have been developed and describes the potential benefits each could generate and presents early capital cost estimates.

This plan also outlines how the **packages of interventions** might be delivered and explores how TfSE can play a role in bringing this plan to life.

Contents

The rest of this plan is presented in six parts, which are listed below.

- **Part 2** describes the historical **context** of bus, shared mobility and mass transit, from the early developments to the COVID-19 pandemic. It also discusses where these types of transport are best place to add value, and how;

- **Part 3** summarises the key **issues and opportunities** relevant to bus, shared mobility and mass transit in the South East that have been identified by the Area Studies;

- **Part 4** outlines TfSE's long-term strategic **Vision and Objectives** for bus, shared mobility and mass transit;

- **Part 5** describes seven **packages of interventions** that have been developed to enable TfSE to secure its Vision and Objectives;

- **Part 6** presents the estimated **benefits and costs** associated with each package of intervention; and

- Finally, **Part 7** considers how to **deliver** the packages of interventions.

Next Step

The Strategic Investment Plan will make the case for investing in bus, shared mobility and mass transit.

TfSE is developing a Strategic Investment Plan (SIP) that will sythesise the technical work undertaken by TfSE to date and present a compelling case for investment in all modes of transport in South East England.

The SIP will include a more detailed examination of potential funding opportunities beyond central government, and it will outline how TfSE, its partners, and its constituent authorities will work together to deliver positive change.

Although the Transport Strategy approved and published in 2020 is not a Statutory Document, the UK government has stated it will give "due regard" to it. The SIP is an integral part of the Transport Strategy development process, articulating the case for investment and a delivery plan to 2050.
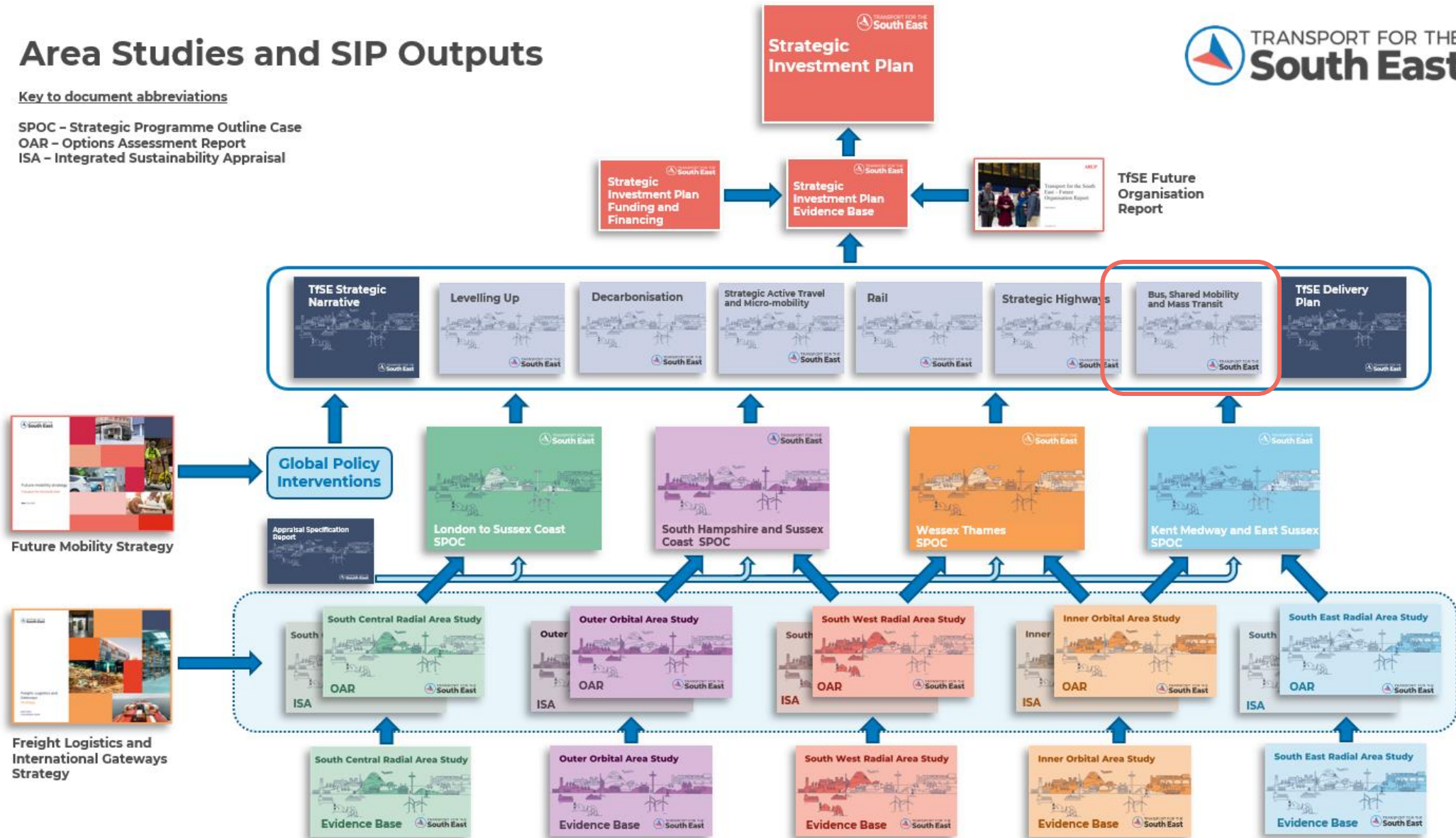
Bus, Shared Mobility and Mass Transit Thematic Plan

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South East

Process

Area Studies and SIP Outputs

Key to document abbreviations

SPOC – Strategic Programme Outline Case
OAR – Options Assessment Report
ISA – Integrated Sustainability Appraisal

Bus, Shared Mobility and Mass Transit Thematic Plan

Part 2: Context

Where bus, shared mobility and mass transit works best

Role of bus, shared mobility and mass transit

Bus, shared mobility and mass transit have a key role to play in helping TfSE deliver its strategy.

Buses are the UK's most used mode of public transport, used for twice as many journeys as trains, from thousands more stopping places across the country[1].

They are also one of the most efficient and environmentally sustainable ways of making journeys; dense, frequent, and high-quality bus networks provide the opportunity for people to live car-lite (or even car-free) lives, reducing their personal carbon emissions, reducing congestion, and improving air quality.

At present, bus services within the TfSE area are far from perfect. Services are often split between different companies, ticketing mechanisms are not standardised, and congestion has increased bus journey times, ultimately making them less reliable and attractive for users. Like all forms of public transport demand for bus was reduced during the pandemic and has still not returned to pre-pandemic levels.

Shared mobility enables people to access shared modes, through apps and websites, when they need them including car clubs, bikes, e-bikes and e-scooters and are currently less common in South East.

Conversely, mass transit was previously more common in the South East with many systems operating in between the late 19th Century and early 20th Century. Today, there are far fewer , but several operate successfully in the region.

Key advantages

The key advantages are as follows:

- Buses are versatile, cheaper and quicker to procure and operate than other forms of mass transit;

- Shared mobility can help deliver a complete point-to-point journey;

- Mass transit can carry large volumes of passengers quickly and efficiently; and

- A comprehensive network of the public transport should include a mix of modalities that are integrated, flexible, fast, reliable and clean safe.

Key limitations

However, it is important to understand the limitations of bus, shared mobility and mass transit:

- Bus services do not provide a competitive alternative to cars, often, without complementary measures that facilitate bus priority and manage the demand for car travel (e.g. parking restraint).

- Shared mobility can present cultural barriers to sharing trips with strangers and can be less convenient and flexible than private modes. It is also reliant on use of technology that may exclude some and prohibit uptake.

- Mass transit is expensive to construct, maintain, and operate, and this is reflected in fares that are often unaffordable for many people.

- If not integrated, made easy and effective to use, bus, shared mobility and mass transit will not address the declining use and increasing cost to the remaining users and the Local Authorities (LAs) to support ongoing services in need of financial support.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Historical Context (Mass Transit)

Tram, streetcar or trolley systems

Tram, streetcar or trolley systems, all effectively mass transit, were much more common in the South East in the 19th and 20th Centuries than today.

The first systems were horse drawn trams, which were latterly replaced with steam, the first mechanical trams, and then gas traction power. The first electric tramway in the United Kingdom was Volk's electric railway which was opened in 1883 in Brighton.

Each system typically operated for 30 years with the one notable exception in Southampton.

Table 2.1 presents the historical context of early mass transit in South East from 1884, when one of the earliest steam powered tramways was operated in Brighton until the closure of the electric tramway in Southampton in 1949.

More recently there have been some mass transit system reintroduced in the South East. All are bus-based and include associated infrastructure and priority measures.

Table 2.1: Historic Mass Transit (Electric) in South East			
Location	**Name of system**	**Date (from)**	**Date (to)**
Brighton	Brighton Corporation Tramways	25/11/1901	31/08/1939
Chatham	Chatham and District Light Railways Company	17/06/1902	30/09/1930
Dover	Dover Corporation Tramways	6/09/1897	31/12/1936
Gravesend	Gravesend and Northfleet Electric Tramways	02/08/1902	28/02/1929
Hastings	Hastings and District Electric Tramways	31/07/1905	15/05/1929
Maidstone	Maidstone Corporation Tramways	14/07/1904	11/02/1930
Margate-Ramsgate	Isle of Thanet Electric Tramways and Lighting Company	04/04/1901	24/03/1937
Gosport-Fareham	Gosport and Fareham Tramways	20/12/1905	31/12/1929
Rye-Camber	Rye and Camber Tramway*	09/03/1905	1939
Sheerness	Sheerness and District Tramways	09/04/1903	07/07/1917
Shoreham-by-Sea	Brighton and Shoreham Tramways*	3/07/1884	06/06/1913
Southampton	Southampton Corporation Tramways	1/07/1898	31/12/1949

*Steam

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE **South East**

Historical Context (Bus)

The First Motor Buses

From the start of the 20th century motor powered bus services grew in popularity and replaced horse drawn buses.

Both tramway operators and railway companies were early adopters, and dominant operators emerged quickly resulting in the expansion of bus service coverage as new routes were offered further away from the South East.

The **Road Traffic Act 1930** ended a period of competition and introduced the first system of bus service regulation, which resulted in the cessation of a number of small operators and the emergence of increasingly dominant larger operators.

Nationalisation

Post World War II Clement Attlee's Government commenced a programme of the nationalisation of public transport via the **Transport Act 1947**. By the 1960's bus patronage was on the decline and the **Transport Act 1968** was intended to revert this, rationalise public ownership of bus services and support socially necessary services .

Deregulation

Bus deregulation was the transfer of operation of bus services from public bodies to private companies, legislated by the Transport Act (1985).

Margaret Thatcher's Government commissioned a white paper into the bus industry. This resulted in the implementation of the **Transport Act 1985** on 26 October 1986 and the deregulation of bus services in England, Scotland and Wales. Deregulation did not apply to London Buses which in was split into 11 quasi-independent companies that were privatised in 1994/95. In order to operate a service all an accredited operator was required to do was provide 56 days' notice to the Traffic Commissioner of their intention to commence, cease or alter operation on a route. This had a near immediate negative impact with existing operators facing direct competition on the most profitable routes from other operators seeking to increase revenue and market share. Unscrupulous and unsafe practices were common and, in some cases resulted in the so-called 'bus wars' that required authorities to intervene.

Most Popular Form of Public Transport

Buses allow people to travel for work, education or leisure and provide access to vital services, including hospitals, schools, and community services.

Most journeys on public transport in Great Britain are made by bus[1]. The number of local bus passenger journeys in England fell by 238 million or 5.5% to 4.07 billion in the year ending March 2020. This is contrasted by the 1.73 billion rail journeys during the same period

For many people buses are essential to their quality of life. In evidence presented at Inquiry on Bus Services outside of London, a representative of the Department for Transport (DfT) stated:

> "Buses serve city economies by helping people access work, deepening labour markets, and helping to tackle congestion. They also have an important contribution to make in reducing emissions in cities through moving people from cars onto cleaner ultra-low emission buses. Outside of city centres, they provide access to jobs and services, especially for those without access to a car."[2]

TRANSPORT FOR THE South East

Historical Context (Bus contd.)

Bus Services Act provides for local transport authorities to create arrangement to improve bus services in their areas, and to introduce advanced ticketing schemes.

Partnership working

The **Bus Service Act (2017)** provides for two types of statutory partnership: Advanced Quality Partnership (AQP) and Enhanced Partnership (EP) schemes.

AQPs extend the measures that local authorities can offer as part of a partnership from purely infrastructure facilities, such as bus lanes, to service-based initiatives such as parking restrictions and traffic management policies. AQPs rely on good relationships between the local authority and the bus operator.

EPs go further than AQPs. The local authority and bus operators can agree shared standards. These can include route requirements, such as frequency and timetables, and operational requirements, such as branding, payment methods, ticketing structure and real time information. An EP can only be implemented if a "sufficient number" of operators of qualifying local services do not object.

Franchising

Franchising allows LAs to decide how bus services are provided, determine routes, and set fares and standards of service within an area. It is available to all LAs but only Mayoral combined authorities, and Cornwall as part of its devolution deal, have an automatic right to franchise bus services.

A franchising scheme may be made by one authority, or two or more acting together, and can cover the whole or any part of their area.

Franchising, also referred to as local control, gives metro mayors similar powers to the Mayor of London over buses, allowing them to specify the service in their area – the routes, fares, frequencies and quality of service. IT has only been an option for a short period of time and there are five steps to local control;

1. Assess the proposed scheme
2. Have this independently audited
3. Consult on the proposal
4. Analyse the responses
5. Decide on whether to proceed

Voluntary bus Partnerships

A Voluntary bus Partnership (VP) is an agreement between local authorities and bus operators, whether contractual or not, regarding the provision of bus services. VPs can take many different forms. A partnership allows a local authority and bus operator to make joint commitments to invest in local bus services. For example, a local authority could invest in bus stops and the bus operator will invest in low emission buses.

VPs are typically more widely used as local authorities and bus operators are encouraged to look at the voluntary option first, as it should be able to deliver changes and enhancement more quickly.

Partnerships work well when both the bus operators and the local authorities have similar aims and the success, or otherwise, which lack the formality and structure of statutory partnerships, can also be entirely dependent on the individuals and operators involved.

There is no obligation to tell the DfT about VPs, making it difficult to know just how many exist and how successful or otherwise.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Recent Developments (2020 – 2022)

COVID-19 Pandemic

The COVID-19 pandemic has had a major impact on the need, desire and ability to travel on public transport in England.

The initial period of national lockdown saw major drops in travel across all public transport, with public transport most heavily affected.

At some points, bus use outside of London dropped to approximately 10 per cent of pre-COVID-19 levels. There is a widely accepted relationship between income and type of transport used. Those on lower incomes use buses more than those on higher incomes, and those on lower incomes are less likely to be able to work remotely and therefore had to travel (by bus) to work during the Pandemic.

At the time of writing, bus patronage levels are approximately 20% lower than 2019.

Bus and rail in some cases is cases are showing a good recovery of revenue to pre pandemic levels as more patronage returns. On the rial network, passengers are using different ticket products (i.e. fewer season tickets and more off-peak leisure trips).

Pressure on the deregulated model

In 2020, the government announced £3bn of new funding to level up buses across England towards London standards and published 201 a new National Bus Strategy[3] (NBS) - *Bus Back Better*

This provides guidance to local authorities on developing **Bus Service Improvement Plans (BSIPs)**. Authorities have developed BSIPs and outlined their intentions for enhanced partnerships with bus operators, or to pursue bus franchising. The key message of the NBS is that buses need to be more frequent, reliable, easier to understand and use, better co-ordinated and cheaper. These types of improvements should dramatically increase passenger numbers, reduce congestion, carbon and pollution, help the disadvantaged and get people out of their cars.

Considering the ambitions of this thematic plan there is now a clear need to build upon this latent bus demand and grow its mode share through investment in services, routes, and priority measures.

In April 2022, TfSE prepared and submitted Bus Service Improvement Plan (BSIP) Regional Evidence Base Report

Bus Service Improvement Plan (BSIP)
Regional Evidence Base Report
Version 2.0
April 2022

The primary purpose of this work was to provide an evidence bases for TfSE, allowing them to make a robust case for greater investment in buses and complementary measure across the TfSE aeras.

The study will also facilitate the accelerated delivery plan of BSIP as well as enhance the quality and ambition of the subsequent BSIP stage through a more quantitative and compelling evidence base, aligned with the NBS.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Recent Developments (2020 – 2022 contd.)

Furthermore, the study will be used to inform the development and prioritisation of interventions as part of the Area Study and Strategic Investment Plan programme.

The report provides details on the analysis, insights and recommendations on the regional evidence based for building on the Bus Back Better Agenda in the TfSE area.

Mass Transit support

Recovery funding for the light rail sector

Light rail operators received £56 million in financial support to help longer-term viability and self-sustainability as COVID-19 restrictions were lifted. During the pandemic, the government provided significant levels of financial assistance to the sector through the Light Rail Revenue Grant and the Light Rail Restart Revenue Grant (LRRRG).

A total of six light rail operators and Local Transport Authorities (LTAs), outside of London, received over £200 million in funding since March 2020. Until July 2021, the LRRRG has funded up to 100% of pre-COVID-19 service levels, ensuring key workers are able to travel easily and safely, and access necessary amenities.

It is accepted that light rail is important for local economic recovery, thereby supporting the government's 'levelling-up' agenda. To encourage passengers back, services should be as available as they were prior to the pandemic. Without this support, it may not be possible for operators to maintain the services they have previously provided.

Figure 2.1 presents the vehicles on the road as a proportion when compared to same day on the week commencing 3rd February 2020.

Since primary/secondary schools, and university students returned to education in person (May 2021), demand for bus has risen. Bus patronage outside of London reached approximately 80 per cent of pre-pandemic levels before Christmas 2021 and the outbreak of the Omicron strain.

Due to increases of working from home and hybrid working, weekend bus usage (driven by leisure) is showing higher growth than weekday, though it is expected that this will settle over time as working patterns settle.
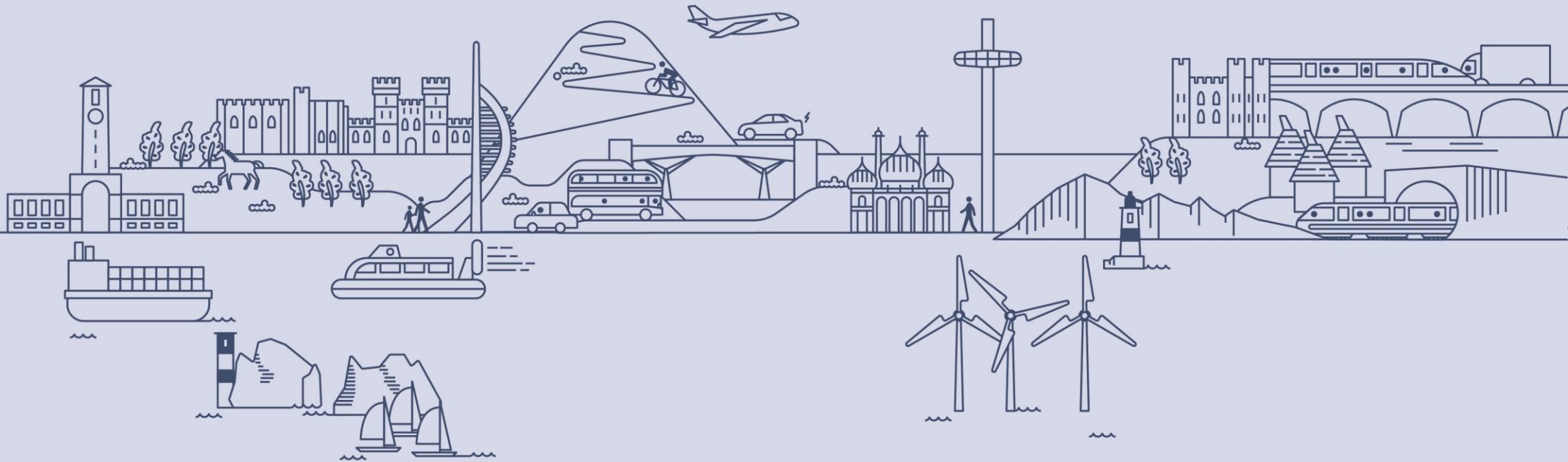
It is also important to recognise that concession users in particular (OAP, aged 60 and over fares) have not returned to their pre-pandemic levels. Concessionary fares can make up 50 per cent of patronage on certain routes, so the slow return of OAPs to buses will be having a substantial impact on overall bus patronage figures.

Figure 2.1: DfT Covid Travel Demand Data - Change in mode use [4]
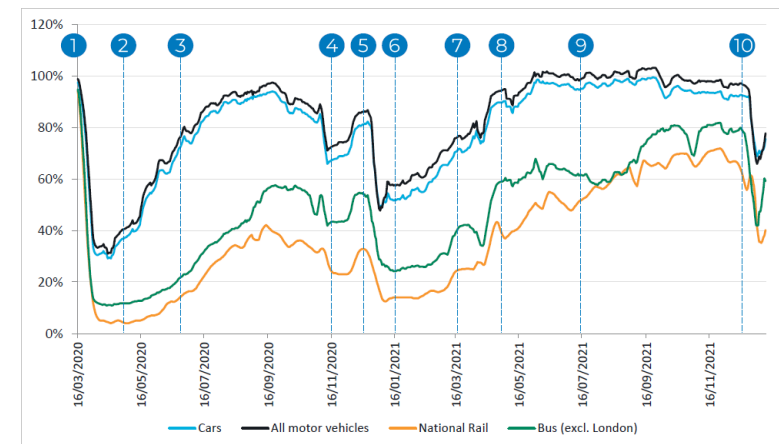
Key

1. First national lockdown
2. Lifting of restrictions
3. First local lockdown
4. Second national lockdown
5. Second lockdown ends
6. Third national lockdown
7. Restrictions lifted - schools reope
8. Non-essential shops open
9. Social distancing dropped
10. "Plan B" introduced (face masks and NHS Covid pass)

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE South East

Part 3: Issues and Opportunities

Today's Bus & Mass Transit in the South East is a varied picture...

Mixed picture of bus journeys

Across England, outside of London, there has been 10% overall decline in bus use between 2010-11 and 2018-19. Perhaps of greater concern is a 38% reduction in local authorities' financial support for bus services between 2010-11 and 2018-19. In 2010-11 there was 243 million vehicle miles travelled on local authority supported service routes in England (outside of London) and this has dropped significantly to 112 million vehicle miles in 2018-19.[5]

Across the South East many of the major conurbations have experienced greater levels of decline in bus use, see **Table 3.1**, with the greatest decline observed in Windsor and Maidenhead. Conversely, there are some locations, Brighton & Hove, Reading, and Wokingham, where this trend hasn't occurred following targeted efforts by the LAs and transport operators.

TfSE wishes to see world class, mass transit systems in the TfSE area's largest urban areas. These should encompass all modes of urban transport, including bus, tram, waterborne transport, rail, and active travel.

Mass Transit Success

There are many places in the South East where investment, planning, and partnership working between operators and Local Transport Authorities has delivered impressive growth.
These success stories include:
- Crawley/Gatwick Fastway: this Bus Rapid Transit scheme generated a 160% growth in bus trips between September 2003 and September 2013[6];
- South Reading BRT: delivered a 275% increase in passengers between 2010 and 2019[7];
- South East Hampshire Bus Rapid Transit: the opening of a dedicated busway between Fareham and Gosport delivered 64% increase in ridership which has in turn reduced traffic congestion along the busy A32 corridor[8] and;
- Brighton & Hove Buses: which has helped deliver a 14% increase in passengers Between 2011 and 2016[9];

But much more wanted........

The South East is home to several large conurbations
According to Office of National Statistics analysis of built-up areas, the 2011 population of the South Hampshire built-up area was just under 856,000 (6th largest in England and Wales) and the population of the Brighton and Hove built-up area was over 474,000 (12th biggest in England and Wales). Farnborough/Aldershot, Medway, and Reading also feature in the top 30 largest Built-Up Areas.

Many of these conurbations have high population densities – Brighton and Hove is the 2nd most densely populated Built Up Area in the UK. However, despite the size and density of these conurbations, public transport mode share is relatively low. This is especially the case in South Hampshire, where public transport mode share is just 4.7% according to data published by Solent Transport[10].

This evidence suggests there should be a strong business case for better mass transit in these areas. The South East's largest conurbations are big enough and with sufficient population density to support world class mass transit systems.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE **South East**

Baseline demand insights

Table 3.1: Annual bus journeys per head in TfSE local transport authorities over a ten-year period												
	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	Ten year change	Ten year change (percent)
Bracknell Forest	19	18	17	15	16	19	18	17	15	15	16	-3	-16%
Brighton and Hove	154	157	158	164	164	158	160	171	170	172	167	13	9%
East Sussex	36	39	39	40	42	41	38	31	30	29	27	-9	-26%
Hampshire	23	24	24	24	24	24	23	23	23	23	21	-2	-10%
Isle of Wight	60	52	52	54	57	58	58	57	56	57	56	-5	-8%
Kent	40	40	40	41	42	38	37	37	35	34	32	-8	-19%
Medway	36	34	35	34	33	32	32	31	29	30	29	-7	-20%
Portsmouth	53	53	53	49	50	51	53	51	54	51	46	-7	-13%
Reading	108	104	103	103	111	119	126	131	132	138	137	29	27%
Slough	35	35	37	34	34	36	34	32	31	30	28	-7	-20%
Southampton	81	77	77	74	74	82	80	84	82	81	81	-1	-1%
Surrey	25	26	25	24	24	24	23	23	23	23	21	-4	-16%
West Berkshire	15	16	15	15	19	20	22	20	18	19	17	2	13%
West Sussex	31	32	33	32	32	33	33	32	31	31	29	-2	-7%
Windsor and Maidenhead	16	14	16	12	11	13	13	10	10	9	9	-7	-41%
Wokingham	13	14	13	13	13	14	15	14	15	17	16	3	23%

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Baseline demand insights

As presented above in Table 3.1, Brighton and Hove, Reading and Southampton have the top three highest annual bus journeys per head within the TfSE area.

Brighton and Hove has a scale and density of population / employment, demographic profile, and a coastal geography and topography that all support bus ridership. In addition, pro-bus council policies and an operator investing in services, fleet and customer experience have seen significant increases in patronage over the past ten years.

Reading also benefits from a high level of stability, having had one, authority-owned, main bus operator in place for an extended period of time who have ran a comprehensive and well-priced bus service. Reading also benefits from having pro-bus policies and a supported bus network.

As with Brighton and Hove, bus services in Southampton, operated by Bluestar and City Red & First Solent aka First Bus), offer tap-on, tap-off contactless payment, reducing the barriers to usage and increasing convenience.

(The fleet of Bluestar buses are modern, meeting Euro 6 carbon standards, and come with amenities like free wifi and USB as standard, making them an attractive alternative to private car usage.

It is worth recognising that Bluestar also offers the Unilink service for University of Southampton students and staff (between campus and halls) with joint ticketing in place across the two networks. Weekly fare caps are also in place.

The Isle of Wight has the fourth highest average bus trips per head per year in 2019/20. The relatively high cost of motoring on the island; an older than average age profile of residents; and a vibrant visitor economy, provide useful demand-side conditions.

As with the top three ranked locations, buses on the Isle of Wight also have contactless payments in place and a strong brand by its main island operator, Southern Vectis.

The bottom five local authorities for annual bus journeys per head – Hampshire, West Berkshire, Wokingham, Bracknell Forest and Windsor and Maidenhead – all have similar characteristics in common.

Population density in each of these local authorities is generally low, meaning it is not conducive to high frequency bus services, decreasing the attractiveness of the mode. Berkshire in particular also has a less dense bus network, as well as lower frequencies and traffic congestion having a greater impact on bus reliability.

Furthermore, while the majority of buses in West Berkshire, Wokingham, Bracknell Forest and Windsor and Maidenhead offer contactless payment, they do not provide tap in tap out services or fare capping for contactless payments. As such, payment for bus users is less straightforward than in authorities such as Southampton or Reading.

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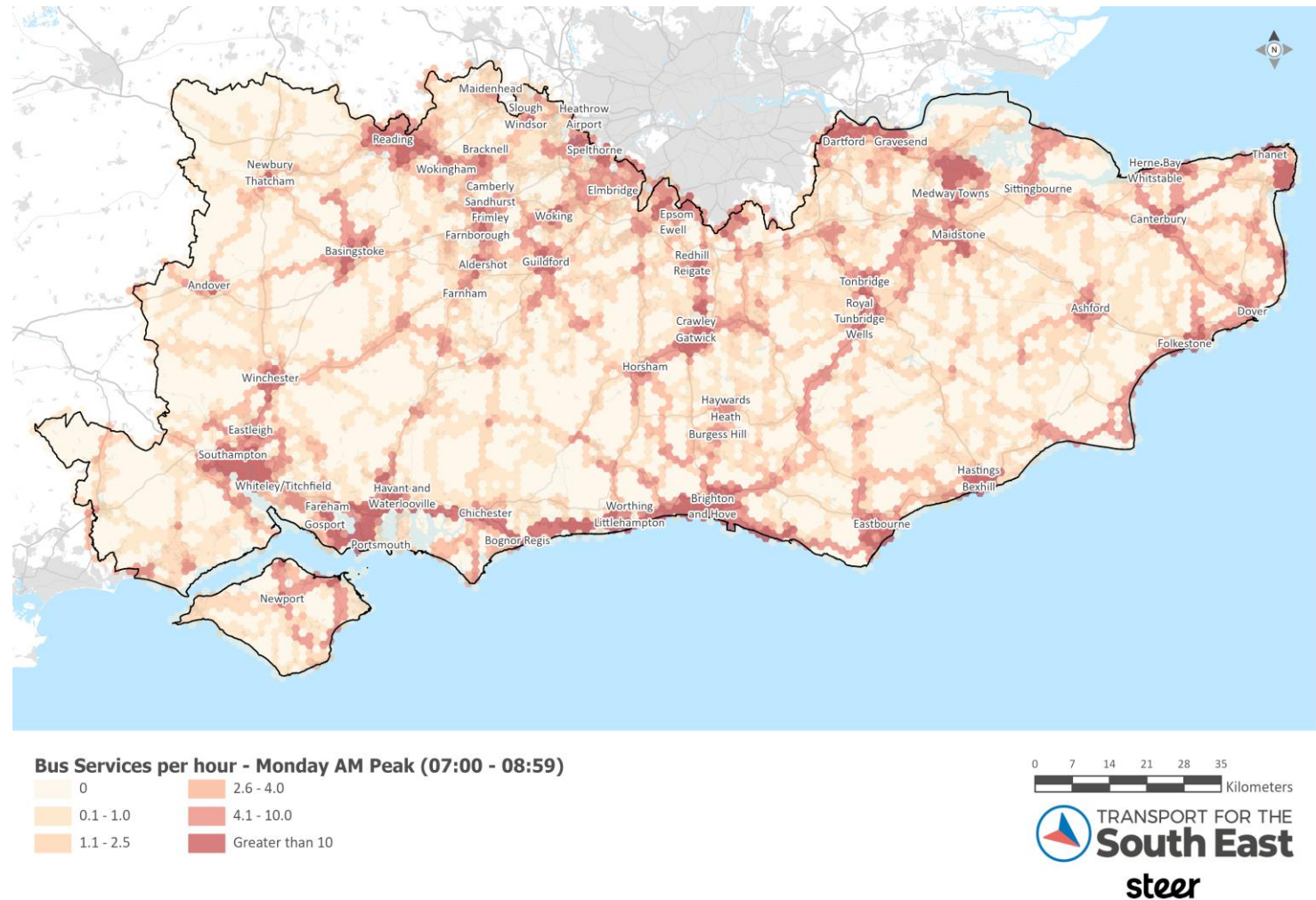
Baseline supply insights

Figure 3.1 presents analysis of bus services per hour during the weekday AM peak.

As would be expected, **urban areas** benefit from the most bus services per hour, with at least 10 buses per hour within the most central hexcells analysed.

When considering **interurban corridors**, it is notable that overall, they maintain a high level of service frequency, particularly in the north-east of the region between Canterbury and Dover, Folkestone, Thanet, and Whitstable, and between Royal Tunbridge Wells, Maidstone and Medway Town. Similar services levels are also visible in the centre of the region, connecting Epsom, Reigate, and Crawley to Gatwick, likely to be driven in part by Gatwick Airport and mass transit services operating there.

Away from the urban areas and interurban corridors, **rural** bus service frequency reduces significantly, below 2.5 buses per hour in most areas.

Figure 3.1: Bus services per hour – Weekday AM peak (07:00-08:59)

Bus Services per hour - Monday AM Peak (07:00 - 08:59)

0	2.6 - 4.0
0.1 - 1.0	4.1 - 10.0
1.1 - 2.5	Greater than 10

Bus, Shared Mobility and Mass Transit Thematic Plan

Bus potential insights

The potential for enhancing the number of bus trips varies considerably, and only where significant reductions in "generalised journey times" can be delivered within reasonable cost parameters, will the right scale of impact, affordability, and value for money be realised.

The potential to increase the demand for bus travel throughout the TfSE area for all journey purposes was considered drawing on a number of metrics:

- socio-demographic "propensity" using Experian MOSAIC data;
- current and future population and employment within urban areas;
- current and future population and employment along different corridors and the distance end-to-end; and
- existing levels of service.

Propensity to use bus

Figure 3.2 presents above average propensity to use bus for travel to work. Experian Mosaic data was used to present analysis showing which socio-demographic groups and in which locations are more likely to use bus. This data is at a small geographic level and can be used to show where residents have more or less potential to use bus.

Figure 3.2: Above average propensity to use bus for travel to work
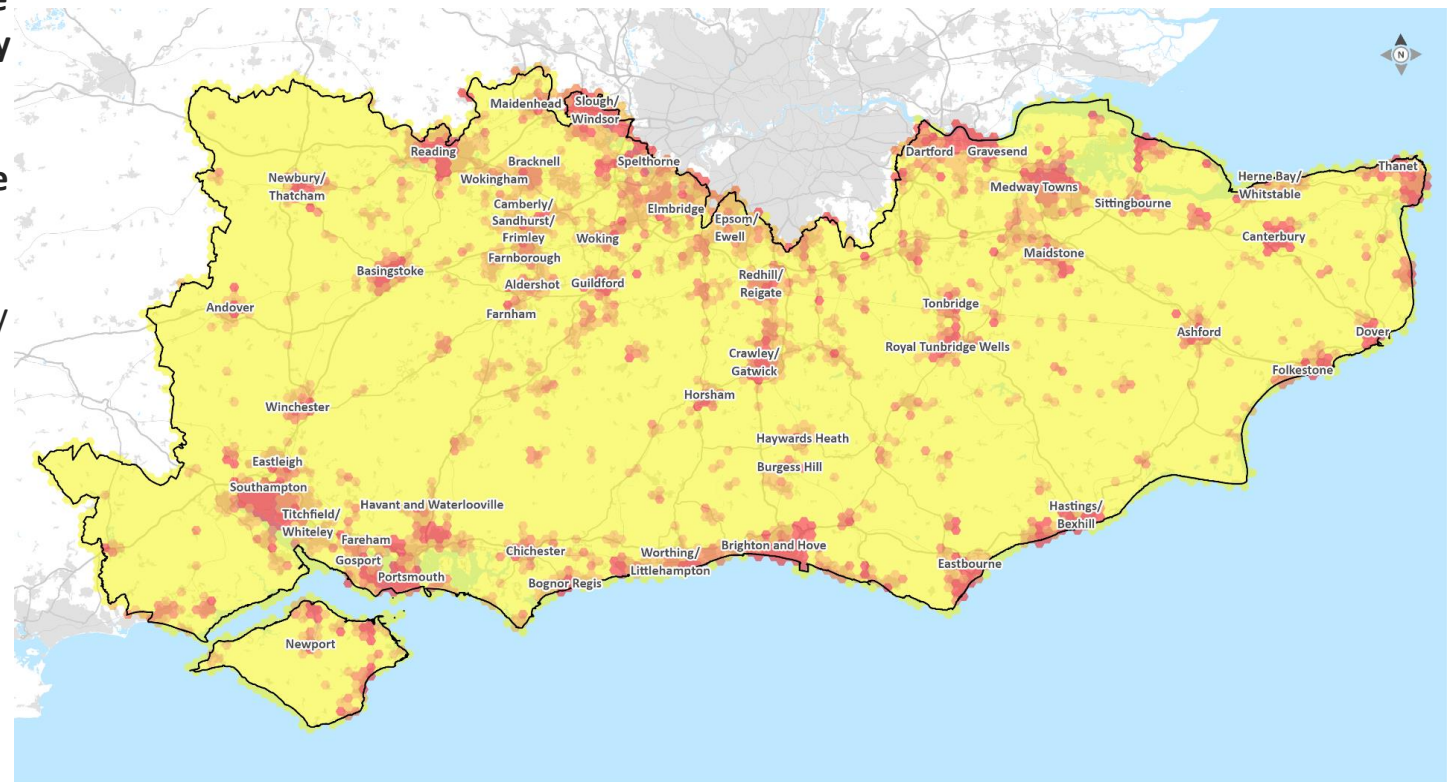
Percent of population with above average propensity to use bus - Experian Mosaic

- 0%
- 1% - 25%
- 26% - 50%
- Greater than 50%
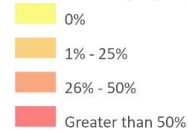
Unsurprisingly, the propensity is greatest in urban areas. At a more local level, the difference between and within urban areas is insightful for informing where interventions may be better suited.

Car ownership and access to a car also correlate with bus ridership, and is a metric for further refinement of where schemes may be better suited.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Issues

The key issues affecting bus, shared mobility and mass transit in the South East are summarised below:

Public transit systems to do not meet all the needs of the area's largest conurbations:

Throughout the TfSE area, there are a number of large urban conurbations (such as Brighton/Hove/Worthing/Littlehampton/Newhaven ("Sussex Coast")) that do not 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. This forces residents and business to rely on the car and/or relatively slow (i.e. <8mph average speed) bus service, which undermines the competitiveness of the area's largest cities and the quality of life of its residents.

Connectivity: At present, interurban connectivity is poor and the level of service provided on east-west routes is poorer than on radial routes, and services are often geared towards serving the local and the London market, with little focus on fast, strategic orbital connectivity. This is particularly relevant in areas such as Surrey, Hampshire, and Berkshire, where there are numerous mid-to-large sized conurbations close to each other, but poorly connected. Buses can offer a relatively low cost, highly efficient solution to this issue.

Accessibility: Too many transport services and networks are inaccessible to all users and in the broadest terms – is a key barrier to many users. The DfT's "Access for all" programme has unlocked some investment in some rail stations, however, there is a need for more progress with buses. 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; and improving access to public transport for passengers with hearing, vision, and/or cognitive needs.

Barriers to use: For many people, public transport fares are too high, too complicated and inflexible. The perception that bus fares are high means it can be difficult to persuade people to change from the car to bus. This is particularly the case for families. Car owners are also often likely to experience 'sunk cost bias', making it even more difficult to achieve modal shift.

Integration: Better integration between modes would increase demand for travel by bus, shared mobility and mass transit. While London is a model for integration between modes, it is not possible to roll this out across the South East. However, other organisations such as West Yorkshire Combined Authority and Solent Transport are already developing plans to improve mass transit and there are undoubtedly innovative approaches that TfSE could use to do so, alongside working with local councils to identify potential funding sources.

Each of these four issues are further discussed in the following pages.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE South East

Meeting the needs of the South East's largest conurbations

Figure 3.3 presents the UK's largest built-up areas by population, density, and mass transit system provision.

This shows that the largest conurbations of the TfSE area compare favourable to many large and densw urban areas that are served by mass transit, including 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[11].

Given the relative size and density of the South East conurbations, it is striking that many of our built-up areas do not have mass transit or only relatively basic 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.

Figure 3.3: Mass Transit options in Major Conurbations in the UK

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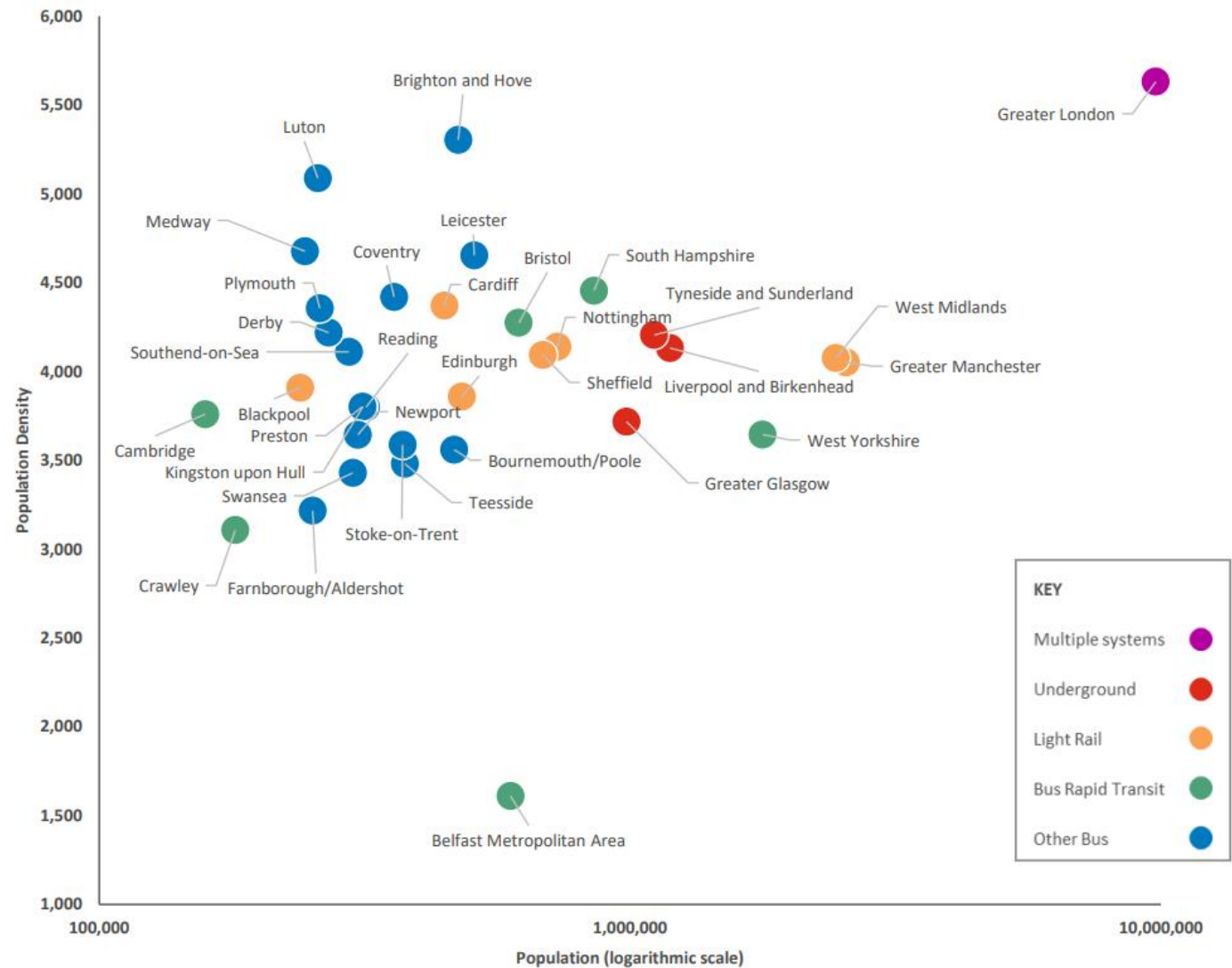
Connectivity

The South East's connectivity challenges are found across several geographical scales.

**For strategic connectivity, this plays out across movement along:**

- radial corridors; and
- east-west corridors.

Figure 3.4 shows that Ashford enjoys very high levels of radial public transport connectivity compared to nearby Hastings and Thanet for connectivity to and from Central London. Communities living on peninsulas (e.g. Hoo) and islands (e.g. Sheppey, Thanet) also face similar connectivity challenges.

Gaps in radial connectivity are exacerbated by even poorer east-west connectivity. The configuration of the largest conurbations South Hampshire and the Sussex Coast Conurbation are orientated on an east – west axis.

Rail speeds are slow on these corridors and bus journey times are slower still. Providing a competitive and attractive alternative to the private car is challenging.

Figure 3.4: Radial public transport connectivity to and from Central London
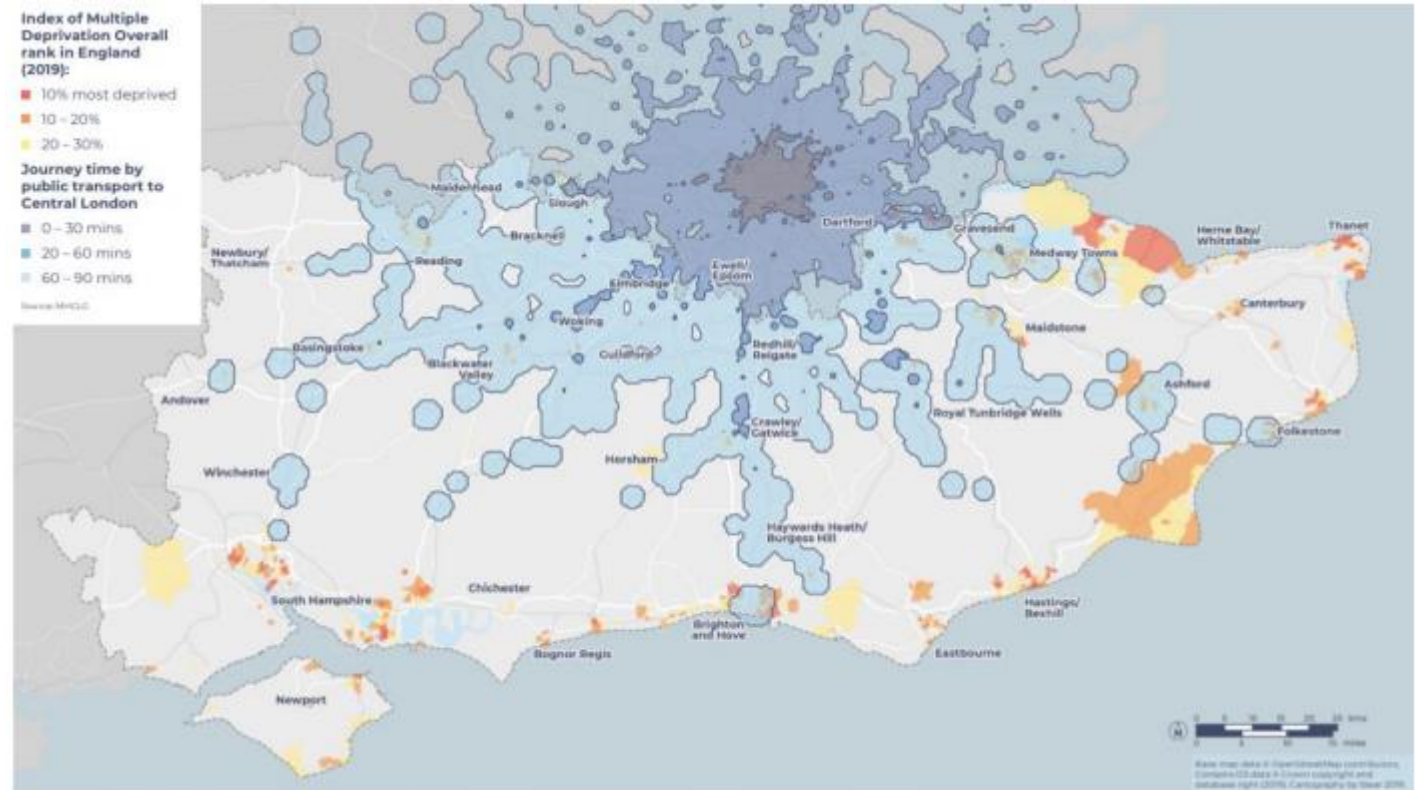
Other conurbations such as Reading, Blackwater Valley, and Medway would also benefit from better orbital public transport services to complement their (generally good) radial services.

Many stakeholders in the South East wish to see long term multi-modal solutions that deliver much improved strategic connectivity along east – west 'orbital' corridors. Where rail is not a viable solution, bus options have been identified.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Accessibility

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 DfT's 'Inclusive Mobility Guide' sets out best practice on access to transport infrastructure using inclusive design and stresses the importance of creating and maintaining accessible public transport as being crucial for ensuring that disabled people are not excluded from playing a full role in society.

The DfT's "Access for all" programme has unlocked some investment in some rail stations, see right, however, there is a need for more progress with buses.

Other examples where improvements should be considered include:

- Improving the accessibility of bus fleets improving the customer experience of the disabled passengers;

- Deliver better access to jobs and key services through an accessible and socially inclusive transport system;

- 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.

However, as **Figure 3.5** shows, while there is some progress in the South East at its rail stations in terms of accessible ticket machines, more is needed to address remaining significant issues.

Figure 3.5: Accessibility at Train Stations (% stations offering fully accessible 2019)

	Accessible ticket machines	Accessible ticket office	Train ramp access	National Key toilets	Step free access	Mobility set down
Great Britain	**53%**	**21%**	**73%**	**18%**	**61%**	**28%**
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%
Key		Lowest proportion of stations			Highest proportion of stations	

Bus, Shared Mobility and Mass Transit Thematic Plan

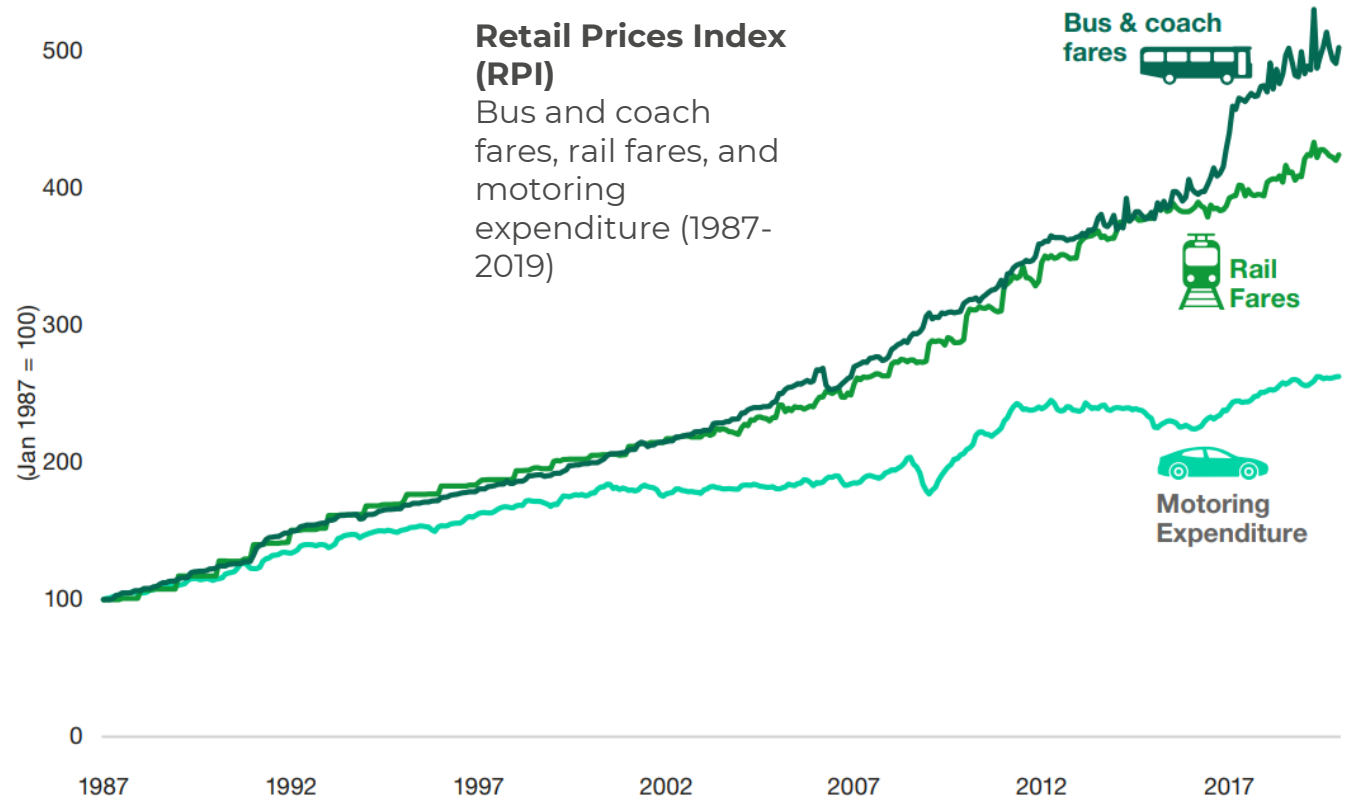TRANSPORT FOR THE **South East**

Barriers to use

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

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

Figure 3.6 shows, this perception is rooted in evidence showing bus and coach, and rail fares have indeed become more expensive than motoring in real teams.

This means it is harder to persuade people to change from the car to public transport. This is particularly the case for groups and families. The complexity of the tickets offered also puts people off using the public transport and in particular the railway.

Figure 3.6: 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)

Bus & coach fares

Rail Fares

Motoring Expenditure

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Integration

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

Figure 3.7 presents London Travel Card area and that parts of the South East are included in the London Travelcard area 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.

Figure 3.7: Extent of London Pay-As-You-Go payment systems in South East England

Bus, Shared Mobility and Mass Transit Thematic Plan

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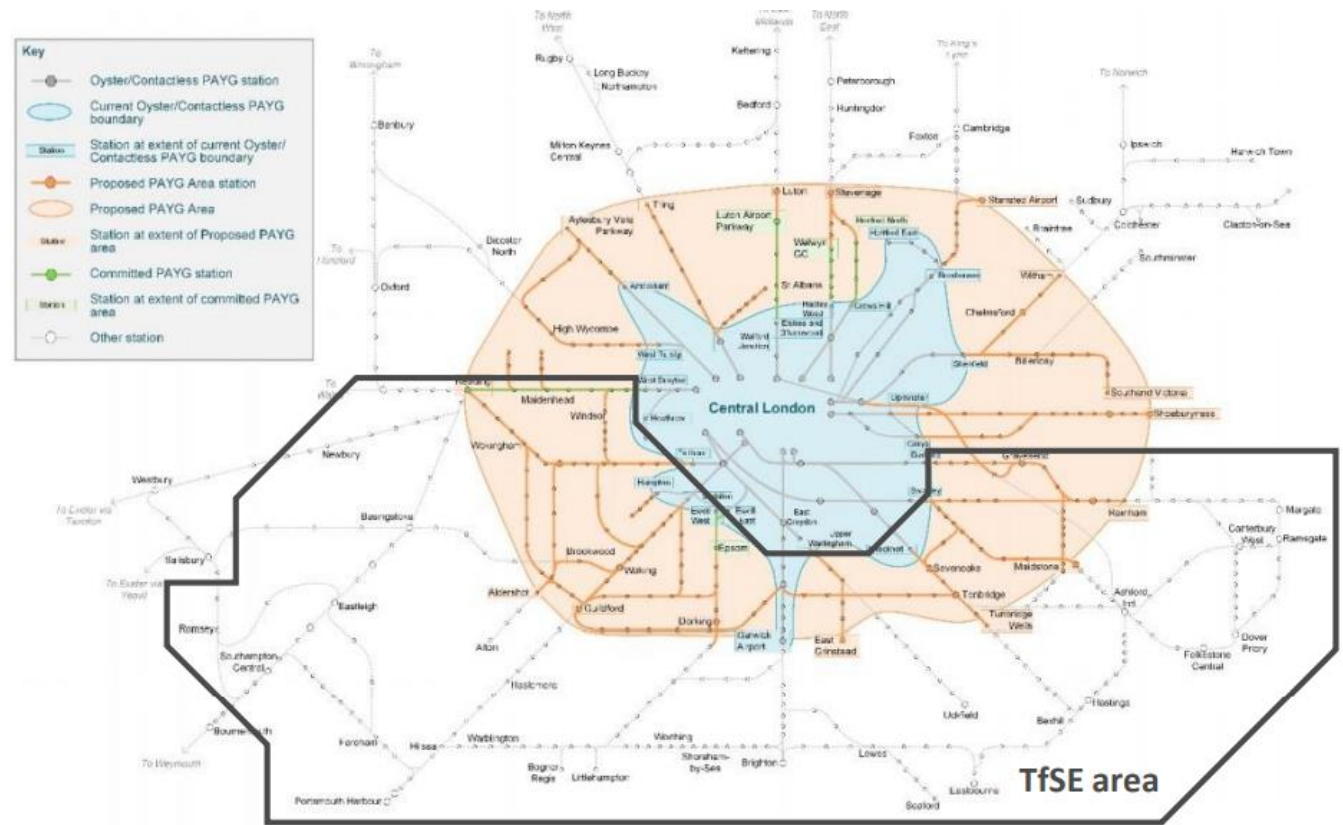
Opportunities

The key opportunities bus, shared mobility and mass transit in the South East are summarised below and discussed in further detail in the following pages.

Carbon reduction: In the South East, many local authority areas have declared Climate Emergencies and set targets to reach net-zero carbon emissions by 2050 (in some cases, much earlier). Greenhouse gas emissions from road transport make up around a fifth of UK greenhouse gas emissions. In the South East, 28% of transport emissions are classed as minor road carbon emissions, meaning there is a big opportunity to decarbonise via mode shift to public transport, as well as active travel or micromobility.

Poor rural bus connectivity: Rural areas are understandably less well served than denser, more highly populated urban areas, which means access to residents (and visitors) in rural areas is poor. Furthermore, rural public transport has been under pressure as public funding has reduced and many local authorities have cut support for bus services.

There is a clear need to address this issue of connectivity to ensure that people in rural areas and not isolated or struggling to find costly or inconvenient alternatives.

Equality and levelling up: Public transport offers a relatively low-cost form of transport, making them more accessible to those on lower incomes who may struggle to afford private car ownership. Bus users are disproportionately from less advantaged social groups and places, therefore investment in bus infrastructure can disproportionately benefit those on lower incomes, particularly if financial support or offers are provided to assist with initial outlay of purchasing season tickets (or monthly passes).

Congestion and air pollution: Congestion is a key problem in several major economic hubs, with too many people making trips via private car. High frequency, reliable bus services offer a viable alternative to car usage can help with alleviating pressure on the road network in urban areas, decreasing the need to use a car and ultimately reducing air pollution.

Bus, Shared Mobility and Mass Transit Thematic Plan
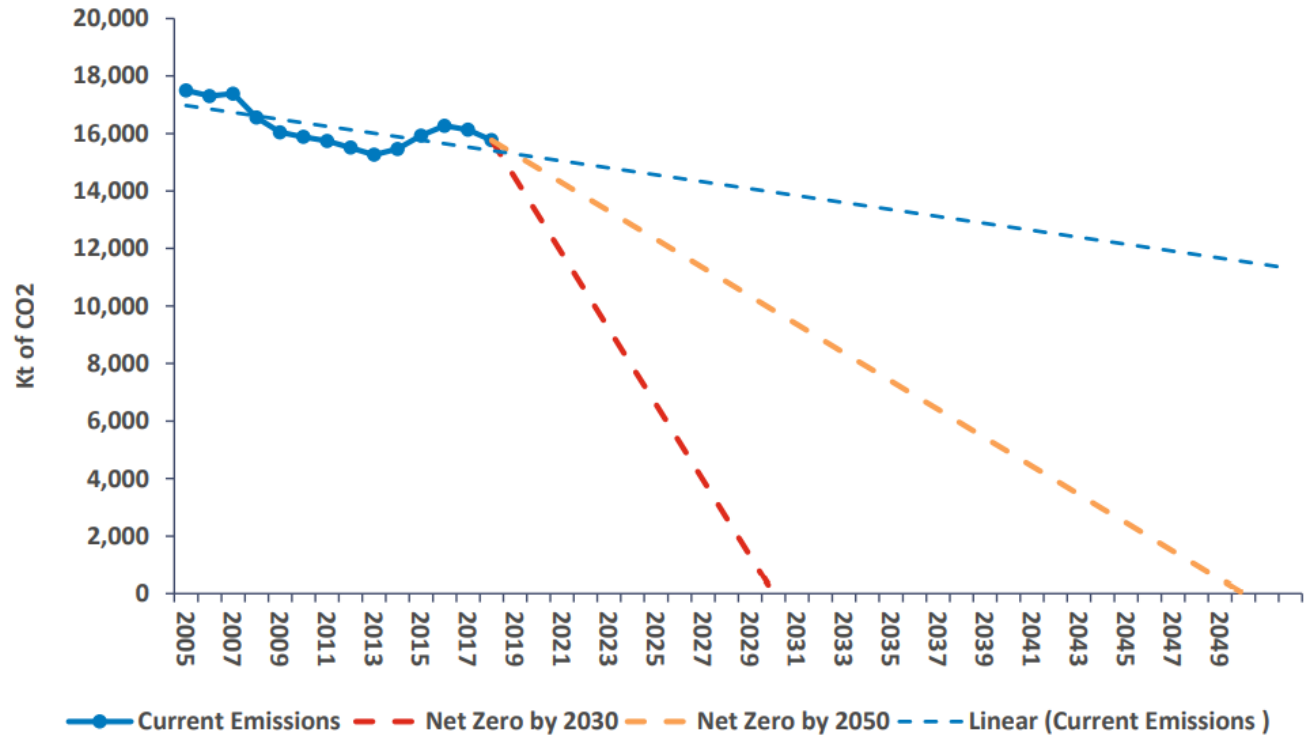
TRANSPORT FOR THE
South East

Carbon reduction

Key stakeholders recognise the need to decarbonise transport in the South East, but this is not happening fast enough.

Figure 3.8 shows a trajectory that 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 ambitious 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.

Figure 3.8: Surface Transport Carbon Emissions Trajectory for the TfSE area

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE **South East**

Poor rural bus connectivity

Figure 3.9: Bus share of Travel To Work flows

Percent of population traveling to work via Bus - MSOA (2011)
- Less than 2.5%
- 2.5 – 5%
- 5 – 10%
- 10 – 15%
- Greater than 15%

Source: Census 2011
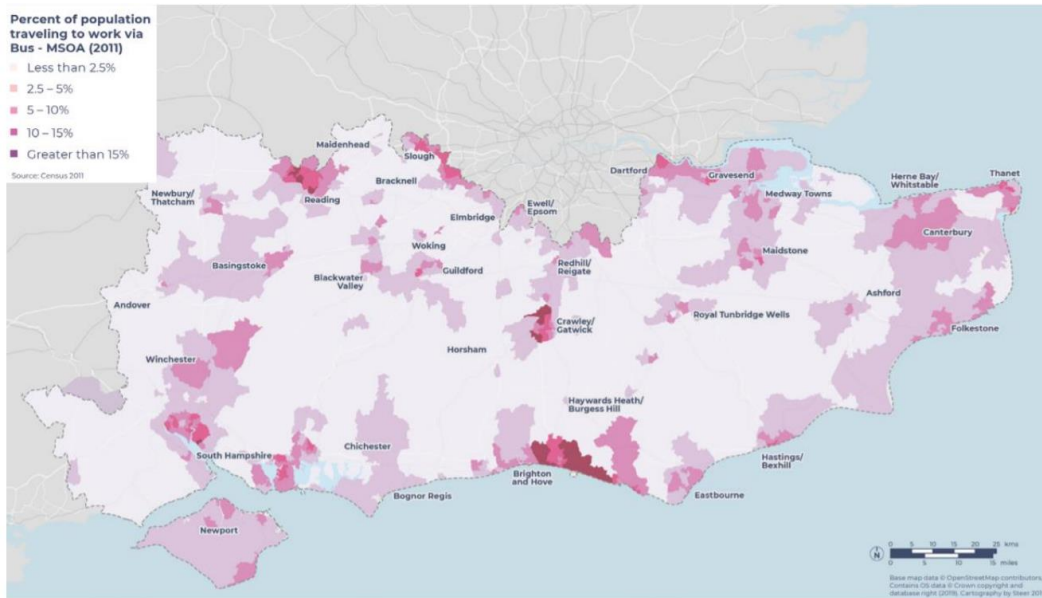
Figure 3.10: Public Transport Journey Times to Key Services

Accessability to key services average (mins) - Walking and PT - 2017
- Less than 15 minutes
- 16 - 30 minutes
- 31 - 45 minutes
- 46 - 60 minutes
- Greater than 60 minutes
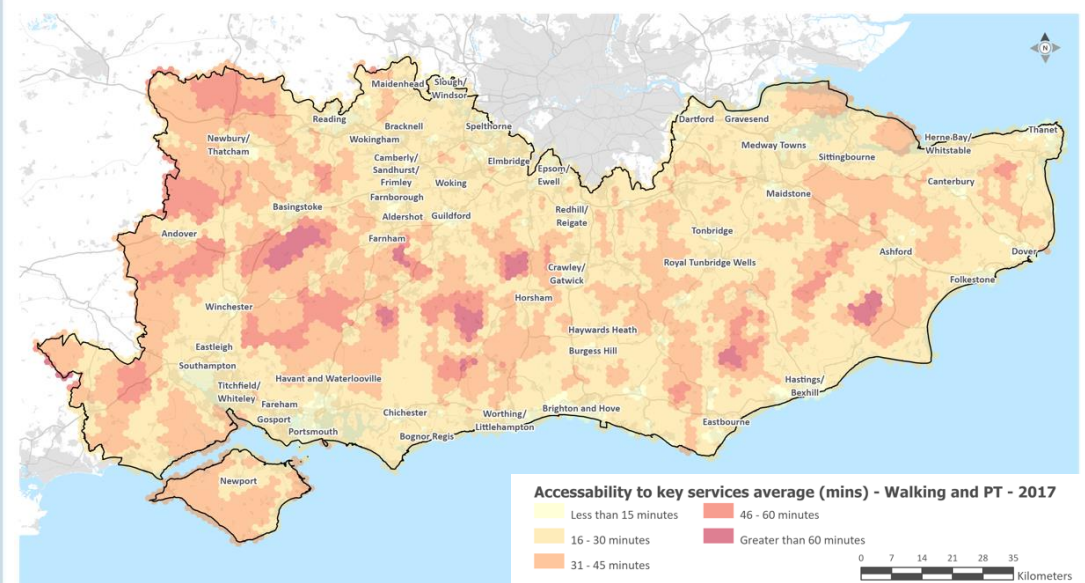
There are gaps in the quality of interurban public transport provision, notably in rural areas

Figure 3.9 shows the percentage of the population travelling to work by bus at the time of the 2011 census. In East Sussex, Kent, and Surrey, bus use declined by more than 10% over the period 2009/10 – 2019/20. In contrast, bus use in Brighton and Hove has increased by 19% over the same period (bus patronage has broadly been stable in West Sussex over this period).

This evidence points to a bus industry that – outside Brighton and Hove and Reading, and several other large towns and cities – serves few Travel To Work journeys and is in decline. Bus patronage is particularly low in rural areas as well as in fast growing Major Economic Hubs such as Burgess Hill /Haywards Heath and Horsham. The Fastway network in Crawley and Brighton and Hove bus network point towards the opportunity for bus in the region.

Figure 3.10 shows the journey times by public transport and walking, as provided by DfT, to key services.

Unsurprisingly, it is the most rural areas that have the longest journey times by public transport. Typically, but by no means exclusively, the region's rural areas are relatively wealthy with only pockets of deprivation. However, for those who do not have access to a car, reaching higher socio-economic, equality, and broader quality of life outcomes is more challenging. A combination of fixed route public transport and shared mobility solutions have an important role to play in filling connectivity gaps and poor levels of service. Noting the greater affordability challenge of providing such services in more rural areas.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE South East

Equality and levelling up

Industry is relatively weak and economic productivity is below average in the south and east of the TfSE region, resulting in a varied socioeconomic outcomes.

Socioeconomic indicators such as GVA per capita, education, deprivation, and unemployment are relatively low when compared with in inner south west of the region (e.g. Surrey). **Figure 3.11** shows the average GVA per capita around the South East, where South West/Inner segment equals 100%.

Places furthest east and further away generally have weaker socioeconomic outcomes than those located further west and closer to the Capital. There are pockets of high deprivation closer to London (e.g. North West Kent) and vice versa (e.g. Wye), but the broad trend is clear. TfSE's Economic Connectivity Review identified several clusters of high-value/high-growth industrial sectors in the South East, which offer a route to greater prosperity.

Figure 3.11: Average GVA per capita around the South East
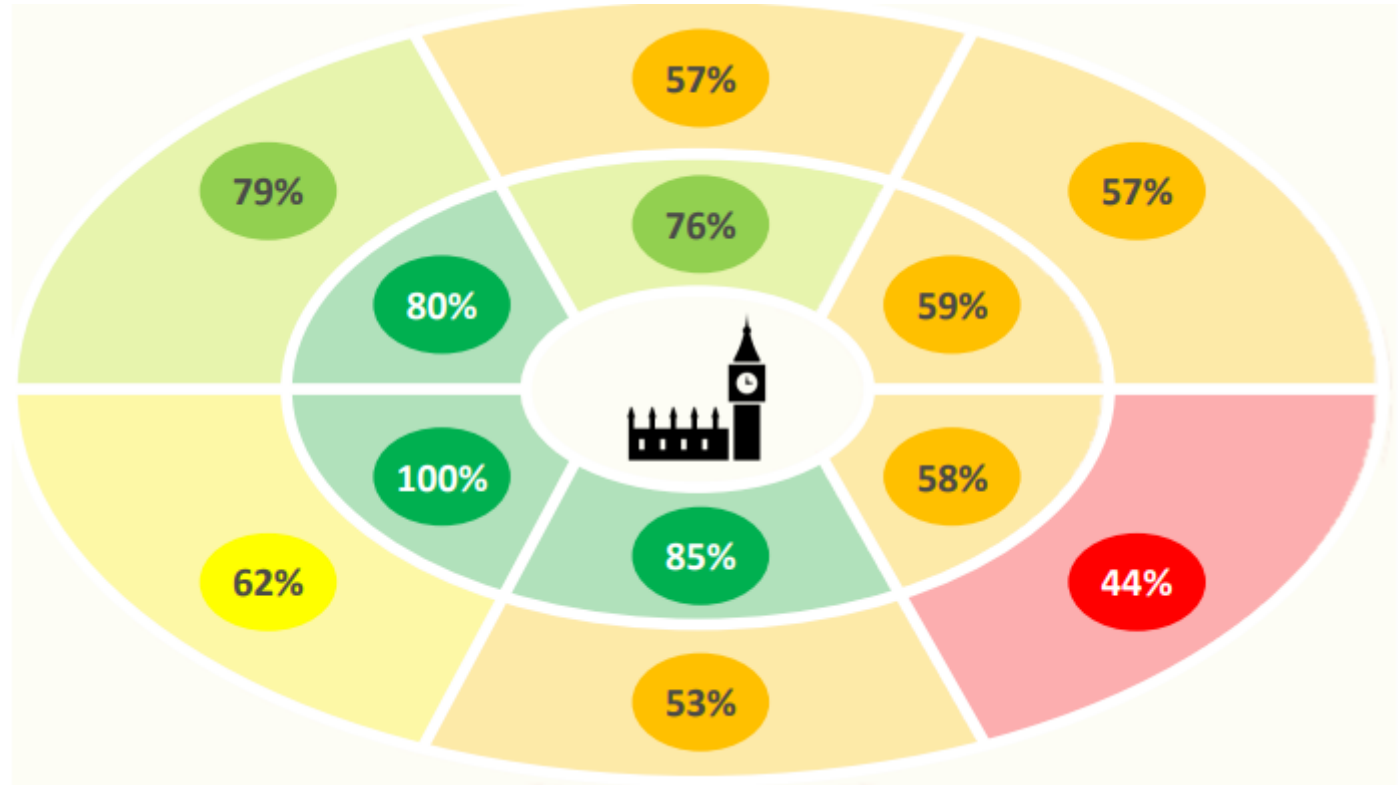
Source: Steer, ONS GVA per capita data South West / Inner Orbital zone = 100%
Icon Credit: Pham Duy Phuong Hun

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Congestion and air pollution

There are significant highway congestion, safety, and air quality issues in multiple places

These hotpots can significantly blight an area's economy, environment, and quality of life for residents, businesses, and visitors.

Figure 3.12 shows congestion and air quality hotspots on the highway network in the Kent, Medway and East Sussex Area. It should be noted this data reflects pre pandemic data and may not be representative of future travel patterns.

Congestion, road safety, and air quality hot spots tend to arise at the same location. This is often where highway infrastructure is unable to accommodate all the traffic demand placed upon it.

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

Figure 3.12: Congestion and Air Quality 'Hot Spots' in Kent, Medway and East Sussex

Bus, Shared Mobility and Mass Transit Thematic Plan

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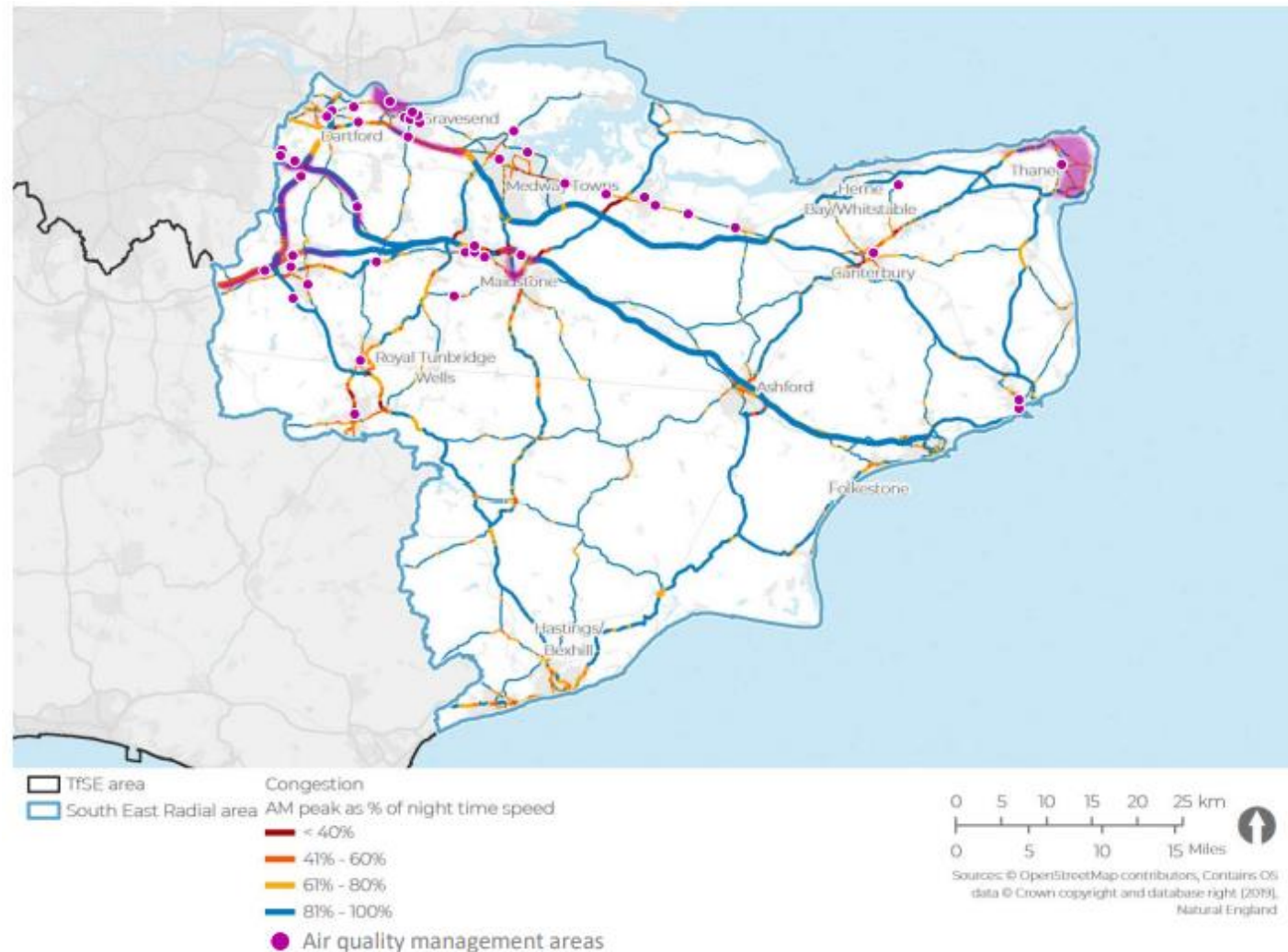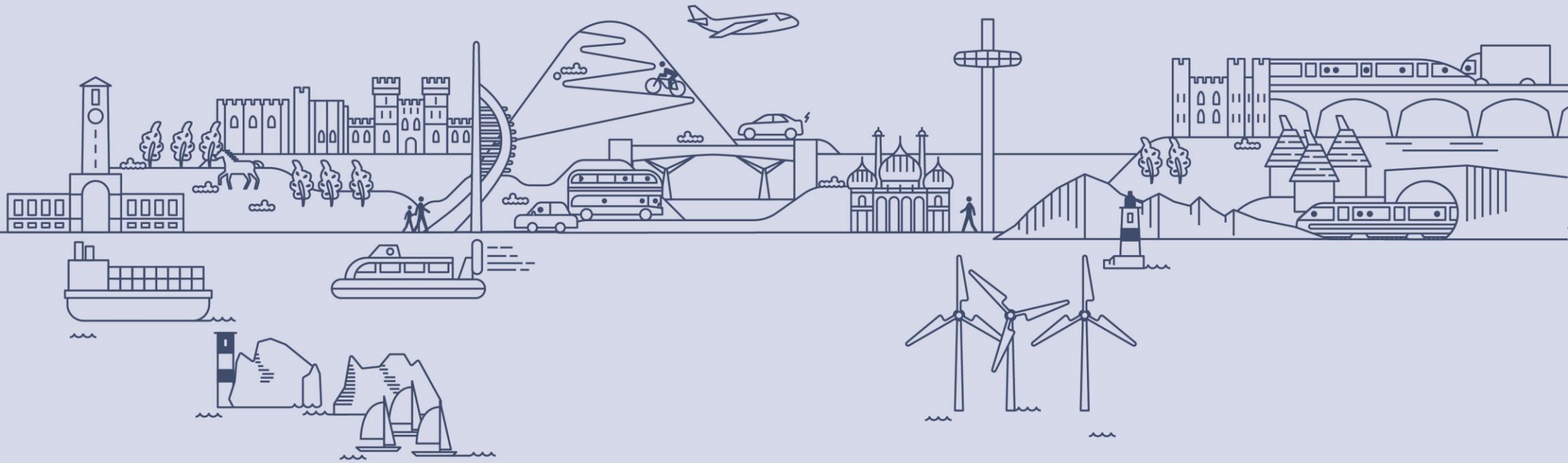
Part 4: Vision and Objectives

Vision and Objectives

TfSE Strategy

The vision and objectives for the South East's public transit are designed to align and support the wider vision and objectives set out in TfSE's Strategy and Area Studies.

The vision for the public transit is presented below:

- Bus and shared mobility options are well suited to providing flexible and sustainable connectivity; In an urban setting as part of a mass transit network; between adjacent major economic hubs that are poorly connected by the rail network; and to address rural connectivity challenges

- Currently, none of the South East's towns and cities have a comprehensive and integrated mass transit networks, bus mode share within and between these major economic hubs is typically relatively low and in many semi-rural and rural areas car is the only option.

There is a clear need and opportunity for a step change in bus and mass transit connectivity, delivered through better services, priorities and infrastructure.

Area Study Objectives

The key objectives emerging from the Area Study Programme are centred around an ambition to deliver a public transport system that:

- Enables a more prosperous, resilient, and equitable economy that delivers better socioeconomic outcomes, especially in deprived areas.

- Reducing transport related carbon emissions.

- Unlocks regeneration opportunities, especially in coastal communities.

- Strengthens the resilience of the transport system and economy.

- Improve accessibility of public transport network, including fleet, stations/stops

- Improving transit journey times and reliability so that they are a more realistic alternative to car use

- Addressing connectivity and connectivity gaps within our towns and cities

- Connecting rural and semi rural areas into a sustainable transport network

Need for Intervention

Without intervention, public transit journeys per head within the TfSE area are likely to remain static or even decrease.

In turn, the region will miss out on improvements to congestion and air quality that high quality bus networks have been proven to deliver. Failure to deliver a high quality, reliable, low cost and efficient bus and transit networks is likely to push people towards car usage for short to medium length trips (or as part of longer, multi-stage journeys) as they deem the public transport to be slower, often involving a change between modes, and more costly than taking their own car. This creates a vicious cycle (reduced demand, reduced service….) and will lock in increased car usage in urban areas and lead more people into car dependency in rural areas.

Given the crucial need to decarbonise the transport network, improve efficiencies in moving people throughout the region and reduce air pollution, improving the bus network is essential for enabling people to switch to public transport and move towards lifestyles with fewer car trips.

TRANSPORT FOR THE
South East

Strategic Narrative

Strengths

The Strategic Investment Plan sets out a Strategic Narrative underpinning the case for investing in the South East.

This narrative starts by highlighting the key strengths of the South East, including:

- a highly productive economy;
- a highly educated workforce;
- strong links and access to London;
- strengths in Financial/Professional Services, Advanced Engineering/Manufacturing, IT, Marine/Maritime, Defence, Transport/Logistics, Tourism, Low Carbon, and Creative Industries;
- several national and world leading universities;
- a favourable investment environment;
- available land for regeneration and development;
- a varied and highly valued natural environment; and
- a rich cultural and historic environment.

Challenges

The South East faces several challenges and threats, which in the Strategic Narrative are grouped into eight themes.

The first four focus on broader issues where action is required across multiple sectors:

- **Decarbonisation** of the transport system is not happening fast enough.
- The South East's transport systems need to adapt to a **new normal**- i.e. post pandemic, post Brexit environment.
- There is a need to **"level up" left behind communities.**
- There is a need for sustainable **regeneration and growth.**

The second group of these four themes have a more direct relevance to transport:

- The South East's largest conurbations lack **world class urban transit systems.**
- **East – West Connectivity** is poor.
- Radial Corridors lack **resilience** in places.
- There are gaps and vulnerabilities in the networks that provide serve **Freight and Global Gateways**.

Role of Mass Transit

Mass Transit can play a significant role in addressing these eight key challenges

- Bus Back Better proposes the introduction of 4,000 new zero-emission buses and ending the sale of diesel buses. It also proposes simpler, cheaper, flat fares, and daily and weekly price capping which should all help with "levelling up", sustainable regeneration and growth.

- Mass Transit is increasingly using zero emission propulsion that will help transport decarbonise.

- Post pandemic, we need to alter the societal view that buses are transport only for the poor, rather they are part of the solution and can help "level up" left behind communities.

- Several package of Mass Transit interventions set out in this thematic plan which will address the other themes. They could be world class, address the poor East–West connectivity, and add resilience in radial corridors and the gaps to our global gateways.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Problem Statements

A Bottom-up approach for identifying key issues

The Area Study Programme identified specific problems (weaknesses and/or challenges) that many stakeholders wish to see the Strategic Investment Programme address.
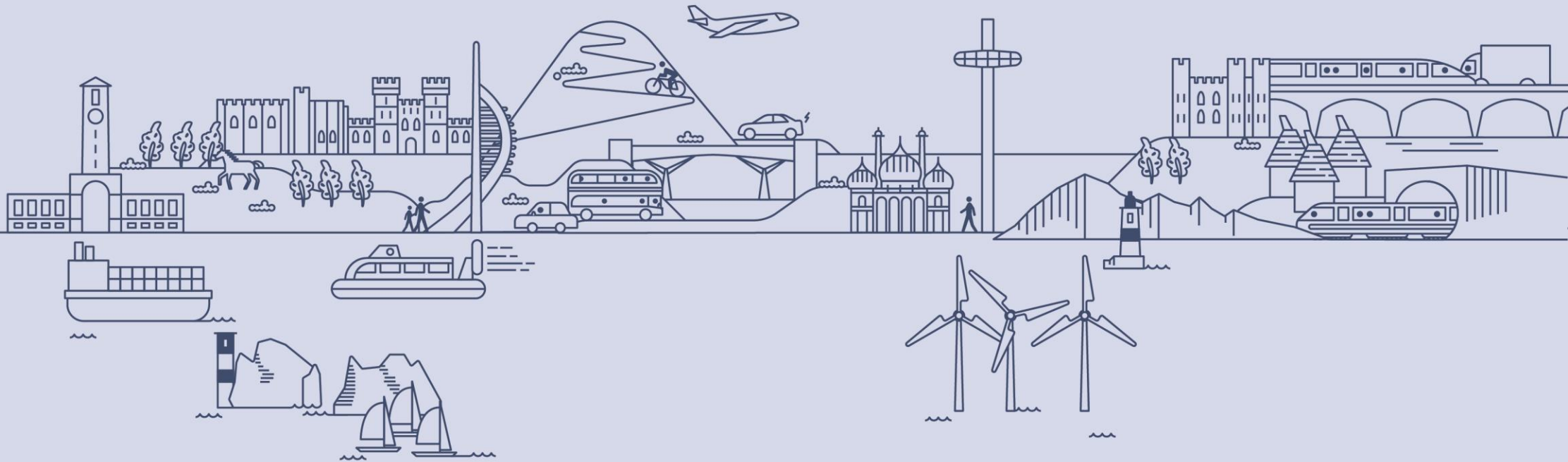
Some of these problem statements refer directly to the public transport network, while others are broad but could still be relevant to the public transport. A list of the key problem statements that could be addressed (at least partially) through interventions is provided below.

Global Problem Statements

- Transport is not decarbonising fast enough.
- Climate change threatens the resilience of transport networks.
- Numerous parts of the South East have unacceptably poor socioeconomic outcomes.
- Demand for public transport has been negatively affected by COVID-19.
- Some parts of the South East appear to be too reliant on a small number of industrial sectors.
- The economic influence of London dominates many areas in the South East.
- Housing affordability presents a barrier to achieving social equity objectives.

- There is a recognised need for housing – but in the right places, supported by the right infrastructure, planned to deliver sustainable transport outcomes.
- The benefits of new technologies are not accessible to everybody.
- We need better coordination between land-use and transport planning.
- Rural communities are being left behind in digital, active travel, and public transport connectivity.
- Too many transport services and networks are inaccessible to all users.
- For many people, public transport fares are too high and too complicated.

Bus, Shared Mobility and Mass Transit Specific Problem Statements

- Bus services do not provide a competitive alternative to cars.
- Public transit systems do not meet the needs of the largest conurbations.
- There are gaps in the quality of interurban public transport provision.
- Integration is weak both physically and in terms of the 'customer journey'.
- There are too few "strategic mobility hubs", offering high quality integration and interchange between different transport services, outside town centres.
- Public transport information and ticketing are not sufficiently coordinated nor adequately integrated, particularly across transport modes.
- Urban highway congestion is a problem in several major economic hubs.
- In many areas, bus services do not provide a competitive sustainable alternative to cars.
- Too many public transport services and networks are not accessible to all users.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Part 5: Packages of Interventions

Introduction

TfSE has worked with key stakeholders and technical advisors to develop five coherent packages of Interventions that aim to deliver TfSE's vision and objectives for the South East's Mass Transit.

These packages have been developed through workshops, discussions, and careful analysis of results of the assessment of a long list of interventions and options.

The packages combine an overarching vision for the Area Studies 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. **Figure 5.1** illustrates the essence of this combined approach.

TfSE has 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 **Table 6.1** in **Part 6**. However, some outputs are presented on **pages 36 – 41**.

Figure 5.1: Approach to Package development

Emerging Vision

Packages of Interventions

Modelling

Long List Assessment

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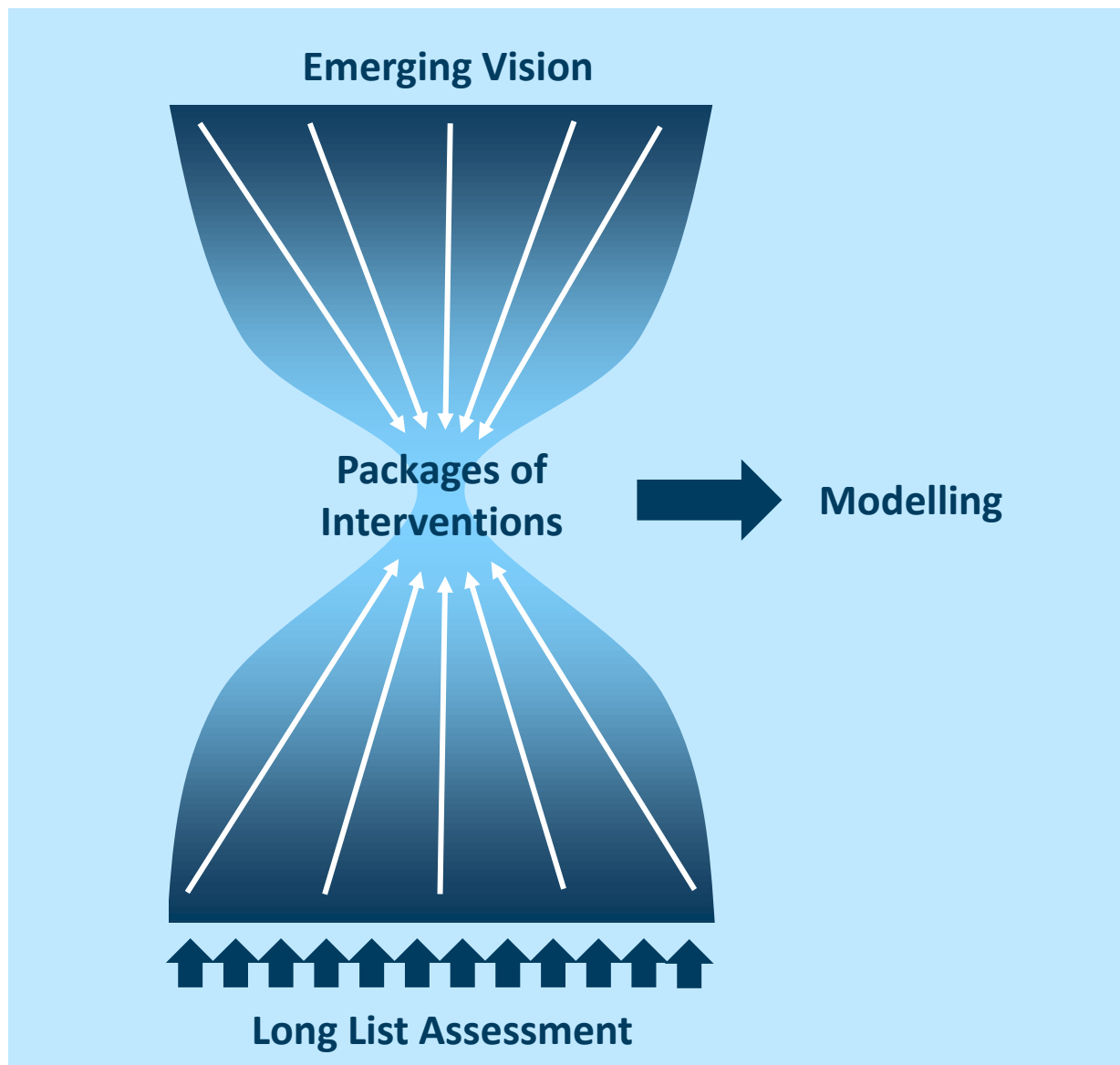
Interventions

Alignment of Interventions

In order to deliver our vision and objectives, our strategy supports the following alignment of Mass Transit interventions:

Mass transit including bus, bus rapid transport, and tram, ands other mass transit modes, shared mobility and ferries can complement and integrate well with the rail network. It also provides sustainable access and connectivity with more flexibility in terms of speed of delivery, lower cost, and reaching communities and gateways that rail may find difficult or not be suited to.

Packages and interventions include:

- new and extended mass transit systems – modal option include bus, new tram / light rail transit systems, or possibly other mass transit modes;

- new strategic mobility hubs between private, mass transit, and active modes, and with rail in some instances;

- identification of key inter-urban corridors for service frequency enhancement and priority infrastructure;

- support for all Local Transport Authorities' Bus Service Improvement Plans;

- expansion of (digital) demand responsive transport, particularly covering rural areas; and

- reduced fares.

Like rail, mass transit and wider public transport interventions support all priorities.

Mode shift from heavier emitting private modes to public transport supports decarbonisation.

High quality public transport, particularly mass transit, supports new development and regeneration by opening up sites for development and incentivising investment in well connected places. It also supports our response to the COVID pandemic, in providing access to work for "key workers as well as preventing the recovery in travel being car based.

Public transport also provides options for urban, inter-urban, and rural movement that effectively brings places close together, expands the labour markets of employers, and support collaboration and the sharing

of resources to generate agglomeration benefits.

It also provides access to important key services, and new routes, new service, and new operating models (e.g. digital demand responsive transport) not only provide accessibility and capacity, but also provide resilience in the network and improves the safety of our transport networks.

Alignment with Priorities

A framework showing how the place-based and global packages of interventions map to the key priorities, carried forward into the Strategic Investment Plan, is presented overleaf.

From the assessment of the packages, we conclude that the packages identified – both place-based and "global" – have the potential to meet all eight priorities, delivering material socio-economic and environmental benefits across a deliverable programme with the right investment.

Furthermore, the packages presented represent the most bold and ambitious programme of transport intervention in a generation.

TRANSPORT FOR THE
South East

Alignment of Interventions

Bus, Shared Mobility and Mass Transit has a big role to play

Our thematic plan sets out a bold, comprehensive, yet deliverable plan for Mass Transit in the South East

Mass transit, and indeed active travel should be the natural first choice with a convenient, cost-effective and coherent public transport network. The societal view that buses are the transport form for the poor need change. On the contrary, they are part of the overall solution.

In summary, the South East's radial transport networks are generally fit for purpose and have benefitted from investment in recent years. However, this investment has not been matched for east-west corridors and mass transit systems in the South East's largest conurbations – notably on the South Coast.

Our Strategic Investment Plan will seek to maintain the quality of the South East's radial networks while bringing gaps in orbital and urban networks up to world class standard. **Figure 5.2** presents the packages of Interventions, and the following pages discusses each spatially specific package.

Figure 5.2: Packages of Interventions

Packages of Interventions Some are grouped together KMES: Kent, Medway, East Sussex MT: Mass Transit	World Class Urban Mass Transit
South Hampshire Rail	✔
Sussex Coast Rail	✔
London - Sussex Coast Rail	
Wessex Thames Rail	
KMES Classic Rail	✔
KMES High Speed Rail	✔
South Hampshire Mass Transit	✔
Isle of Wight	✔
Sussex Coast Mass Transit	✔
London - Sussex Coast MT	✔
KMES Mass Transit	✔
All Active Travel	✔
South Coast Highways	✔
London - Sussex Highways	
Wessex Thames Highways	
KMES Highways / LTC	
Decarbonisation	✔
Public Transport Fares	✔
Road User Charging	
New Mobility	✔
Virtual Living	
Integration and Access	✔

Global Packages of Interventions

There are six Global Package interventions which are largely regulatory and policy-based interventions.

1. Decarbonisation: This delivers a faster trajectory towards net-zero than current trends are expected to yield through faster adoption of zero emission vehicles.

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 in the South East.

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 integration and accessibility across and between all modes of transport.

TRANSPORT FOR THE South East

Packages of Interventions

The Area Studies Programme has identified **packages of interventions** enabling bus, shared mobility and mass transit in the South East. The interventions included in these packages are summarised below and presented on the following pages.

Package C: South Hampshire Mass Transit

C1	Southampton Mass Transit
C2	south east Hampshire Rapid Transit Future Phases
C3	New Southampton to Fawley Waterside Ferry Service
C4	Southampton Cruise Terminal Access for Mass Transit
C5	M271 Junction 1 Strategic Mobility Hub
C6	M27 Junction 5 / Southampton Airport Strategic Mobility Hub
C7	M27 Junction 7 / 8 Strategic Mobility Hub
C8	M27 Junction 9 Strategic Mobility Hub
C9	Tipner Transport Hub (M275 Junction 1)
C10	Southsea Transport Hub
C11	Improved Gosport - Portsmouth and Portsmouth - Hayling Island Ferries

Package G: Sussex Coast Mass Transit

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

TRANSPORT FOR THE
South East

Packages of Interventions

The Area Studies Programme has identified **packages of interventions** enabling bus, shared mobility and mass transit in the South East. The interventions included in these packages are summarised below and presented on the following pages.

Package L: London to Sussex Coast Mass Transit

L1	Fastway Extension: Crawley - Horsham	**L9**	A26 Corridor Newhaven Area Rural Bus Service Enhancements
L2	Fastway Extension: Crawley - East Grinstead	**L10**	A272 Corridor Rural Bus Service Enhancements
L3	Fastway Extension: Haywards Heath - Burgess Hill	**L11**	A264 Corridor Rural Bus Service Enhancements
L4	Fastway Extension: Crawley - Redhill	**L12**	A29 Corridor Rural Bus Service Enhancements
L5	A22 Corridor Rural Bus Service Enhancements	**L13**	A283 Corridor Rural Bus Service Enhancements
L6	A23 Corridor Rural Bus Service Enhancements	**L14**	A281 Corridor Rural Bus Service Enhancements
L7	A24 Corridor Rural Bus Service Enhancements	**L15**	Three Bridges Strategic Mobility Hub
L8	A26 Corridor Lewes - Royal Tunbridge Wells Rural Bus Service Enhancements		

TRANSPORT FOR THE
South East

Packages of Interventions

The Area Studies Programme has identified **packages of interventions** enabling bus, shared mobility and mass transit in the South East. The interventions included in these packages are summarised below and presented on the following pages.

Package P: Wessex Thames Mass Transit

P1 Basingstoke Mass Rapid Transit

P2 Blackwater Valley Mass Rapid Transit

P3 Bracknell / Wokingham Bus Enhancements

P4 Elmbridge Bus Enhancements

P5 Epsom / Ewell Bus Enhancements

P6 Guildford Sustainable Movement Corridor

P7 Slough / Windsor / Maidenhead Area Bus Enhancements

P8 Newbury / Thatcham Bus Enhancements

P9 Reading Mass Rapid Transit

P10 Spelthorne Bus Enhancements

P11 Woking Bus Enhancements

P12 A4 Reading - Maidenhead - Slough - London Heathrow Airport Mass Rapid Transit

P13 A329 / B3408 Reading - Bracknell / Wokingham Mass Rapid Transit

P14 Winchester Bus Enhancements

P15 Andover Bus Enhancements

P16 Runnymede Bus Enhancements

P17 London Heathrow Airport Bus Access Enhancements

P18 Berkshire, Hampshire and Surrey Inter-urban Bus Enhancments

Package V: Kent, Medway and East Sussex Mass Transit

V1 Fastrack Expansion - Swanscombe Peninsula

V2 Fastrack Expansion - Northfleet to Gravesend

V3 Fastrack Expansion - Medway

V4 Medway Mass Transit

V5 Medway Mass Transit - Extension to Hoo Peninsula

V6 Medway to Maidstone Bus Priority

V7 Medway Mass Transit - Chatham to Medway City Estate New Bridge

V8 Medway Mass Transit - Chatham to Medway City Estate Water Taxi

V9 Maidstone Bus Enhancements

V10 Dover Bus Rapid Transit

V11 Sittingbourne Bus Enhancements

V12 Sevenoaks Bus Enhancements

V13 Thanet Bus Enhancements

V14 Folkestone Bus Enhancements

V15 Ashford Bus Enhancements

V16 Royal Tunbridge Wells / Tonbridge Bus Enhancements

V17 Thames Gateway / Gravesham Bus Enhancements

V18 Canterbury / Whitstable / Herne Bay Bus Enhancements

V19 Ferry Crossings - New Sheerness to Hoo Peninsula Service

V20 Ferry Crossings - Sheerness to Chatham / Medway City Estate / Strood Enhancements

V21 Ferry Crossings - Ebbsfleet - Tilbury Enhancements

V22 Inland Waterway Freight Enhancements

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE **South East**

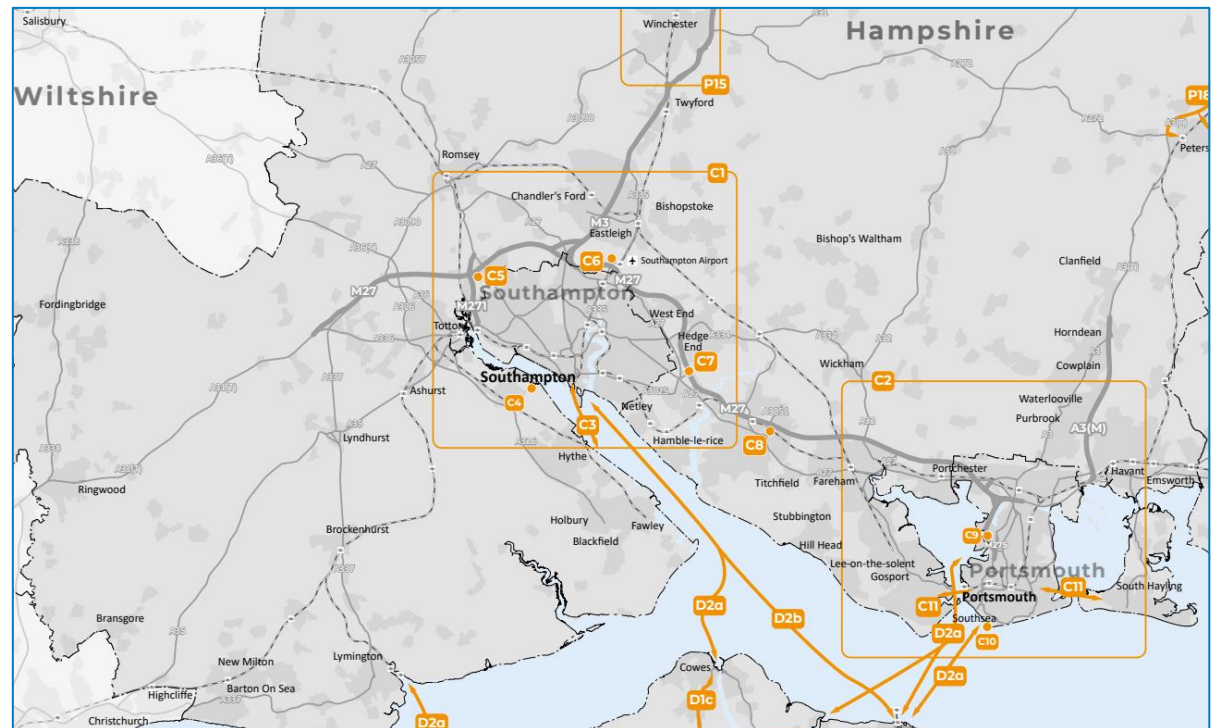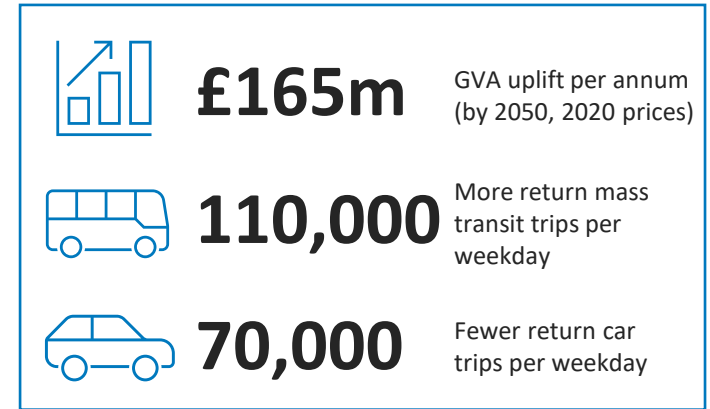# Package C: South Hampshire Mass Transit

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

£165m — GVA uplift per annum (by 2050, 2020 prices)

110,000 — More return mass transit trips per weekday

70,000 — Fewer return car trips per weekday

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE **South East**

Package C: 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

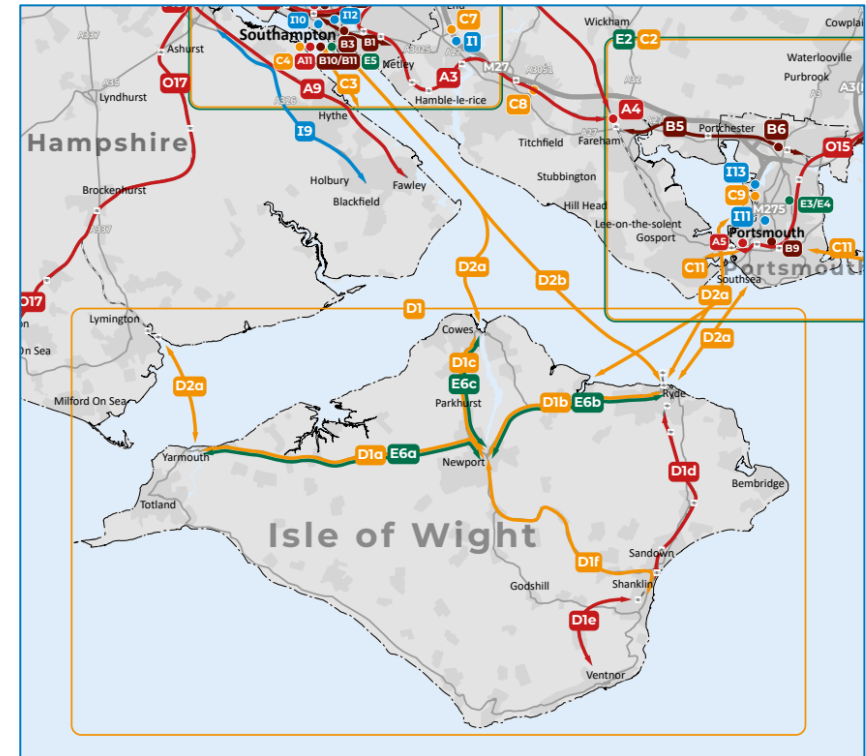**£165m** — GVA uplift per annum (by 2050, 2020 prices)
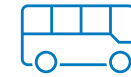
15,000 — More return mass transit (incl. ferry) and rail trips per weekday

15,000 — Fewer return car trips per weekday

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE **South East**

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

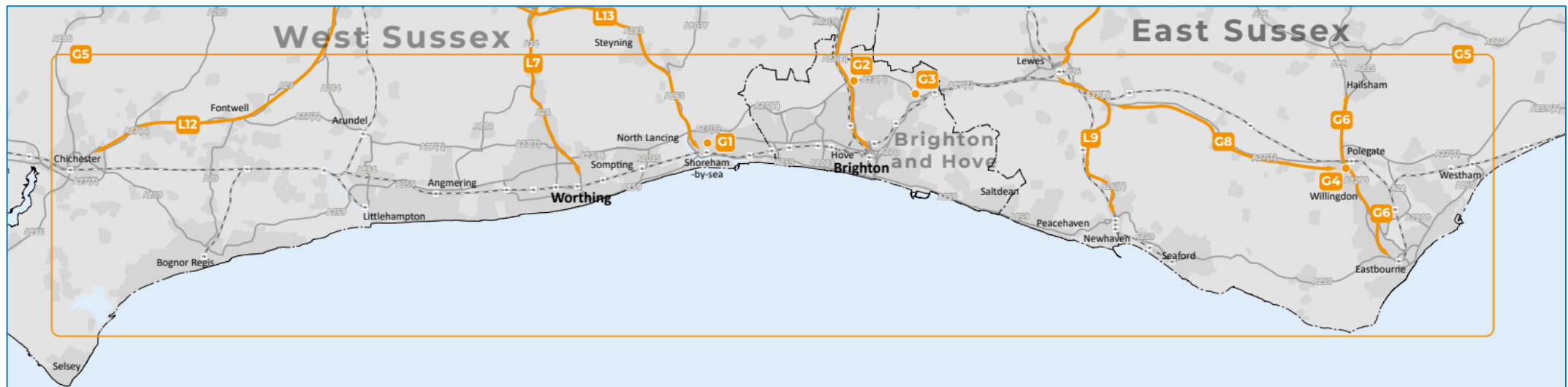**£120m** — GVA uplift per annum (by 2050, 2020 prices)

55,000 — More return mass transit trips per weekday

35,000 — Fewer return car trips per weekday

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE South East

Package L: London to Sussex Coast Mass Transit

Overview

TfSE and the Area Study Working Group believe that there are parts of the London to Sussex Coast Area which are populous and dense enough to support a bus based-transit network.
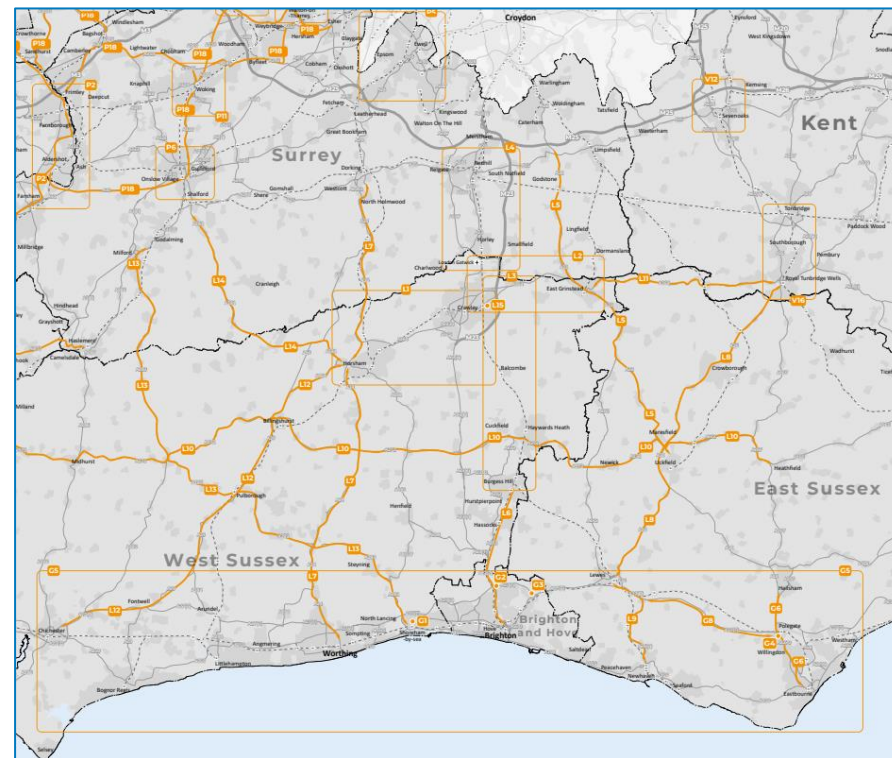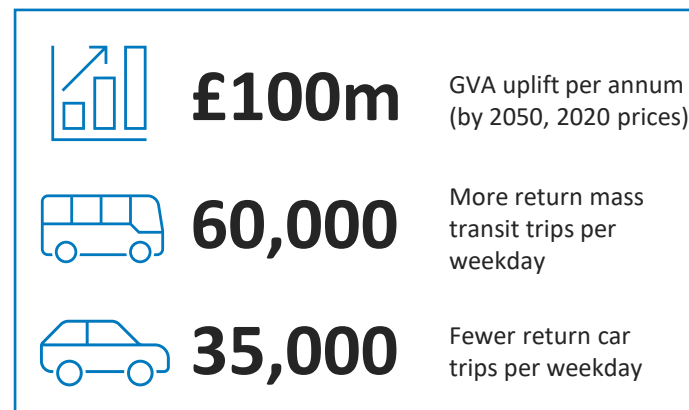
The **Mass Transit Package** will build on the success of the Fastway Bus Rapid Transit system in Crawley/Gatwick. Its expansion will be on high growth corridors towards (and within) nearby Major Economic Hubs. This expansion will include investing in segregated bus infrastructure where feasible on corridors to the north (Redhill), south (Haywards Heath), east (East Grinstead and Tunbridge Wells) and the west (Horsham). In addition, mass transit systems are proposed for Brighton and Hove and the wider Sussex Coast, if feasible, including the Eastbourne/South Wealden area.

This system will be supported by general improvements to non-BRT buses and Strategic Mobility Hubs at Falmer, Three Bridges, and on the periphery of Eastbourne. The overall mass transit network and service provision will be designed to provide an integrated network which facilitates seamless journeys across the London to Sussex Coast area and beyond.

Benefits

- Improvement in the **speed, frequency** and **connectivity** of mass transit services

- Better **interchange** and **service quality** at Strategic Mobility Hubs

- Improvement in the **journey experience** with better quality vehicles

- **Significant mode shift** from car to bus

Modelling Results

£100m — GVA uplift per annum (by 2050, 2020 prices)

60,000 — More return mass transit trips per weekday

35,000 — Fewer return car trips per weekday

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE **South East**

Package P: Wessex Thames Mass Transit

Overview

TfSE and local stakeholders are committed to providing an alternative to car use in urban centres across the area.
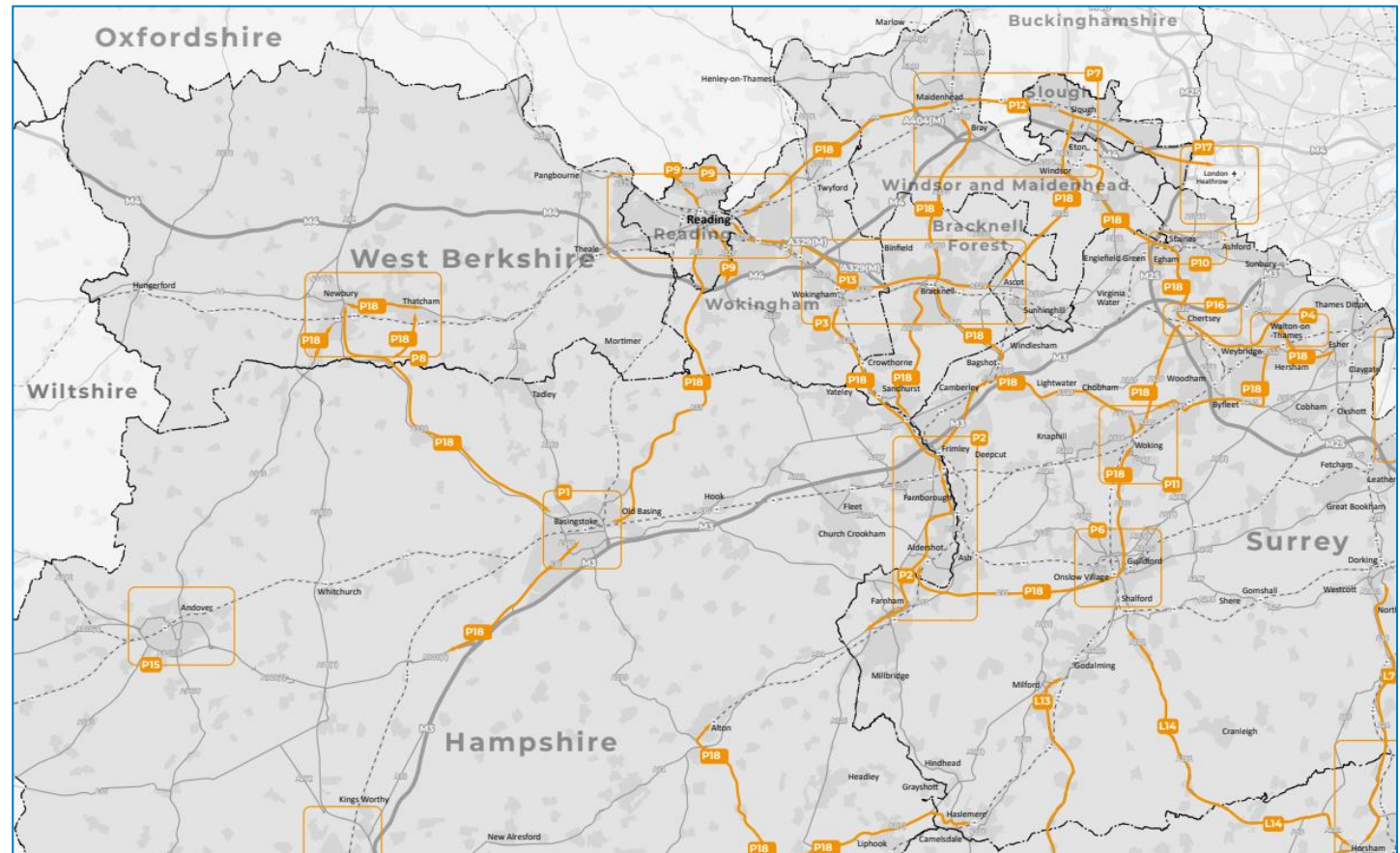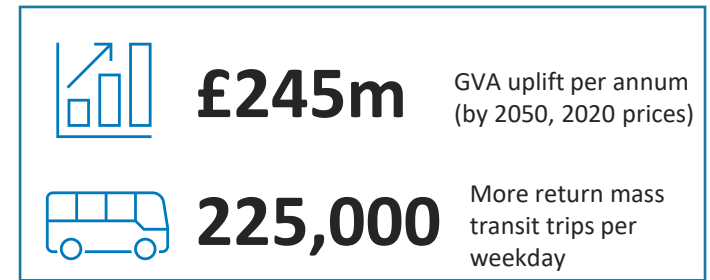
Mass transit options have been considered for Major Economic Hubs across the area. Enhancements include increasing the frequency, operating hours, reliability and catchment of bus services, supported with bus priority infrastructure where appropriate. Corridors with strong existing bus patronage, sufficient density and an appropriate network for bus priority include the Slough-Maidenhead-Windsor corridors, on corridors within Reading and in the Blackwater Valley – Farnham, Aldershot, Farnborough, Frimley, Camberley, Owlsmoor, Sandhurst, Yately and Blackwater.

There is a focus on ensuring Mass Rapid Transit interventions are supported by Strategic Mobility Hubs in Major Economic Hubs to provide an integrated network which facilitates seamless journeys between modes across the area.

Benefits

- Improvement in the speed, frequency and connectivity of mass transit services
- Better interchange and service quality at Strategic Mobility Hubs
- Better service quality
- Significant mode shift from car to bus

Modelling Results

£245m GVA uplift per annum (by 2050, 2020 prices)

225,000 More return mass transit trips per weekday

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE South East

Package V: Kent, Medway, and East Sussex Mass Transit

Overview

This package delivers improvements to bus services in Kent, Medway, and East Sussex.

The scope for improvements and expansion are particularly strong in the North Kent and Medway areas, where high levels of growth and regeneration are expected. A step change in infrastructure and service provision should be viable thanks to the underlying demographics in this area.
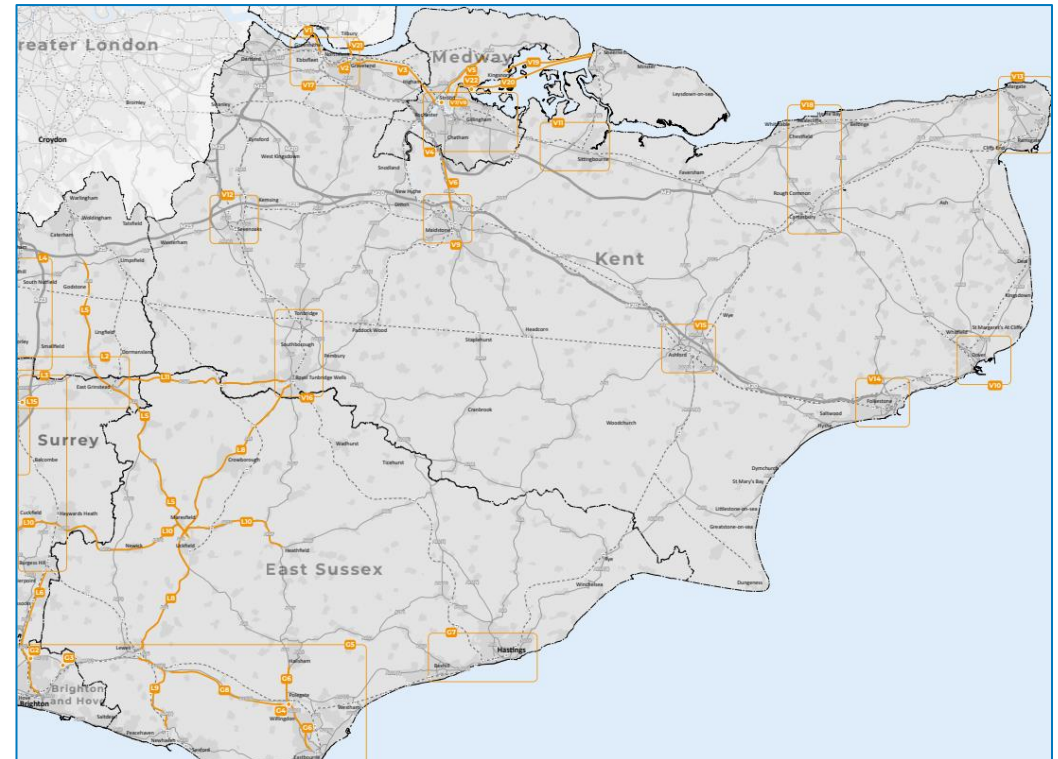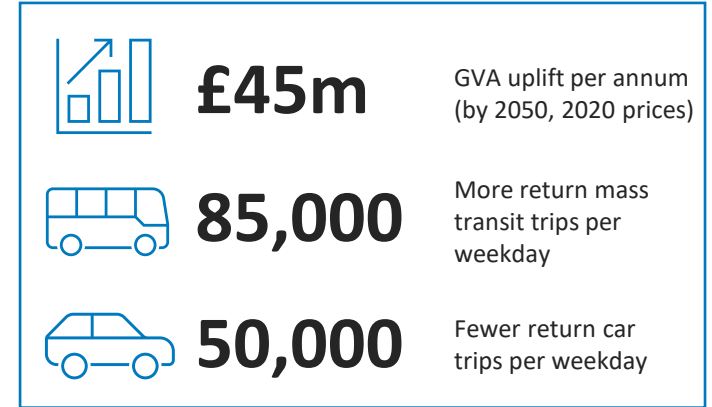
This package includes an opportunity to create a new Medway River Crossing to enable faster journeys between the north and south of this conurbation by bus/mass transit and active modes (e.g. walk, wheel, cycle and microtransit such as bike hire and e-scooters).

This intervention assumes all other conventional bus services in the Kent, Medway and East Sussex area experience general improvements in journey times, frequencies, and service quality.

Benefits

- **Significant improvements** in the quality, speed, and frequency of bus services in Kent, Medway, and East Sussex

- Better **interchange** between bus and rail

- Improvements in **connectivity** between **islands and peninsulas** in North Kent

- **Modal shift** from car to bus (and in some instances, ferries)

Modelling Results

£45m — GVA uplift per annum (by 2050, 2020 prices)

85,000 — More return mass transit trips per weekday

50,000 — Fewer return car trips per weekday

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE **South East**

Additional and Global Interventions
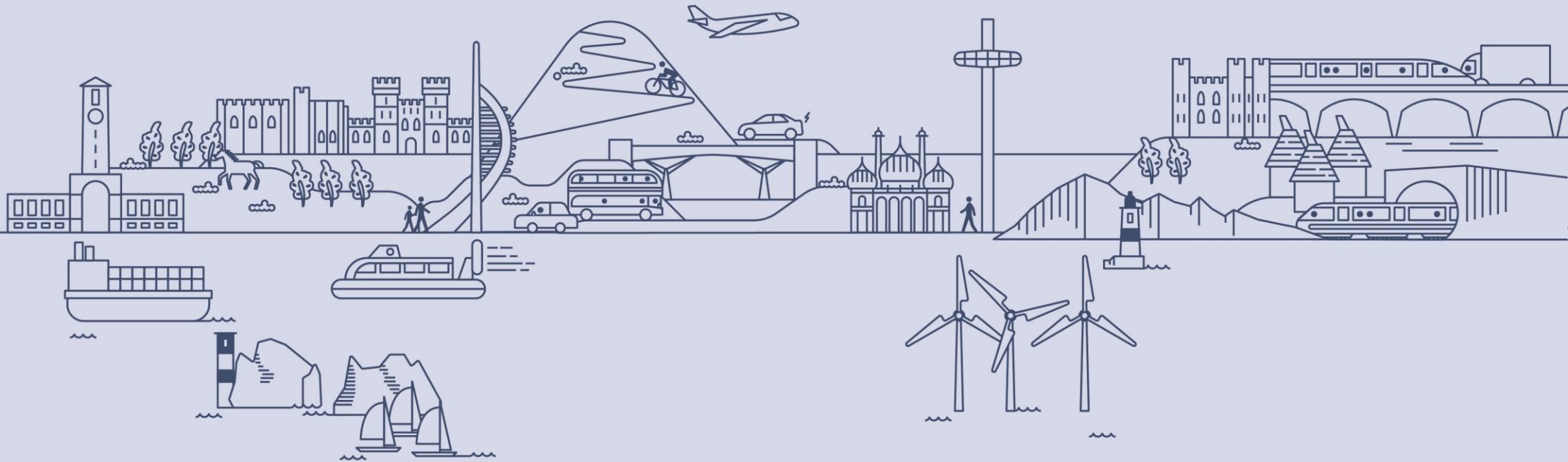
Additional Interventions

In order to deliver the vision and objectives outlined above, our strategy supports the following additional interventions:

- Mass transit expansion to existing systems and further consideration of where Mass Transit is best suited to operate

- The ongoing support to local authorities in their BSIPs

- Build on the success of high-quality bus services in Reading, Brighton, Blackwater Valley, Southampton, Portsmouth and Crawley Gatwick, extending the reach of these networks in surrounding areas and particularly those less well served

- Learn lessons, from home and abroad, and apply the principles high-quality bus networks and priority measures to other parts of the South East; and

- Support the role out and enhancement of (digital) demand responsive transit (trials) in rural areas and make permanent if demand warrants

Global or non-site-specific interventions

Our strategy also supports the following global and non-site-specific interventions:

- Strategic Mobility Hubs

- Rural bus service improvements

- Improved Rural Demand Responsive bus/taxi services

- Integrated ticketing, that is simpler, more affordable and promotes greater use of public transport, in particular multi modal trips; and

- Material and sustained campaigns centering on behaviour change.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE **South East**

Part 6: Benefits and Costs

Benefits and Costs

Modelling Benefits

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

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.

SEELUM produces detailed reports on:

- changes in land-use in each zone (i.e. housing units and business premises);
- changes in households, population and the workforce in each zone;
- changes in employment (jobs filled) in each zone and the unemployment rates;
- changes on CO_2 emissions from transport activity;
- travel patterns, volumes and mode shares; and
- time savings benefits for appraisal and impacts on productivity.

To model each package in SEELUM, adjustments were made to:

- Generalised Journey Times (GJTs) within and between each zone (by mode); and
- Characteristics of links on the railway network (notably capacity and speed).

The packages were modelled in SEELUM from a base year of 2018 and run for 32 years to 2050. The results are presented as a comparison to a Business-as-Usual Scenario (BaU), which is based on the Department for Transport's National Trip End Model (NTEM) that also projects employment and population growth to 2050.

The results of the modelling of all Mass Transit packages of Interventions is presented in **Table 6.1** on the following page. While the total benefits of the packages of Interventions is important, it is also helpful to consider the spatial impacts of these packages.

As an example, the impacts on coastal communities in Kent, Medway, and East Sussex, as presented in **Slide 40**, appear to show strong alignment with the Government's Levelling Up ambitions.

Estimating Costs

Capital cost estimates have been prepared to a level of detail commensurate with the maturity of the design of the packages of Interventions and are presented in Table 6.1.

Items and quantities have been priced using historic project data and industry standard published data, with adjustments made to capture the influence that quantity, access, time constraints, site location and conditions will have on labour, plant and materials input costs.

A contingency has been added for minor items that have not been measured. Allowances have been made for main contractor's preliminaries and overhead and profit, temporary works and traffic management where required. Allowances for professional fees, upgrades, and relocation have also been added to the construction cost estimate. To reflect the maturity of the design a risk allowance has been applied.

Operations, Maintenance, Renewal and impacts on tax revenue are excluded from these costs.

TRANSPORT FOR THE
South East

# Benefits and Costs

Combined Packages

Table 6.1 shows the results of the modelling mass transit packages.

When modelled with other packages across rail, active travel, highways, and the "Global Package", the combined outcomes often generate slightly different results to the sum of the individual package model runs – this reflects the effects of overlapping benefits and, in some cases, benefits that are "more than the sum of their parts" or the converse.

Table 6.1: Benefits and Costs

Package	Population	New jobs	GVA (£m)	Total CO_2	Car Trips	Rail Trips	Bus / Mass Transit	Total Trips	Cost (£m)
South Hampshire Mass Transit	1,300	1,000	165	(30,000)	(70,000)	-	110,000	5,000	1,800
Isle of Wight	1,950	1,500	165	-	(15,000)	5,000	15,000	5,000	250
Sussex Coast Mass Transit	850	550	120	(10,000)	(35,000)	5,000	55,000	5,000	450
London – Sussex Coast Mass Transit	1,350	800	100	(15,000)	(35,000)	-	55,000	5,000	400
Wessex Thames Mass Transit	3,300	1,300	245	(50,000)	(130,000)	(5,000)	225,000	10,000	1,000
Kent, Medway, and East Sussex Mass Transit	1,550	400	45	(25,000)	(50,000)	-	85,000	-	700
Sum of Packages	**10,300**	**5,550**	**840**	**(130,000)**	**(335,000)**	**5,000**	**545,000**	**30,000**	**4,600**

Notes

- GVA (Gross Value Added) is GVA per annum for 2050 in 2020 prices. Costs are in 2020 prices.
- Trips are return trips on a typical week day
- Carbon emissions are CO_2 tonnes equivalent in 2050, reflecting modal shift and wider impacts on the economy (e.g. population growth).
- The total row presented above is the sum of the packages.

TRANSPORT FOR THE
South East
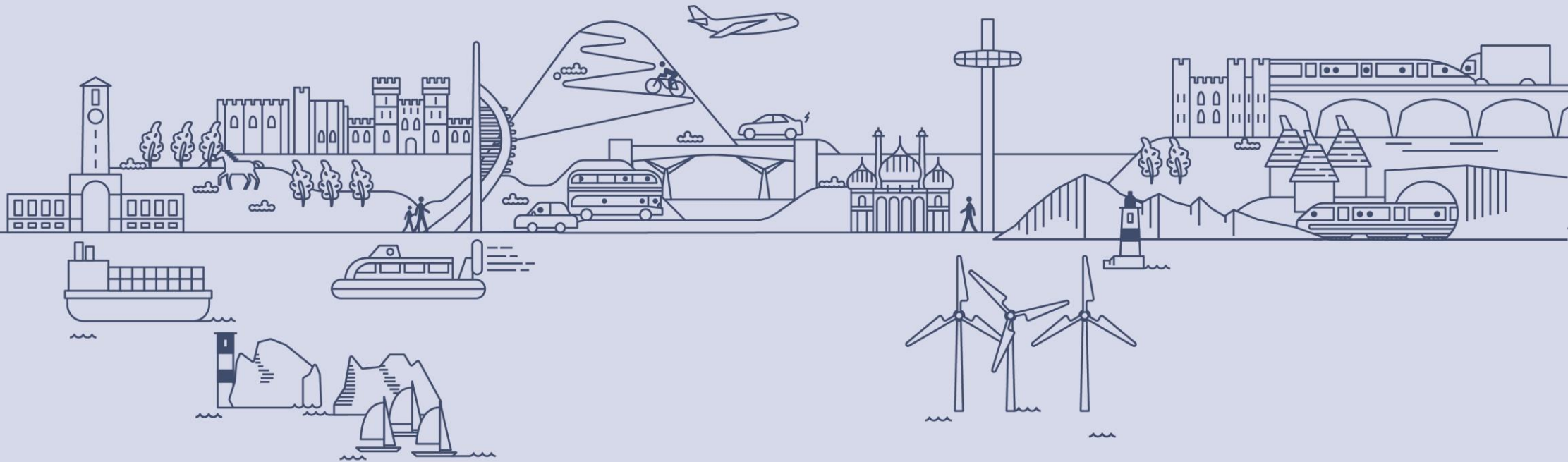
Part 7: Delivery

Introduction

Introduction

TfSE must work with partners – Local Authorities, Transport Operators– to deliver the global interventions, infra- structure and services outlined earlier in Part 5.

The delivery of the packages of Bus, Shared Mobility and Mass Transit interventions will need to consider the following:

- Roles and responsibilities;

- Timing and phasing;

- Other considerations
  - Funding and financing;
  - Governance; and
  - Monitoring and Evaluation.

This Part of our Thematic Plan provides an overview of a suggested approach to each topic listed above in the following pages.

Roles and Responsibilities

TfSE's role will reflect its current and likely future status as an established Sub National Transport Body for South East England.

It is assumed there would be no significant change in the current distribution of powers, funding mechanisms, and democratic accountability in South East England at a local level.

This assumes there will be – for example – no Mayoral Combined Authorities in South East England with the powers and resources to take on more responsibility for the day to day operation of the rail network.

TfSE's role will therefore focus on building consensus and capacity to deliver its transport strategy through others. It will tailor its approach to the mode, scale, and level of development of each prioritised intervention.

A suggested approach for delivering the packages of Interventions – including Global Policy Interventions – is provided **Table 7.1** on the following page.

TRANSPORT FOR THE
South East

Roles and Responsibilities

Table 7.1: Roles and Responsibilities

Intervention	Lead Authority	TfSE Role
Global policy interventions (e.g. lower public transport fares).	• Central government (e.g. Department for Transport)	• TfSE to advocate for central government to adopt these policies
Mass Transit services that can be introduced without new infrastructure, but which will likely require local government support.	• Local Authority • TfSE could be a joint scheme promoter	• Stakeholder engagement between central government, operators and local partners • Business case development, including use of and providing access to TfSE's emerging analytical framework • Advocacy and securing funding
Mass Transit services that can be introduced without new infrastructure, and without central government Intervention (e.g., more Fastrack services).	• Local Authority • TfSE could be a joint scheme promoter	• Stakeholder engagement with operators, local partners and central government • Use of and providing access to TfSE's emerging analytical framework • Advocacy
For Mass Transit services requiring new infrastructure (e.g. the larger mass transit interventions/networks proposed in the South East	**Schemes under development**	
	• Department for Transport (very large projects) • Local Transport Authorities (smaller schemes e.g. HIF)	• Stakeholder engagement with central government and local partners • Business case and scheme development and support, including use of and providing access to TfSE's emerging analytical framework if at an earlier stage of development • Advocacy and securing funding
	Schemes not currently under development	
	• Local Transport Authorities • TfSE could be joint scheme promoter	• Programme management, including stakeholder engagement with local partners and operators • Pre-feasibility work • Potential joint scheme promotion • Business case and scheme development and support, including use of and providing access to TfSE's emerging analytical framework • Advocacy and securing funding

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Timing and Phasing

The timing and phasing of each package of Interventions will be driven by their current state of development, industry funding cycles, and institutional capacity.

Table 7.2 shows an indicative high-level timeframe and implementation timescale for each type of Mass Transit under consideration. The delivery of the actual packages of Interventions will be dependent on several factors, including political appetite and decision making, funding and resources, scheme and business case development, land acquisition and utilities, securing powers and extent of powers required to delivery and operate the proposed interventions.

Any intervention will require further careful development, planning and alignment with HM Treasury's Five Case Model (5CM) approach for developing business cases. This takes time, effort and needs to be adhered to and is reflected in Table 7.2. The 5CM will be used as each package of intervention proceeds through the development, procurement and delivery stages.

Table 7.2: indicative high-level timeframe and implementation timescales

Type of Interventions	Timeframe	Implementation
New BRT/MRT*	5-10 years	5-10 years
New Ferry/Waterway	5-8 years	5 years
Service Improvement	2-5 years	1 year
New Strategic Mobility Hub	3-5 years	2 years
Infrastructure Improvement	3-5 years	1-2 years

* Upper range is more reflective of light rail timescales

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Other Delivery Considerations

Funding and Financing

The Strategic Investment Plan will consider funding and financing options in detail.

This topic is best considered from a pan-regional, multi-modal perspective, as there may be opportunities for developing linkages between modes at a local level.

In general, experience suggests it some of the best ways of securing investment in bus, shared mobility and mass transit interventions is to:

- focus on **incremental schemes** to unlock benefits as schemes develop;

- focus on **regeneration** and high growth opportunities; and

- focus on **high demand**, particularly on flows that have significant importance to the wider economy (e.g. ports, airports, approaches to London, etc).

Ultimately, a **Full Business Case** will need to be developed for each intervention, and this will be instrumental in making the case for investment. The best way of securing funding is, therefore, to prioritise those schemes that offer the most compelling case for intervention.

Funding for national bus, shared mobility and mass transit infrastructure can be sourced from:

- Central government funding (e.g. City Region Sustainable Transport Settlement- CRSTS);

- Central government loans/bonds;

- Local government contributions (e.g. Work Place Parking Levy, Business Rate Supplement); and

- Private investment (e.g. developer contributions).

Additional funding sources could include:

- Borrowing against future revenues;

- Public Private Partnerships / Private Finance Initiatives;

- Land Value Capture;

- Alternative income streams (e.g. retailing at stations); and

- Road user charging and hypothecation.

Given the scale of investment and the interventions proposed, a portfolio of funding sources will be required reflecting the nature of beneficiaries.

Governance

TfSE and Local Transport Authorities should establish appropriate governance to oversee the development, delivery, and benefits realisation arising from interventions included in this strategy. The arrangements will vary according to the type of intervention and its stage of development. In general, the UK government favours governance arrangements reflecting **Managing Successful Programmes (MSP)** and **Projects In Controlled Environments (PRINCE2).** If considering the conversion of rail to a mass transit type intervention the rail industry's latest project management process, developed in conjunction with the DfT, **Project Acceleration in a Controlled Environment (PACE)** will apply.

Monitoring and Evaluation

A set of **Key Performance Indicators** (KPIs) should be used to monitor and evaluate the implementation of this strategy. Appropriate KPIs for monitoring and evaluation the packages of Interventions in this Plan are presented overleaf in **Table 7.3** on the following page.

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE
South East

Monitoring and Evaluation Framework

Table 7.3: Key Performance Indicators

Inputs	Outputs	Outcomes	Impacts
• **Funding** invested in Mass Transit packages, integrated fares/ticketing, and marketing, mobility hubs, ferry service improvements, rural and interurban bus services • **Delivery** of mass transit interventions	• **Capacity**: Seats, services per hour • **Connectivity**: Better journey times, frequencies, direct/indirect services, 'turn up and go' service, internet connectivity • **Resilience and performance**: Operating performance indicators (e.g. minutes delay/early, cancelations, etc.) • **Quality**: Customer Satisfaction Surveys, Service Quality Regimes, Mystery Shopper Regimes, other "trust" related/reliable indicators, enhanced interchange • **Accessibility**: Number of fully accessible stops and stations, portion of buses and trams that are fully accessible • **Affordability**: Affordable fares for all, new products to make attractive	• **Journey Time/Reliability:** improvements for specific groups, perturbation recovery • **Demand:** increased public transport usage • **Accessibility and reduced community severance:** improvement for all members of society, especially individuals with additional needs and other specific groups • **Modal shift**: public transport mode share increased, move to non-caron emitting transport modes • **Revenue**: Revenue raised per annum • **Productivity**: Boosted through better skills matching, knowledge sharing and agglomeration • **Environment**- adopting principles of net gain	• **More sustainable travel outcomes**: Total passenger km, share of passenger km by public transport and active travel, achieve net zero transport • **Reduce poverty and boost prosperity:** for all residents and enable the "levelling up" of socioeconomic outcomes. • **More financially sustainable public transport**: Portion of operating costs recovered through revenue • **Realisation of TfSE's Vision and Objectives** presented in Part 4 of this Plan • **Resolution of the Problem Statements** identified in Part 4 of this Plan

Bus, Shared Mobility and Mass Transit Thematic Plan

TRANSPORT FOR THE **South East**

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For further information please contact

Tiffany Lynch
TfSE Client Project Manager
Tiffany.Lynch@eastsussex.gov.uk

Steven Bishop
Technical Advisor Programme Director
Steven.Bishop@steergroup.com

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