

Transport for the South East State of the Region 2023 Report

September 2023



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1. Introduction

State of the Region 2023 Report

This is the inaugural State of the Region report for Transport for the South East (TfSE). Its intention is to show where the region currently is on big, important measures of economy, society and the environment.

The information presented in this report is linked to the aspirations set out in the TfSE Transport Strategy and Strategic Investment Plan. It is focused on understanding how the region is performing against the metrics which those plans are trying to influence. Whilst it is comprehensive, the report is also only a snap-shot of how the region is performing over all.

The intention is for TfSE to publish the State of the Region report every two years to demonstrate how things are changing. In particular TfSE want to see whether the Transport Strategy and Strategic Investment Plan, as well as Local Transport Plans, are supporting the region in the way they were intended to. This 2023 edition is the baseline against which future editions will demonstrate how the region has changed against the metrics which are important to the TfSE Strategy.

What are the Transport Strategy and Strategic Investment Plan trying to achieve?

Both of these documents set the overall policy and strategy direction for TfSE and the specific investment plan to deliver it, and discuss what is hoped can be achieved to change the region for the better. Through policy change and strategic investments in transport, TfSE want to see positive change to the region's economy, its impacts on the environment and wider societal change.

Both documents use the 'theory of change' model to describe how the inputs and outputs that TfSE are seeking should lead to the outcomes and impacts they want to achieve. An example of the 'theory of change' model is shown below in Figure 1.1.

This State of the Region report is presenting evidence of where the region is currently, and in some cases showing historical change, on outcome measures and impacts that TfSE are trying to influence.



The State of the Region report is not intended to be a means of directly measuring performance of the Transport Strategy and Strategic Investment Plan, at least not in the short term. Strategic Investment Plan will take some time to be delivered and the metrics being examined can be influenced by many external factors. Hence the State of the Region report should be seen as more of a holistic view of whether the TfSE region is headed in the 'right direction'. Asking a crucial question:

Are the big-picture metrics of regional performance, linked to the aspirations of the Transport Strategy and Strategic Investment Plan, changing for the better, and at a sufficiently fast rate?

Figure 1.1: Example of a 'Theory of Change' model describing how transport policy and investment can lead to economic, environmental and societal benefits.



Content and structure of this report

This report is divided into three main sections, each uses a set of data and indicators which have been identified as those best to monitor performance against what the Transport Strategy and Strategic Investment Plan have said about how the region should improve over time:



2. How is our economy performing?

Here we present an overview of the TfSE regional economy and examine some of the transport specific metrics which can have an influence on economic performance.

3. What are the life opportunities of our residents?

Here we examine some of the metrics which indicate the kind of lifestyles and opportunities residents within TfSE geography have access to and again delving down into some of ways in which transport and accessibility can influence society.

4. What are our impacts on the environment?

Here we present the impacts transport can have on the environment and how well the TfSE region is doing in moving towards a less impactful transport system.

5. Alignment of Geography and Data

This report primarily makes use of publicly available datasets collected by either various central government departments or government agencies (such as National Highways and Network Rail). As such we are constrained by the geography for which the data is available and the frequency of data collection and reporting.

Defining the ‘South East’

Due to the way in which Sub-National Transport Bodies have been established and their partner-led creation, more often than not their geography does not exactly replicate the government’s definition of English regions. This is the case for Transport for the South East. As is seen in Figure 1.2 the TfSE geography is different to the South East government region.

This difference is important for much of the data used and presented in this report. Where data is available at a more disaggregated level, such as down to local authority level, we have been able to aggregate up to match the TfSE geography. However, many data sets are only available at the government’s regional geographies. In these cases, we have had to make use of this because it is the only data available for the important metrics we are trying to show.

In this report we have tried to make this clear by presenting data as either ‘TfSE Geography’ or ‘South East Region’.

Presenting data from different years

This 2023 State of the Region Report presents the most up to date picture possible of where the TfSE region was as at the end of 2022. Unfortunately, not all of the available data sources are available for the full 2022 period as there is up to a year’s lag in publishing national datasets. In all cases we have used the most up to date data available in April 2023. In a small number of cases the most up to date data is for a period either just before or during the pandemic and hence we are not always able to show how the period after the pandemic has settled to a new baseline.

Figure 1.2: TfSE boundary and South East Government Region Boundary



2. How is our economy performing?

Stated aims of the TfSE Transport Strategy and Strategic Investment Plan

The indicators used to present a picture of the region's economic performance below have been identified as those which demonstrate whether the region is moving in the direction desired by the TfSE Transport Strategy and Strategic Investment Plan.

In headline terms both documents say that they should impact on:

- **Jobs growth** – investment in transport infrastructure should lead to the region becoming more attractive to inward investment.
- **Productivity** – improving connectivity in the region should lead to certain sectors to become more productive, through reductions in time and cost associated with transport (either from moving goods around or from less time for staff spent travelling).
- **Supporting an export economy** – the south east region has a competitive advantage through its access to nationally important international gateways. TfSE wish to emphasise that advantage by making access to those gateways easier for the region's businesses.



TfSE's economy in numbers:

- The region's economy was worth around £234bn in 2020, although this had been a 3% drop from the year before, most likely due to the start of the pandemic.
- The TfSE geography represents around 13% of the UK economy and 13% of the population. The Gross Value Added (GVA) per head is around 12% higher in the TfSE geography than the UK average. The region can therefore be said to be more productive than the UK average.
- However, as shown in Figure 2.1, compared to the UK, overall the economy of the TfSE geography has grown at a slightly slower rate since 2000, albeit in those 20 years it has almost doubled.



Make up of our economy – industrial sectors

In 2022 there were approximately 4.4m jobs in the South East region, with 'Public Administration, Education and Health' being by far the biggest sector with over 30% of all jobs.

The region has added almost 450,000 jobs between 2005 and 2022. However, some industrial sectors declined over that time, whilst others grew strongly. Manufacturing in particular has seen a 25% decline in jobs in those 17 years, whilst Banking & Finance and Water & Energy have both grown by over 40% in the same period. This reflects the changing make-up of the region's economy.

Figure 2.1: South East and UK GVA Growth from 2020
Source: ONS (Office for National Statistics. Gross Value Added)

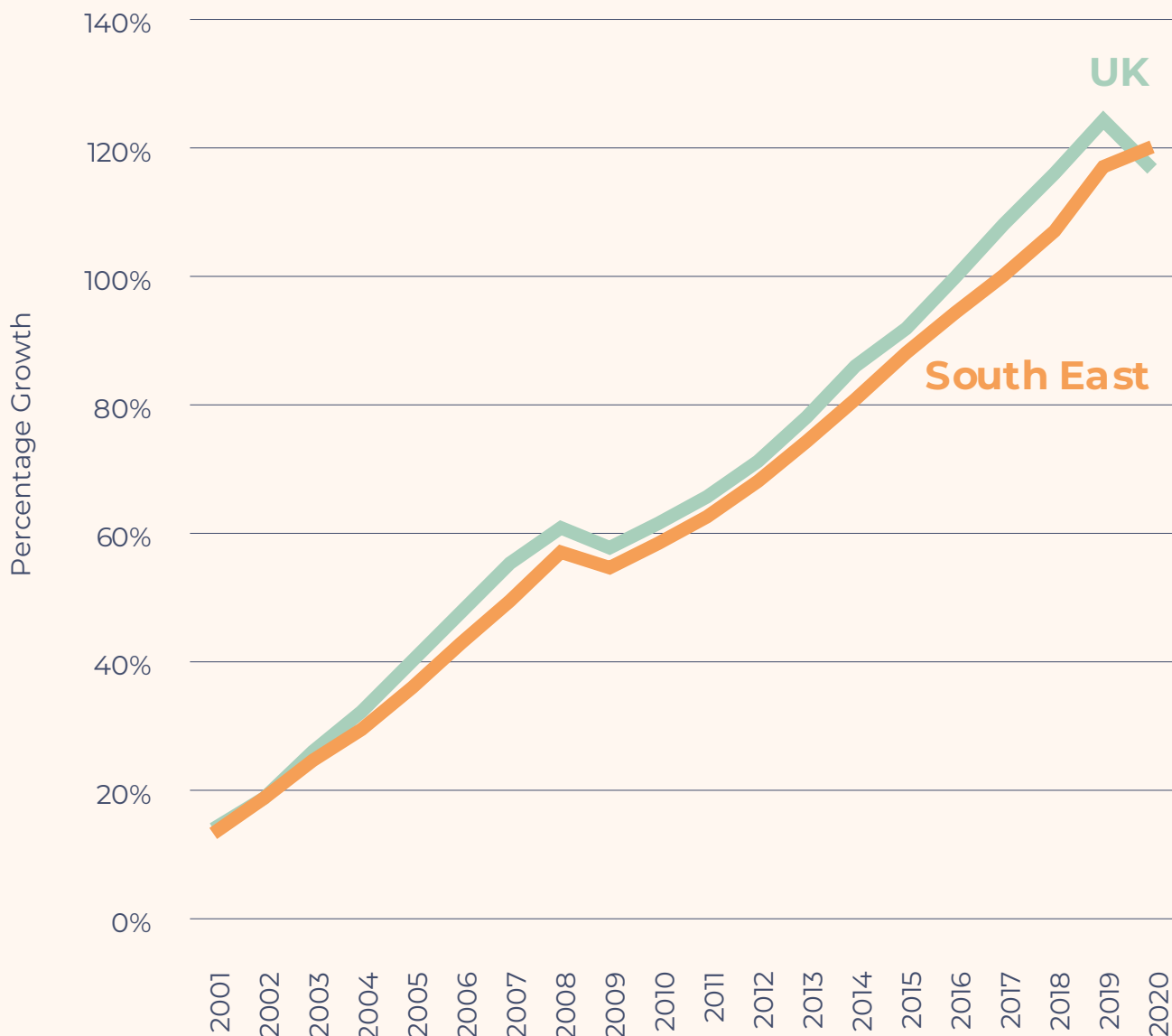


Figure 2.2: Jobs by industry in the South East

Source: NOMIS - Geography - Region: South East, Date - all dates between Dec 2004 and most recent, Cell - T13a:

Employment by industry (SIC 2007) and flexibility

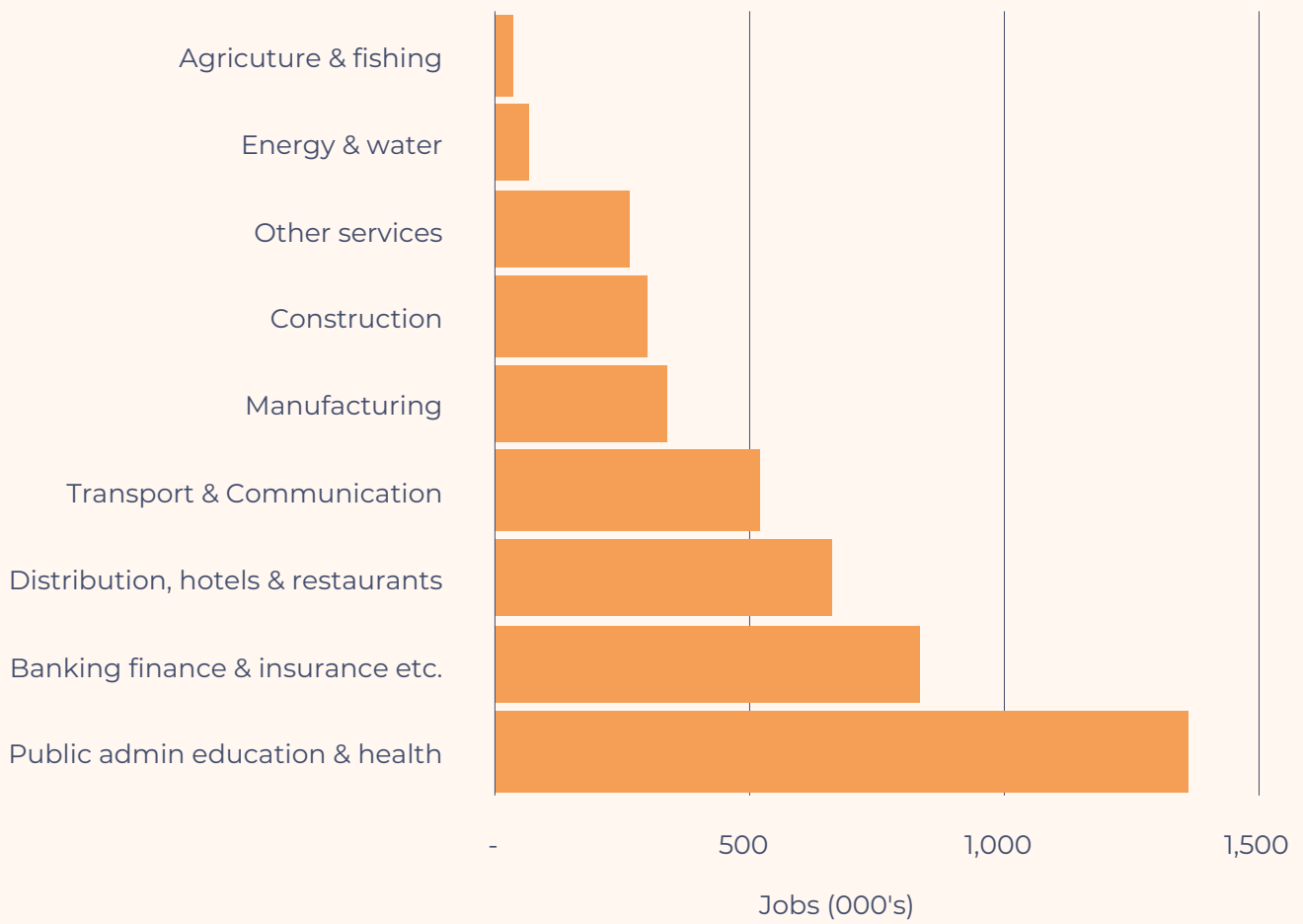
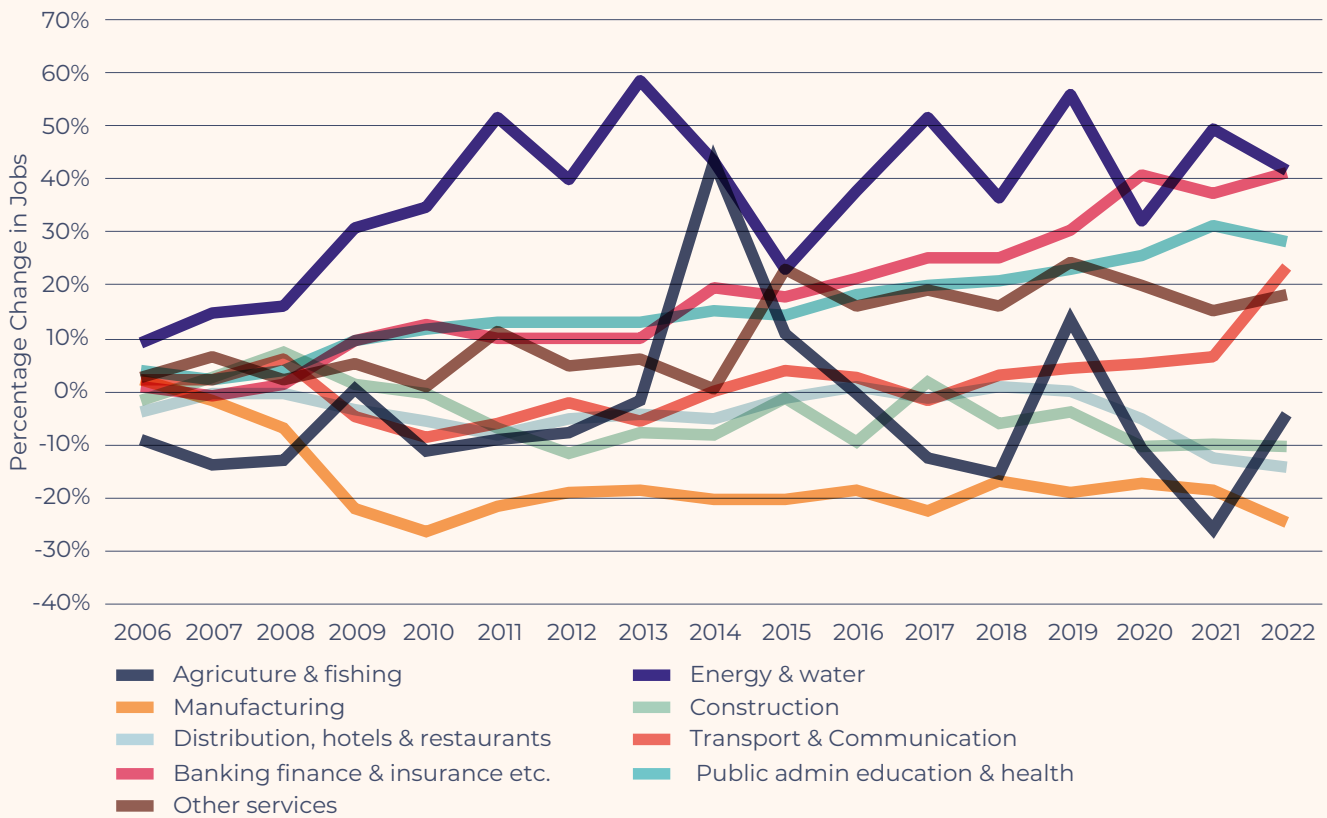


Figure 2.3: Growth in Jobs by Industry Sector in the South East Region (from 2005)



In transport terms, this changing industrial mix in the region will impact the demand for movement in different ways. All industries have some reliance on transport networks, if only to get their staff to/from a place of work or for receiving goods and services. But some sectors have more of a direct reliance on transport and connectivity for their business requirements and productivity.

For example, in 2017 National Highways (Highways England as they were then) published their ‘Strategic Economic Growth Plan’ which identified four key industrial sectors which relied heavily on an efficient Strategic Road Network (SRN): Logistics, Primary Materials, Manufacturing and Construction¹.

¹ Highways England (2017): The Road to Growth – Our strategic economic growth plan

These four sectors made up just over a quarter of all jobs in the south east in 2022, but this was down from 31% in 2005, losing almost 47,000 jobs in those sectors in that time.

The high growth seen in the energy and banking/insurance sectors is likely to have seen higher paid jobs moving to the region, attracting more people commuting longer distances and therefore increased use of the commuter rail network. However, now those same people/jobs are more likely to be working from home at least part of the time following the changes in work patterns as a result of the pandemic.

Exports and start ups

Two other indicators of the health or decline of a regional economy are the extent to which that region is contributing to the UK's national balance of payments and how entrepreneurial the region is in terms of stimulating new businesses to start up.

Given the number and scale/importance of the ports and airports located in the TfSE geography it would be expected that exports are an important part of the economy. In 2020 there were 55,600 exporters located in the south east, showing gradual growth over the last 10 years, as shown in Figure 2.4.

The region makes up 21% of all UK exporters, **so it is an extremely important region for the UK's export industry.** Connectivity to the ports and airports, as international gateways, is therefore vitally important.

Business start-ups are another measure of the potential economic health of a region, particularly as a metric of how attractive it is for new businesses to locate there to start-up. Having good access to a pool of skilled workers through good transport links will be a consideration, as will access to markets/customers. So, a region's connectivity is part of its attractiveness to new business start-ups. Although the decision will be influenced by many different factors.

Figure 2.4: Number of exporters in the South East

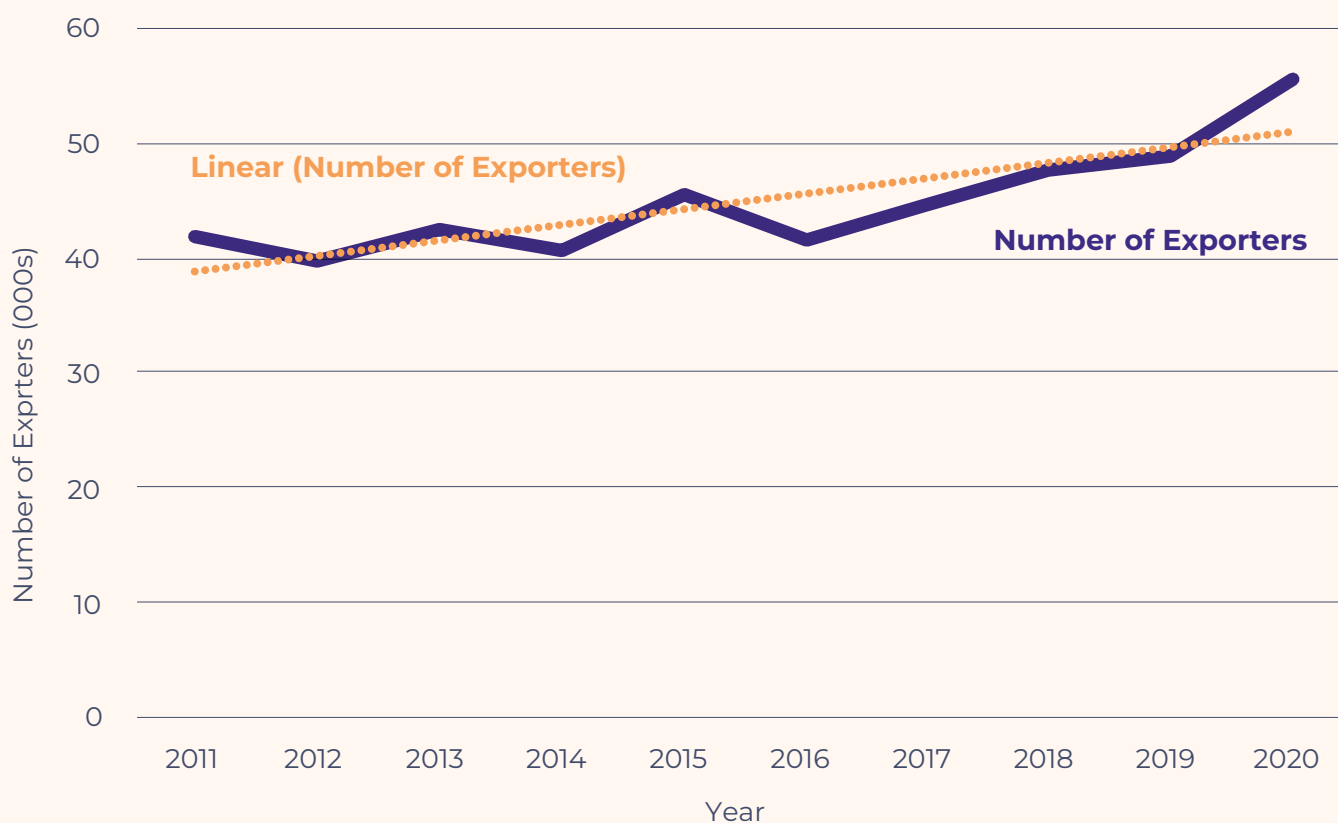
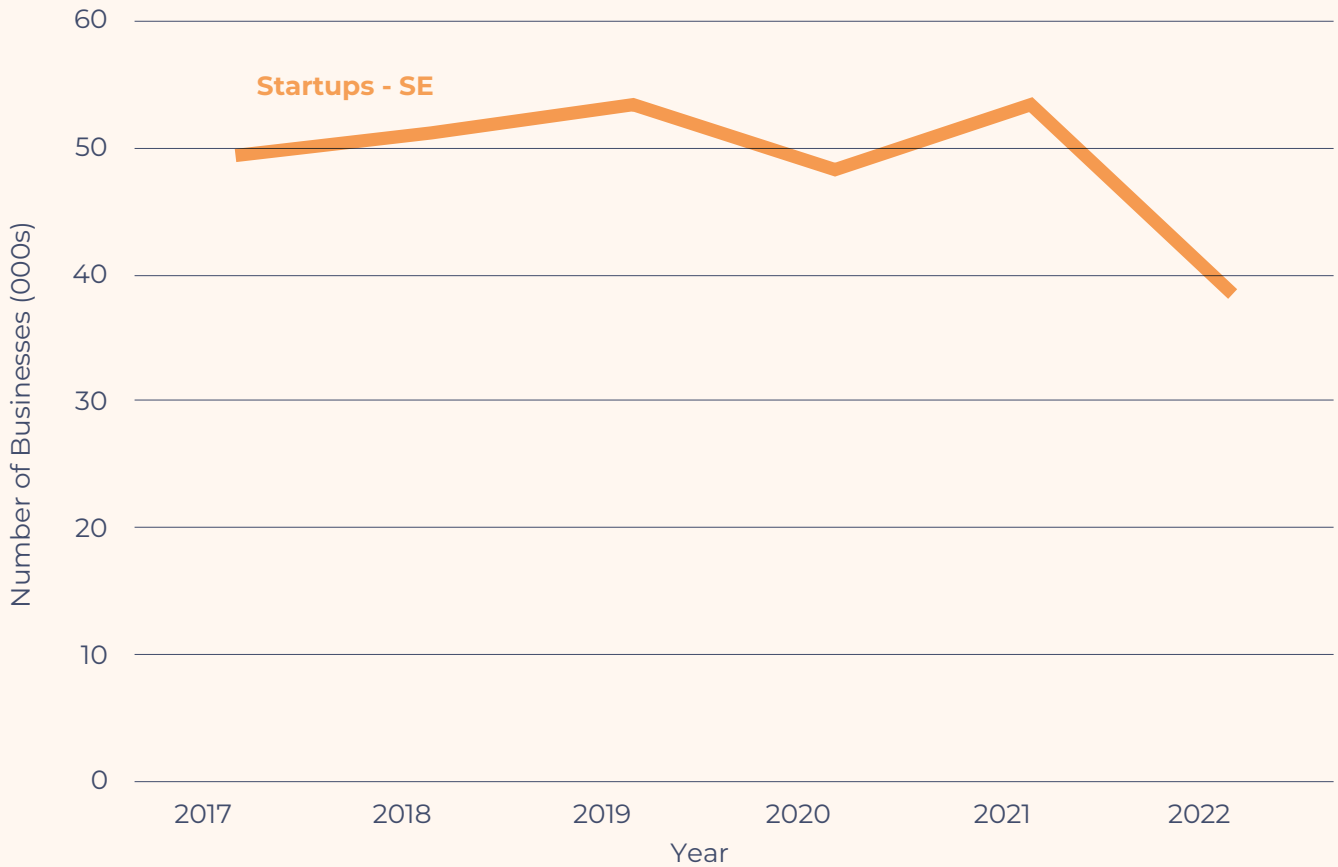


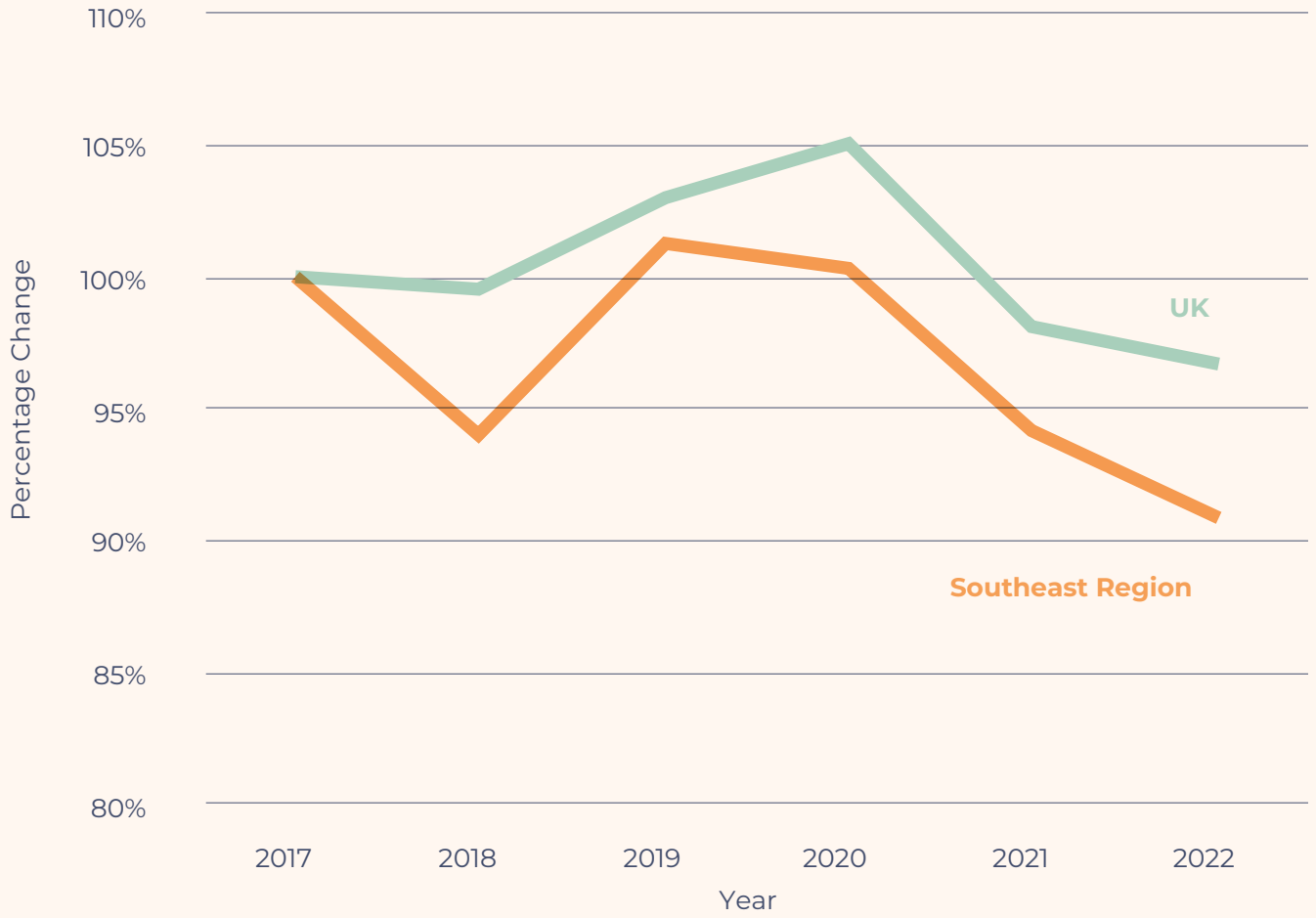
Figure 2.5: Number of business start-ups



The south east has seen a reasonably steady number of business start-ups between 2017 and 2021, hovering around 50,000 new businesses a year starting up in the region shown above in Figure 2.5. However, there has been a significant down-turn during 2022 when the impacts of the energy crisis and cost-of-living crisis has clearly had an impact.

When compared to the rest of the UK and looking at the net-change in overall businesses in Figure 2.6, it can be seen that the south east region is underperforming against the average, though showing the same overall pattern. The net change in the number of businesses, a loss of 84,870 businesses when compared to 2017, has been steadily declining since the pandemic but on this metric the south east region does appear to have been hit slightly harder by the economic issues of 2022 than the UK average.

Figure 2.6: Percentage Change in Number of Registered Businesses Compared to 2017 as a Base



Transport and the economy

As has been described, the performance of the transport network and overall connectivity of a region is an important part of how successful its economy will be. Although there are clearly many other important influences on how well a regional economy performs.

Here we examine some of the high-level connectivity metrics which are linked to economic performance, particularly given some of the findings above:

- As shown in paragraph 2.6 - Over a quarter of all businesses in the south east rely on an efficient Strategic Road Network for their success;
- As shown in paragraph 2.7 - The fastest growing industries in the south east are those which will typically attract longer distance commuting and greater use of the commuter rail network;
- As shown in paragraph 2.10 - The region is a major contributor to the UK's exports and hence connectivity to ports and airports is vital;

The Transport Strategy and Strategic Investment Plan outline some transport specific indicators which through the 'theory of change' model are directly linked to the economic impacts being sought. These transport indicators (outputs and outcomes) include:

- Network reliability
- East to west connectivity
- Freight and connectivity to international gateways
- Public transport access to major airports

Network reliability

Journey time is clearly an important performance measure of a transport network. Getting people and goods to and from places quickly has long been the stated desire of transport planners. However, increasingly reliability is being seen as the more important measure. There is a limit to how we can continue to improve journey times as our networks become more and more mature. Reliability is something which can be improved and is important to both businesses and the general travelling public. If journeys can be relied upon to be consistently the same or similar length of time then businesses and people are provided a much more consistent level of service from the road and rail networks; even if in real terms journey times may be slower than they had been in the past.

This is especially important for businesses moving freight as having to add unplanned time to a route impacts heavily on the industry's productivity; increasing elements of logistics are moving to 'just in time' deliveries.

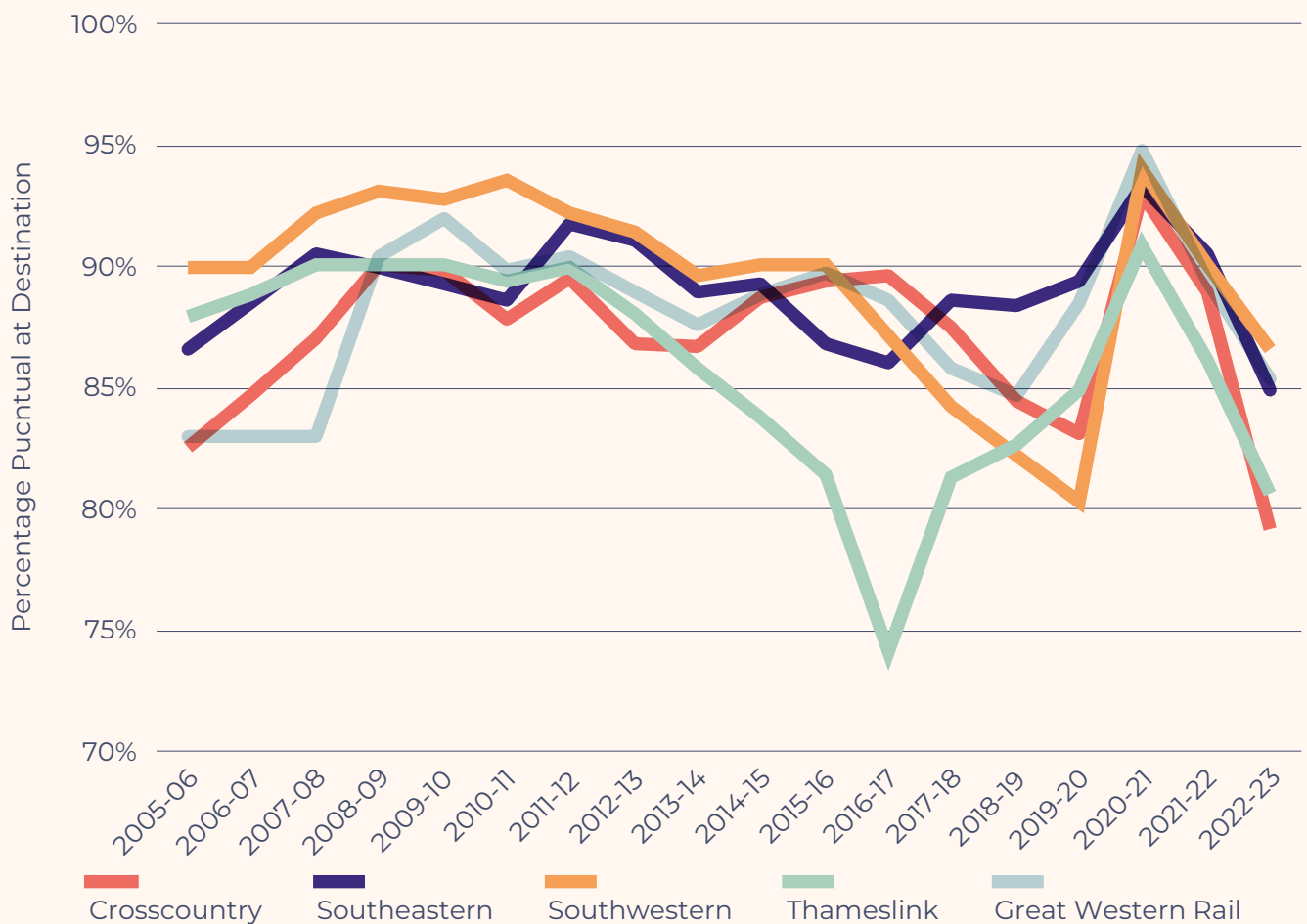
How reliable are our rail services?

Journey time reliability on rail services contributes to the service quality that passengers experience and thus, the likelihood of using the service again. As can be seen in Figure 2.7 there has been a gradual worsening in the performance of the rail services in the TfSE geography over at least the last 10 years.

During the pandemic there were fewer trains running as a result of decreased passenger demand and so overall the network became far more reliable; but this has fallen back drastically since 2021 as more of the full timetable has been running.

There are many factors related to this. In part the network itself has pinch points or capacity constraints which could be addressed, many of which are covered by identified schemes in the Strategic Investment Plan. However, there are other things at play, including driver shortages in the industry, ongoing strike action, maintenance of track and maintenance of rolling stock etc.

Figure 2.7: South East rail journey time reliability



Since 2005, the percentage of punctual rail services has remained over 70%. The average punctuality for train companies operating in the south east in 2022/2023 was 83%, compared with national average of 84.6%.

A train is defined as on time if it arrives at the destination within five minutes of the planned arrival time for London and south east or regional services, or 10 minutes for long distance services. As of 2022/23, Southwestern services are the most reliable (87%), and Crosscountry are least reliable (79%). Note Thameslink services include Southern and Gatwick Express services.

How reliable are our roads?

Unfortunately, there isn't a publicly available metric specifically linked to journey time reliability on our road networks. As a proxy however, the Department for Transport do collate and publish data on average delays on roads.

Figure 2.8 shows that delays on the Strategic Road Network (i.e. those owned and controlled by National Highways) were steadily getting worse in the few years leading up to the pandemic. The various lockdowns during 2020 and 2021 clearly had a big impact on delays as these dropped by 26% compared to 2019. Unfortunately, at the time of publishing this report the 2022 data was not available so it's not possible to show how our roads currently perform.

Figure 2.8: Average delay on the TfSE SRN in seconds

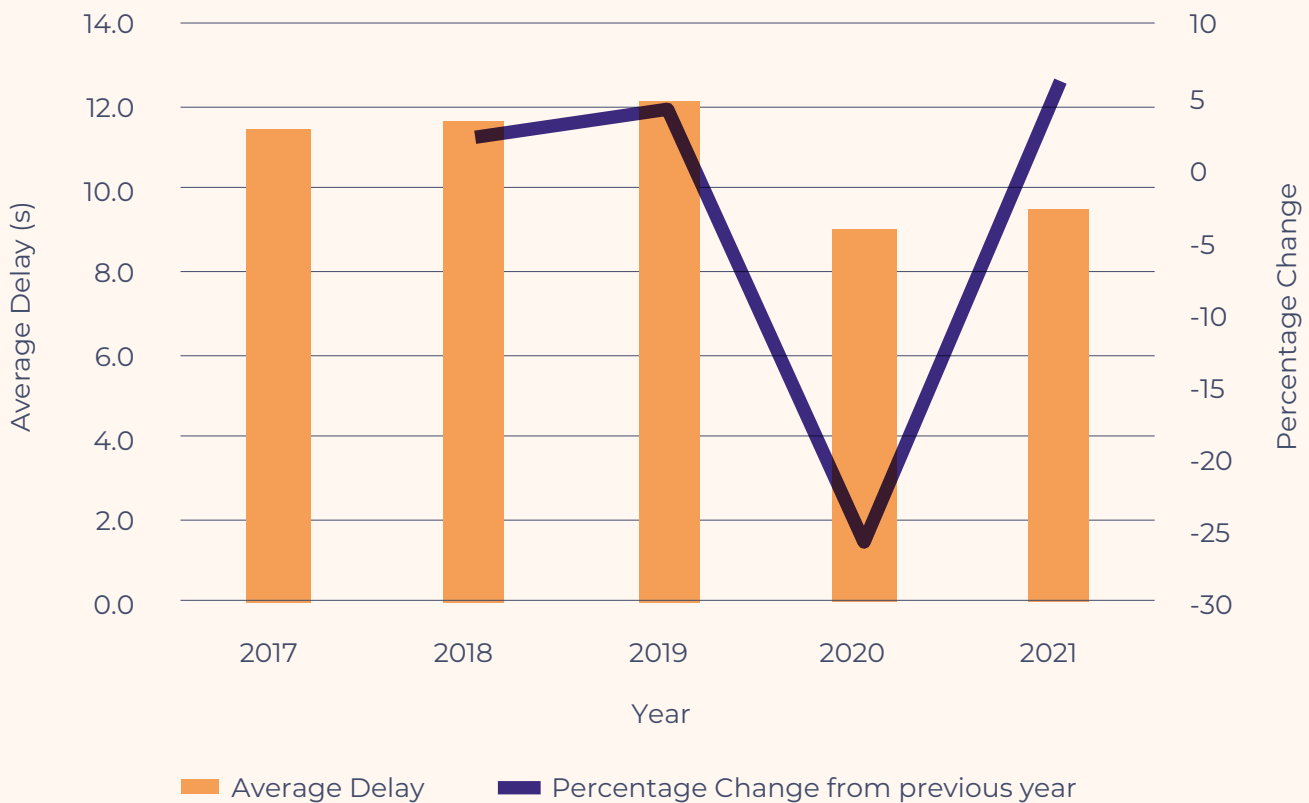
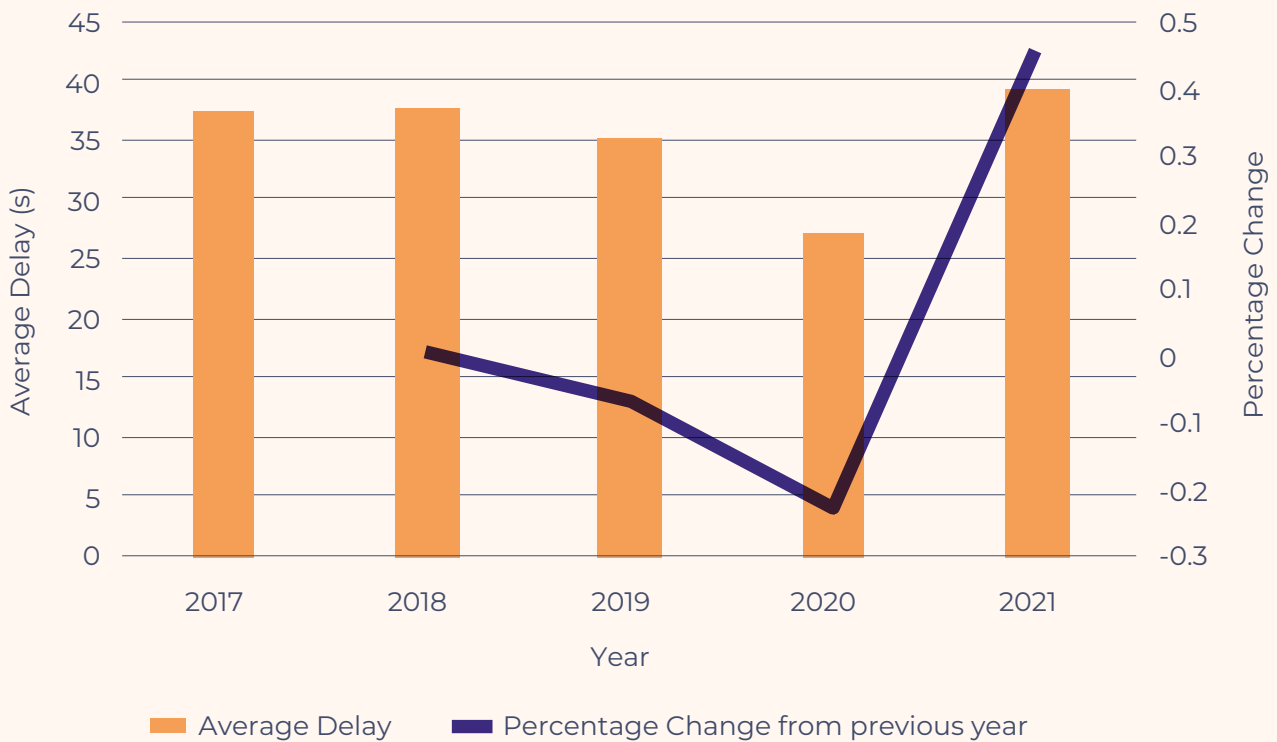


Figure 2.9 shows delays on the Major Road Network in the TfSE geography which are higher per vehicle than on the Strategic Road Network, which is not unexpected due to the nature of the roads where there are far more junctions and competing demands for space. However, despite the delays per vehicle being higher than the SRN, the trend before the pandemic was of gradual improvement; which is the opposite to the SRN.

It is worth noting that in 2021 the delays seem to have returned to a point higher than they were immediately before the pandemic. It cannot be known for sure but it is possible that this is linked to lower public transport use immediately following the pandemic where some people chose to drive certain journeys that they may have previously taken public transport.

Figure 2.9: Average delay on the TfSE local A roads



East to west connectivity

East-West connectivity looks at how well the region is connected via its orbital road and rail network. The key east to west connections stated in the Transport Strategy are:

- Southampton-Portsmouth
- Portsmouth-Brighton and Hove
- Brighton and Hove-Eastbourne
- Eastbourne-Ashford
- Ashford-Ramsgate
- Ashford-Gatwick
- Gatwick-Basingstoke
- Basingstoke-Reading

Figure 2.10 shows the average speeds between the key locations by road and rail. This has been calculated using real journey time but divided by a “as the crow flies” distance to give a comparable figure for both road and rail. As shown in the figure, speeds in mph are generally slow and travelling by car is faster in all but one instance (between Reading and Basingstoke) when compared with travelling by rail.

Freight and connectivity to global gateways

The south east of England hosts a number of major international freight gateways of national significance, enabling freight movements to and from the continent and to and from the whole of the UK and the Republic of Ireland. Additionally, the region generates significant demand for freight in its own right, with growing population centres across the region, from coastal communities to the traditional London commuter belt.

Domestic freight

Figure 2.11 demonstrates the key routes for heavy freight across the region, where HGV's make up more than 10% of traffic on the road. As shown in the Figure the M20 and A2 routes to the east as well as the A34 and M4 in the west have a high percentage of HGV's, which demonstrates their importance as routes to the ports of Dover and Southampton.

Figure 2.10: Average speeds (as the crow flies between) for road and rail between key East-West locations
 Source: Google Maps, National Rail and bespoke Steer analysis

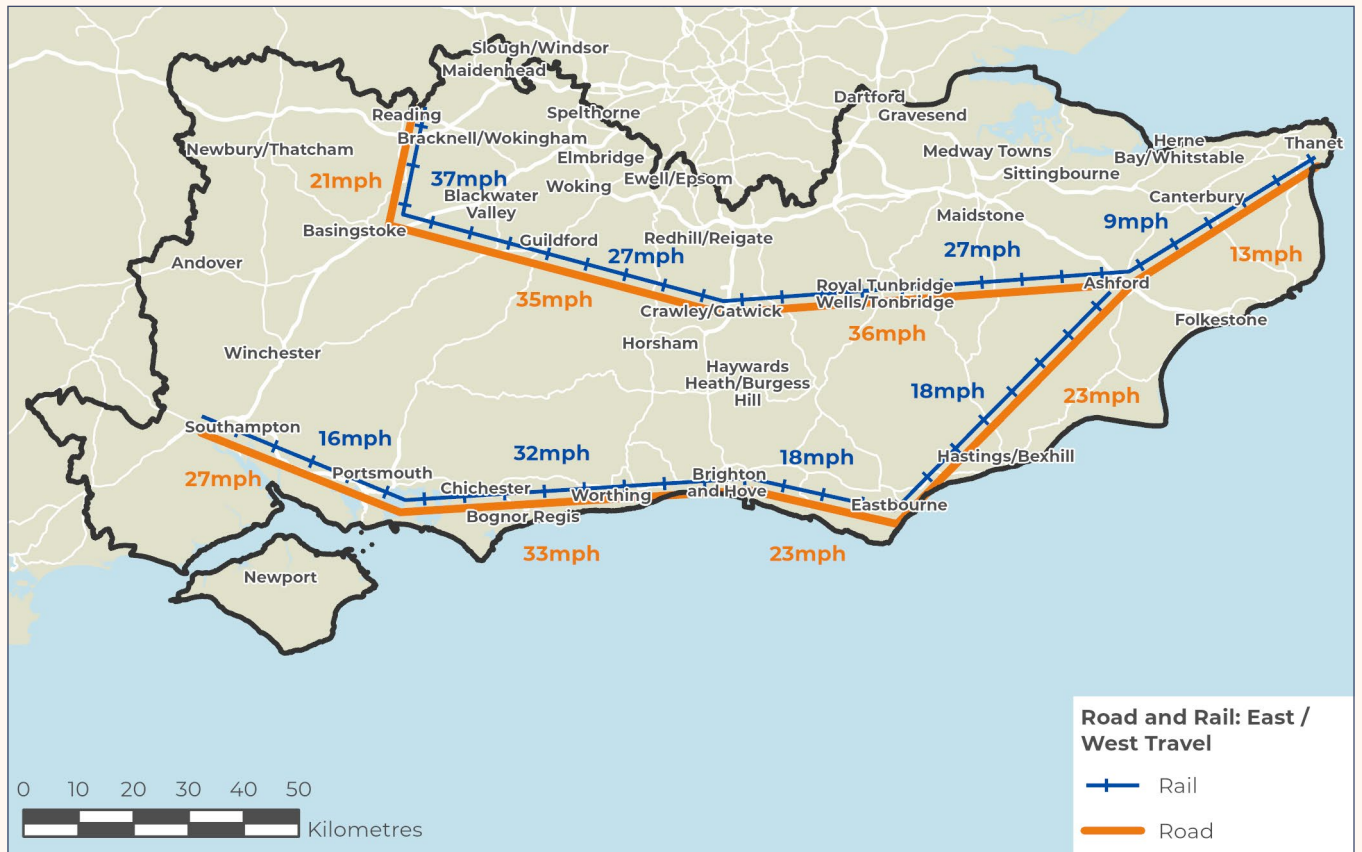


Figure 2.11: HGVs as a Percentage of Vehicles on the Road
 Source: DfT Traffic Counts and Steer Analysis



Figure 2.12 demonstrates the average delay in seconds per vehicle per mile on the key freight links highlighted in Figure 2.11. The average delay on the UK SRN in 2022 was 9.3 seconds², as shown in the Figure, the M25 and A2 average delays exceed this, though there is improvement when compared with 2021 delays. Delays on the M4 in 2021 are likely due to the M4 “Smart Motorway” upgrade.

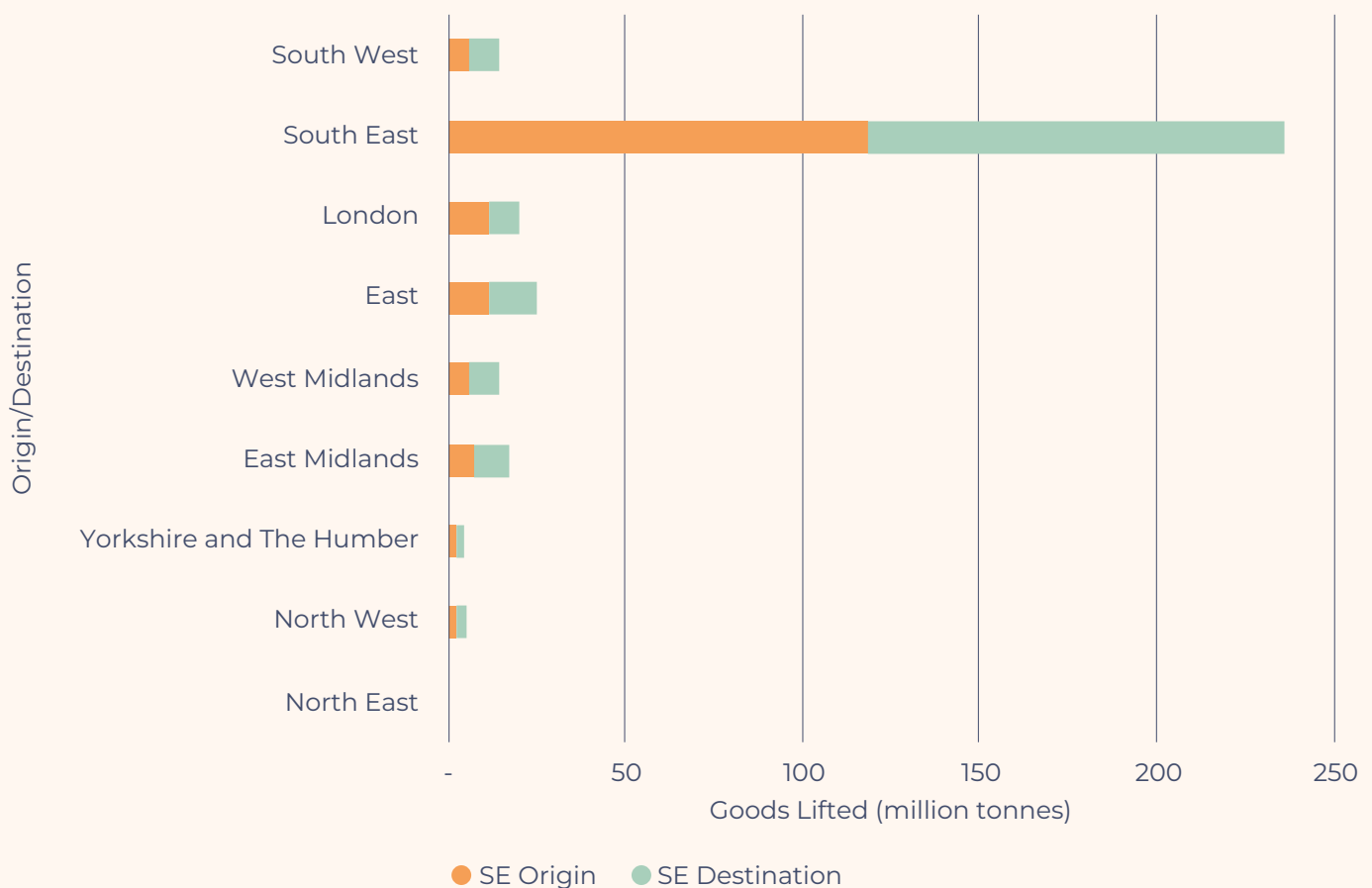
² Department for Transport. 2023. Travel time measures for the Strategic Road Network and local ‘A’ roads: January to December 2022 (www.gov.uk)

Figure 2.12: Average Delay on Key Freight Links (seconds per vehicle per mile)



Figure 2.13 shows both the movement of goods into and out of the south east region. The blue bars indicate that the majority of goods which originate in the south east are delivered to areas in the south east. The black bars demonstrate the amount of goods originating from each region which are delivered to the south east. This shows that a number of regions (except Yorkshire and London) are net exporters to the south east region; again reinforcing the vital role the south east plays in providing access to international markets right across the country.

Figure 2.13: Goods Lifted by Origin and Destination



International freight and transport

This section of the report looks at international freight and movements across the region and across the channel.

When there's any sort of disruption in the channel, HGV traffic on the M20 heading for the Port of Dover or the Eurotunnel has nowhere to go. 'Brock' is a contraflow that can be set up overnight. It separates traffic into different lanes across both carriageways and keeps the M20 and other local roads open and moving. Figure 2.14 shows the number of Brock activations over the last five years.

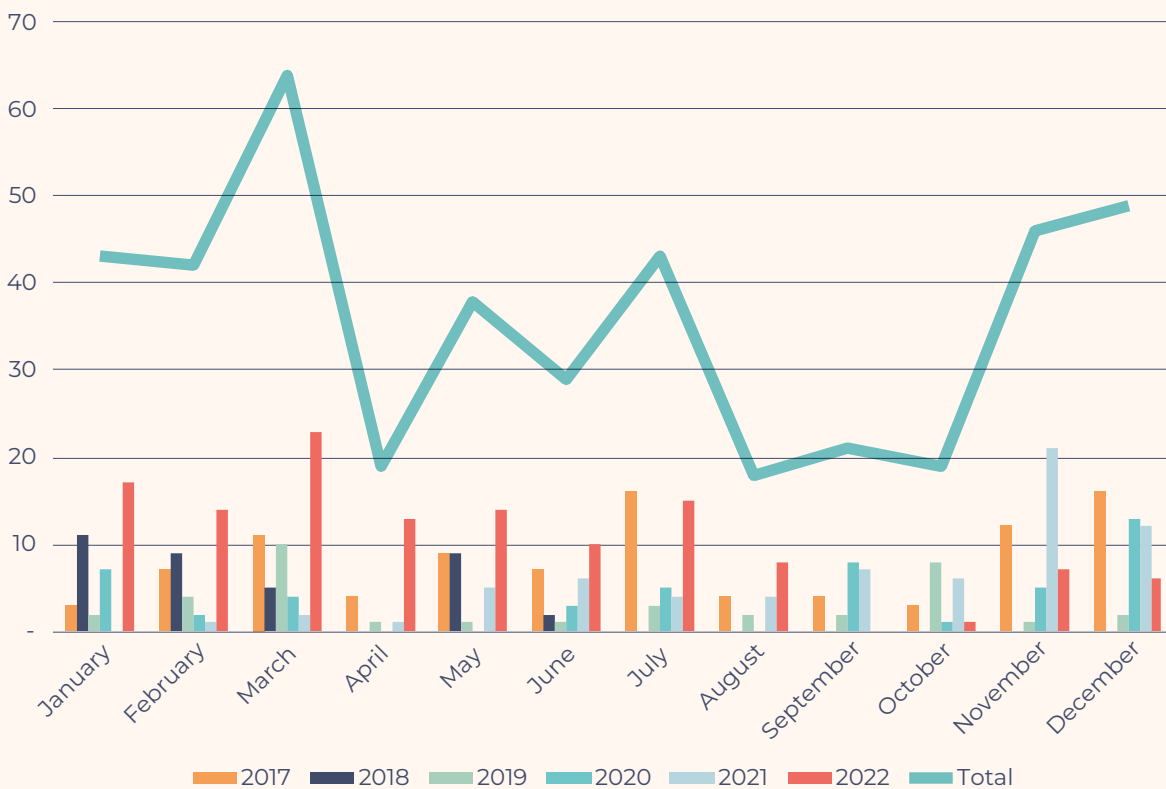
As shown in Figure 2.14, there was a spike in Brock activations from November 2021 until July 2022, which could be attributed to an increased requirement for checks

at the border.

The data in Figure 2.15 is provided by Getlink, a company that manages and operates the infrastructure of the Channel Tunnel between England and France. It displays the number of freight shuttles and passenger shuttles between the two countries since 2015.

Both freight and passenger shuttle figures remained steady until the onset of the Covid-19 pandemic, at this point passenger shuttles were significantly impacted and freight shuttles were slightly impacted. The data from 2022 seems to suggest a recovery in passenger shuttles, but it remains to be seen in subsequent State of the Region reports whether it will recover to pre-pandemic numbers.

Figure 2.14: Brock Activations
Source: National Highways



Public transport accessibility to airports

There are three major airports either in the TfSE region or close to the border, Southampton, Gatwick and Heathrow. Figure 2.16 shows the 1-hour public transport travel catchment for each airport³. Public transport accessibility to Heathrow is mostly focussed on serving London and is not good for north-south access to the TfSE region. The catchments for Gatwick and Southampton both demonstrate good radial public transport links, but orbital access via public transport (particularly for Gatwick Airport) appears to be less comprehensive.

³ This analysis utilises Generalised Journey Times (GJT) which measure rail connectivity between two destinations and takes into consideration average train frequency, in-vehicle journey time and any interchanges required to reach the destination.

As shown in Figure 2.17, almost 2 million people living in the TfSE geography can access one of the three major airports by public transport in an hour or less.

Figure 2.15: Truck and Passenger Shuttles between England and France
Source: Getlink Group

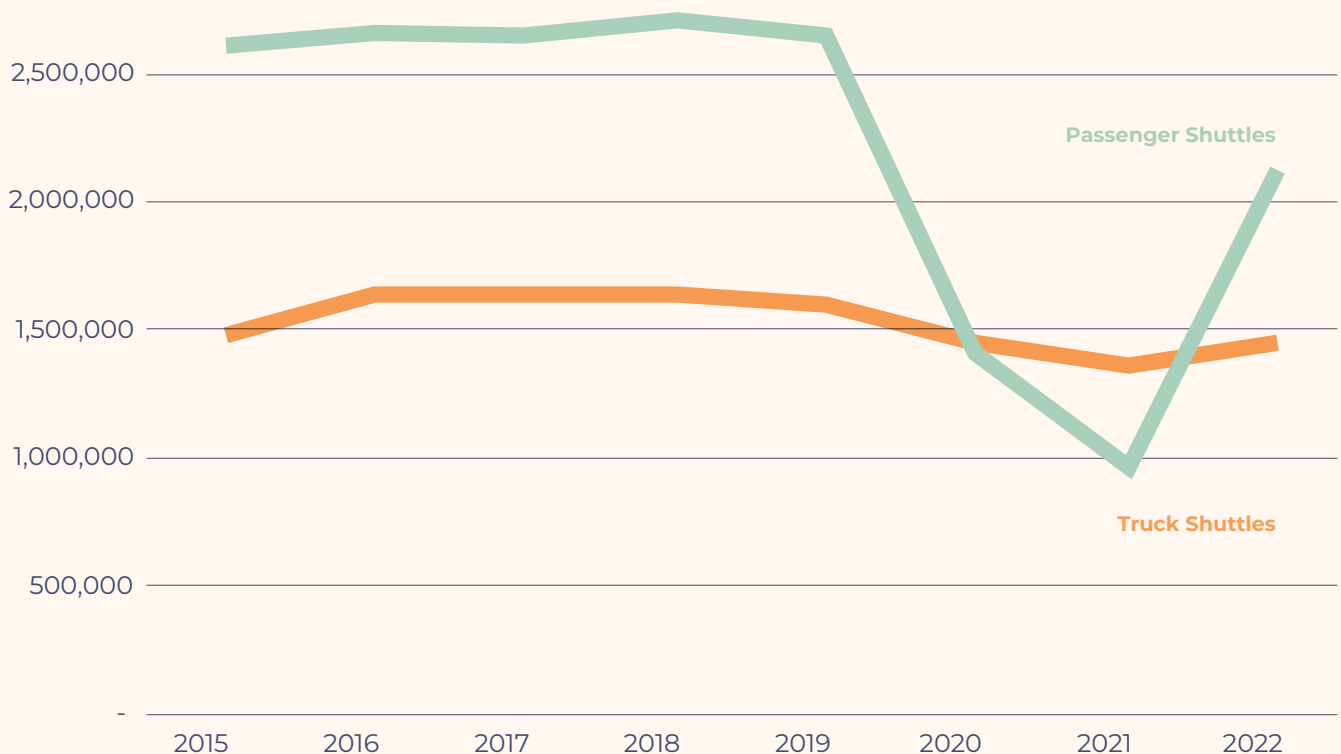


Figure 2.16: 1-hour Public Transport Catchment to Gatwick, Heathrow and Southampton Airport

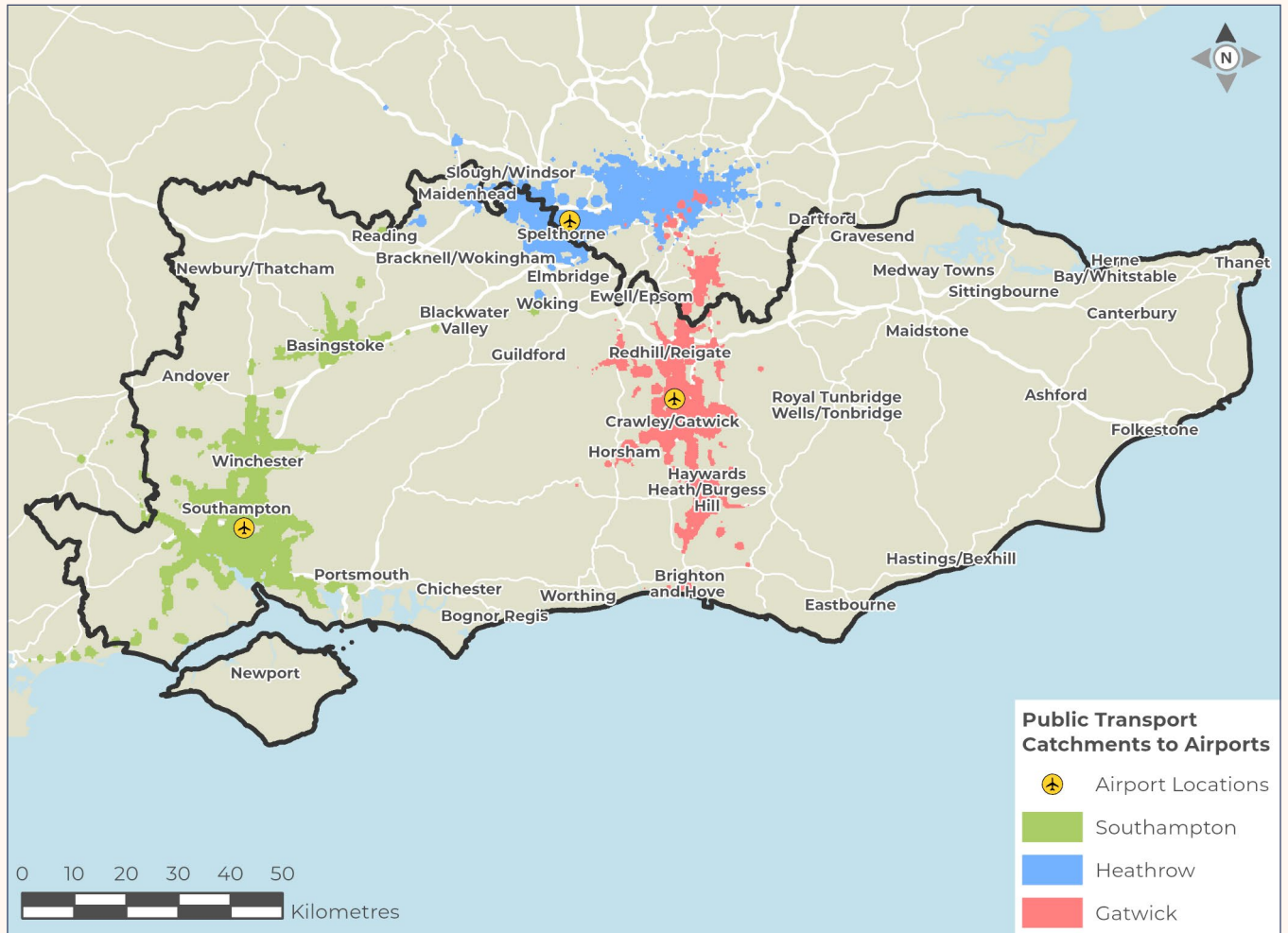
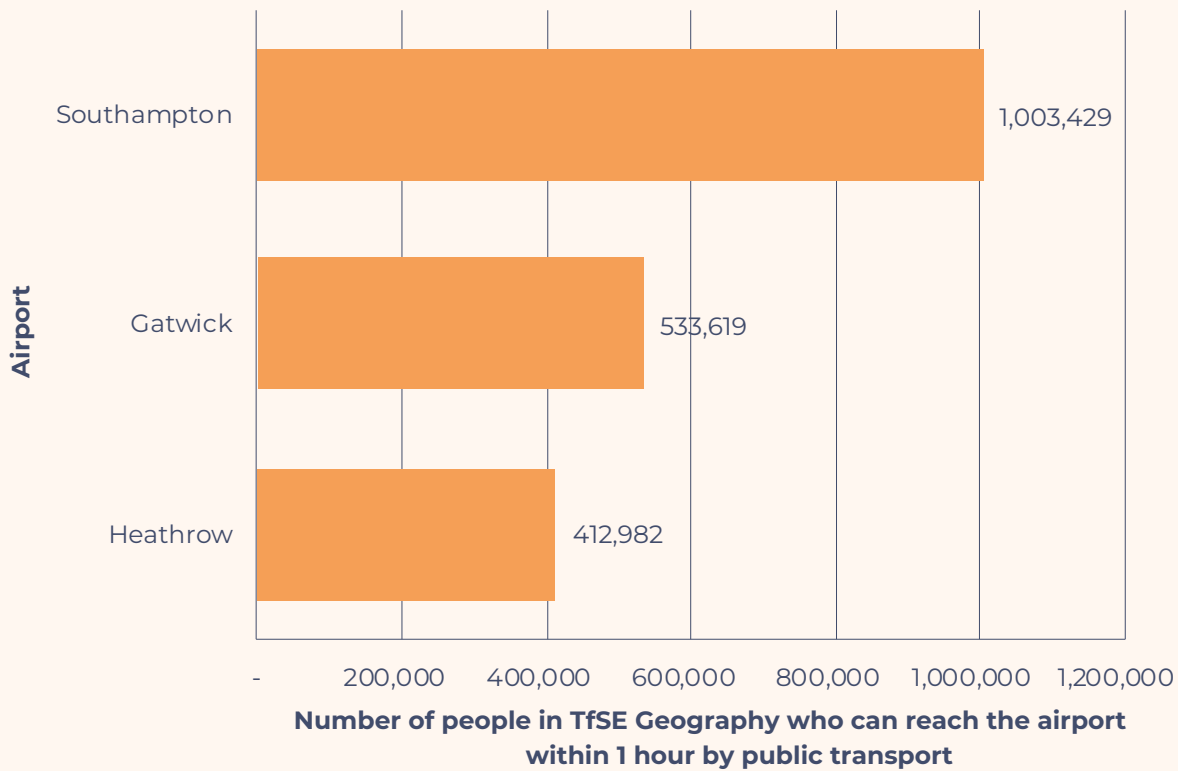


Figure 2.17: 1-hour Public Transport Catchment to Gatwick, Heathrow and Southampton Airport



3. What are the life opportunities of our residents?

Stated aims of the TfSE Transport Strategy and Strategic Investment Plan

A stated aim of TfSE is that the Transport Strategy and Strategic Investment Plan should have a positive impact on the daily lives and opportunities of the residents and communities of the region. Therefore, in this section we examine some of the societal indicators which paint a picture of the opportunities and challenges facing the people who live here. Specifically looking at some measures which are either driven by transport and connectivity/accessibility or are influenced by it.

In headline terms, both documents say that they should have an impact on:

- **Average income** – investment in supporting transport infrastructure should bring new and more productive/higher paid jobs to the region and enable residents to travel sustainably further to access better paid jobs.
- **Unemployment** – The Transport Strategy and Strategic Investment Plan should lead to both more jobs coming to the south east and enable those who are economically inactive, because of issues such as transport related social exclusion (TRSE), improve their chances of accessing a higher paid job.
- **Access to education** – education and skills are a vital part of both economic growth but also societal improvement. The Transport Strategy aims to improve the accessibility to higher education and skills attainment for its residents through the recommended investments and policies within it.
- **Health** – the general health of residents and communities is also a good indicator of how successful a region can be. It is not only important for happiness and wellbeing, but also healthy people are more productive and work longer, adding to a region's prosperity. Investment in infrastructure and policies which encourage more walking and cycling raise activity levels and in turn, add to the health of a region.

Income and unemployment

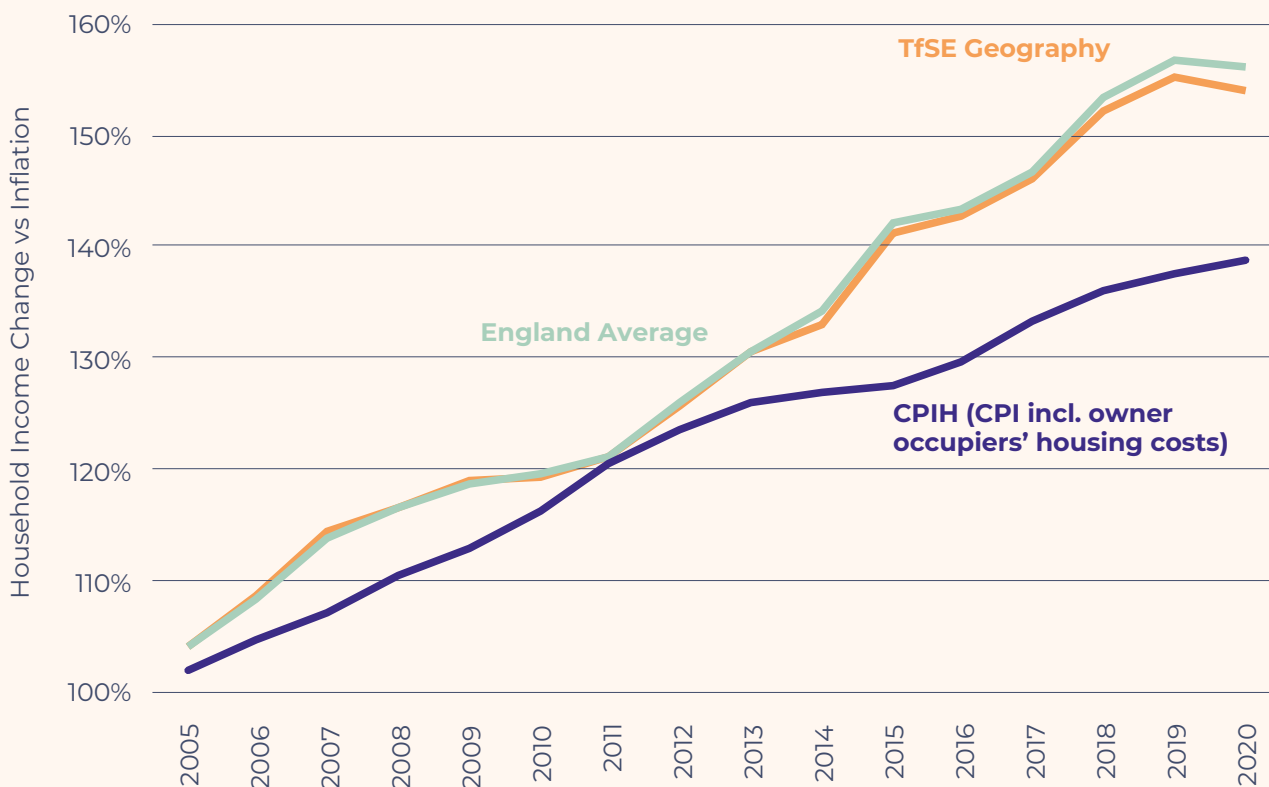
Average income compared to England

Average household income is a useful measure of whether people's quality of life is keeping pace with inflation over time. As can be seen from Figure 3.1 and Figure 3.2 people's disposable income in the TfSE geography have been marginally higher and growing at roughly the same rate than the England average since 1997; and growing at a faster rate than inflation, particularly since 2011. Data is not yet available beyond 2020, so we're unable to yet see the effects of the recent, dramatic rise in inflation.

Unemployment

A further measure of people's quality of life in the region is to look at unemployment levels. Unemployment rates had been tracking downwards from a recent peak of around 6% in 2009-2011 after Financial Crisis economic downturn to approximately 3% just before the pandemic; and although it did increase again over 2020/21 things did seem to be improving again up to early 2022. Overall, the TfSE geography appears to perform slightly better than the UK average.

Figure 3.1: Gross disposable household income per head in the TfSE geography compared to England average



Levelling up – access for all

Transport-related social exclusion

Transport-related social exclusion (TRSE) means being unable to access opportunities, key services, and community life as much as needed, and facing major obstacles in everyday life through the wider impacts of having to travel to access key destinations. These wider impacts include the cost and time using the transport system, and the impacts of stress and anxiety linked with using the transport system. Together, these impacts can contribute to a vicious cycle of poverty, isolation, and poor access to basic services.

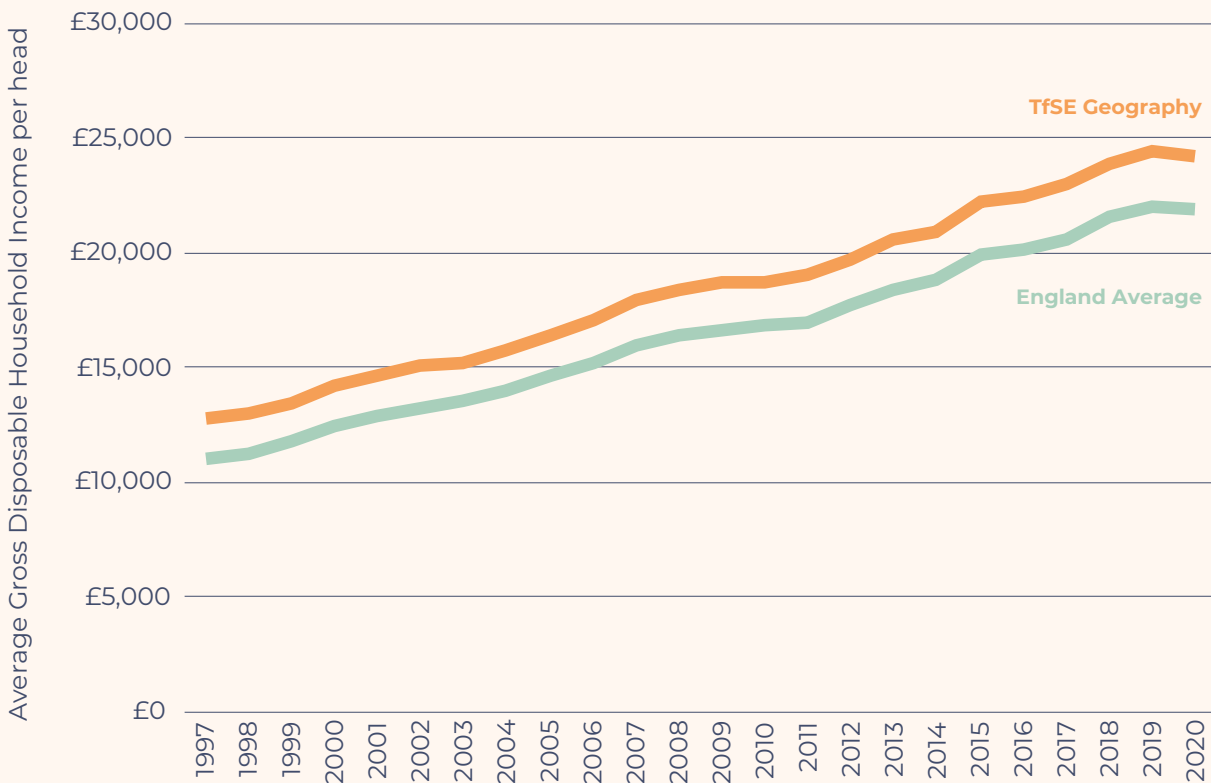
We have utilised a methodology and analysis produced by Transport for the North⁴ to examine TRSE in the TfSE geography. The first element of analysis looks at accessibility. Accessibility comprises the level of access to the following four destination types:

1. Employment: employment centres with more than 5,000 jobs.
2. Education: primary schools, secondary schools, and further education colleges.
3. Healthcare: hospitals and GP surgeries.
4. Basic services: Using town centres as a proxy for access to basic services, including a bank, post office, pharmacy, and a job centre.

⁴ Transport for the North (2022) Transport-related social exclusion in the North of England

Figure 3.2: Disposable income growth vs Inflation

Source: Office for National Statistics. 2022. M01 Regional labour market: Modelled unemployment for local and unitary authorities



Across these four destination types and for each Lower Super Output Area (LSOA)⁵, the analysis considers access by public transport and by car. The accessibility score also examines access to transport resources; this includes the proportion of households with access to one or more cars, the total access gap between public transport and car travel across the four destination types, and the coverage of public transport access points across the LSOA. This coverage indicator measures the proportion of postcode points within each LSOA that are within a 10-minute walk of a public transport access point, regardless of type. Figure 3.3 shows the accessibility scores across the region.

As shown in the Figure, transport accessibility is low throughout the region, with higher levels of accessibility around the major towns and cities.

TRSE combines analysis of the transport accessibility with vulnerability scores for each LSOA. LSOAs are categorised as being at high risk of TRSE only if there is both a relatively high level of vulnerability to social exclusion in combination with relatively poor accessibility. Each LSOA is assigned a score of 1-5 with 5 being the highest risk and 1 being the lowest risk. As shown in Figure 3.4, the majority (62%) of the population in the region are category 1 (the lowest risk) and only 3% are in category 5 (the highest risk).

⁵ Lower layer Super Output Areas (LSOAs) comprise between 400 and 1,200 households and have a usually resident population between 1,000 and 3,000 persons.

Social mobility

Social mobility is the link between a person's occupation or income and the occupation or income of their parents. It attempts to demonstrate whether a person born in disadvantaged circumstances can break free of that and have a higher standard of living when they grow up. Where there is a strong link, there is a lower level of social mobility. Where there is a weak link, there is a higher level of social mobility. The Social Mobility Commission⁶ has established an index to give a single score for each local authority. The index uses a number of different measures for describing how likely someone born in a local authority will go on to 'do well' as an adult which combine to give a ranking across all authorities in England.

Overall, the south east region does well in this measure. It has almost a quarter of all local authorities in the top 20% (15 out of 65) for social mobility, so called 'hot spots', and just 6% of the bottom 20% (4 out of 65); the 'cold spots'. The average position for local authorities in the south east is comfortably in the top half of the list for all of England. So, at a macro-level at least, the south east region is a place where people's life chances are generally good. However, this is not even across the region, there are still many places where people's social mobility is demonstrably poor.

⁶ Social Mobility Commission. 2023. Social Mobility Index

Figure 3.3: Accessibility Scores in the TfSE Geography

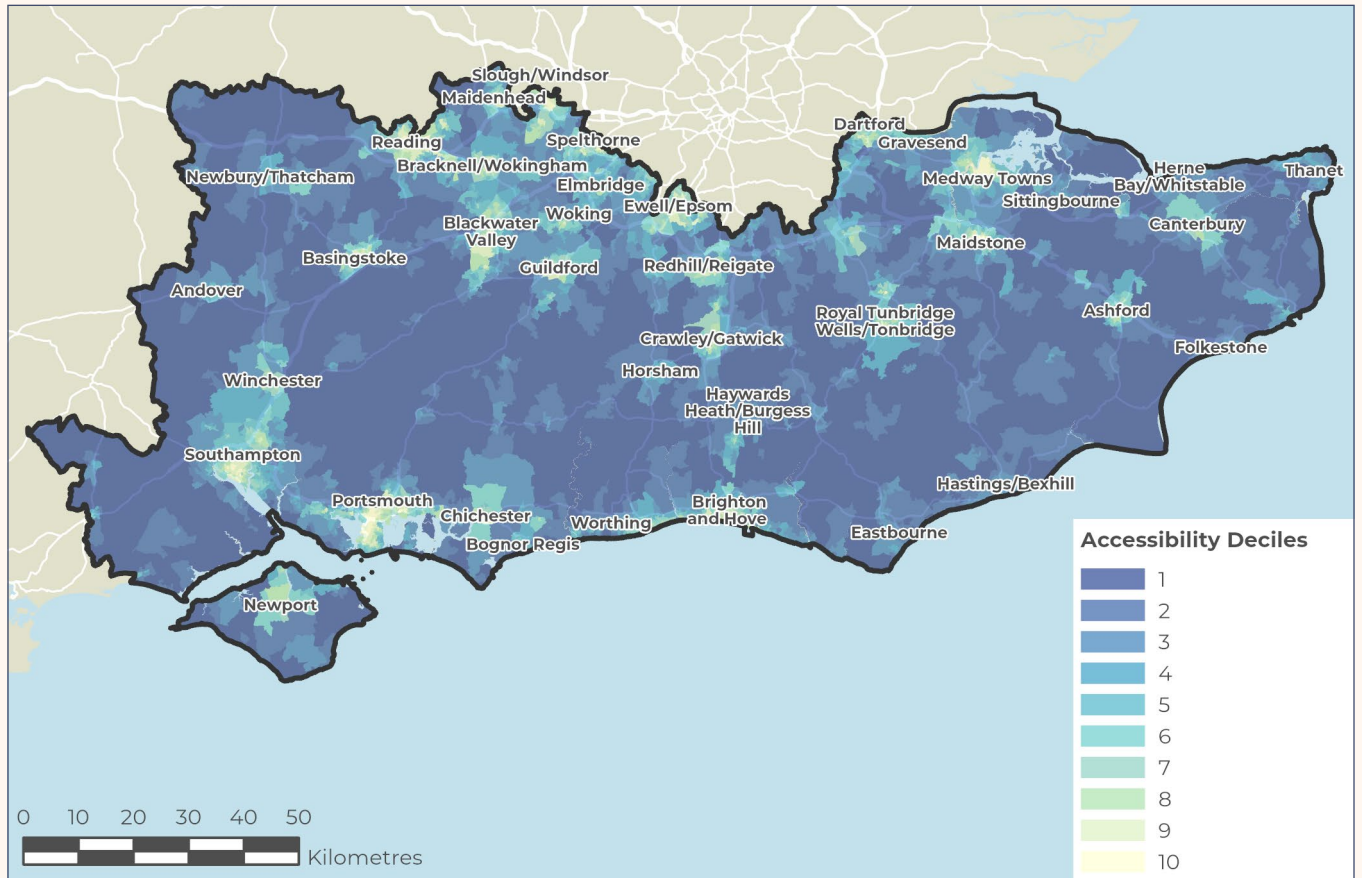
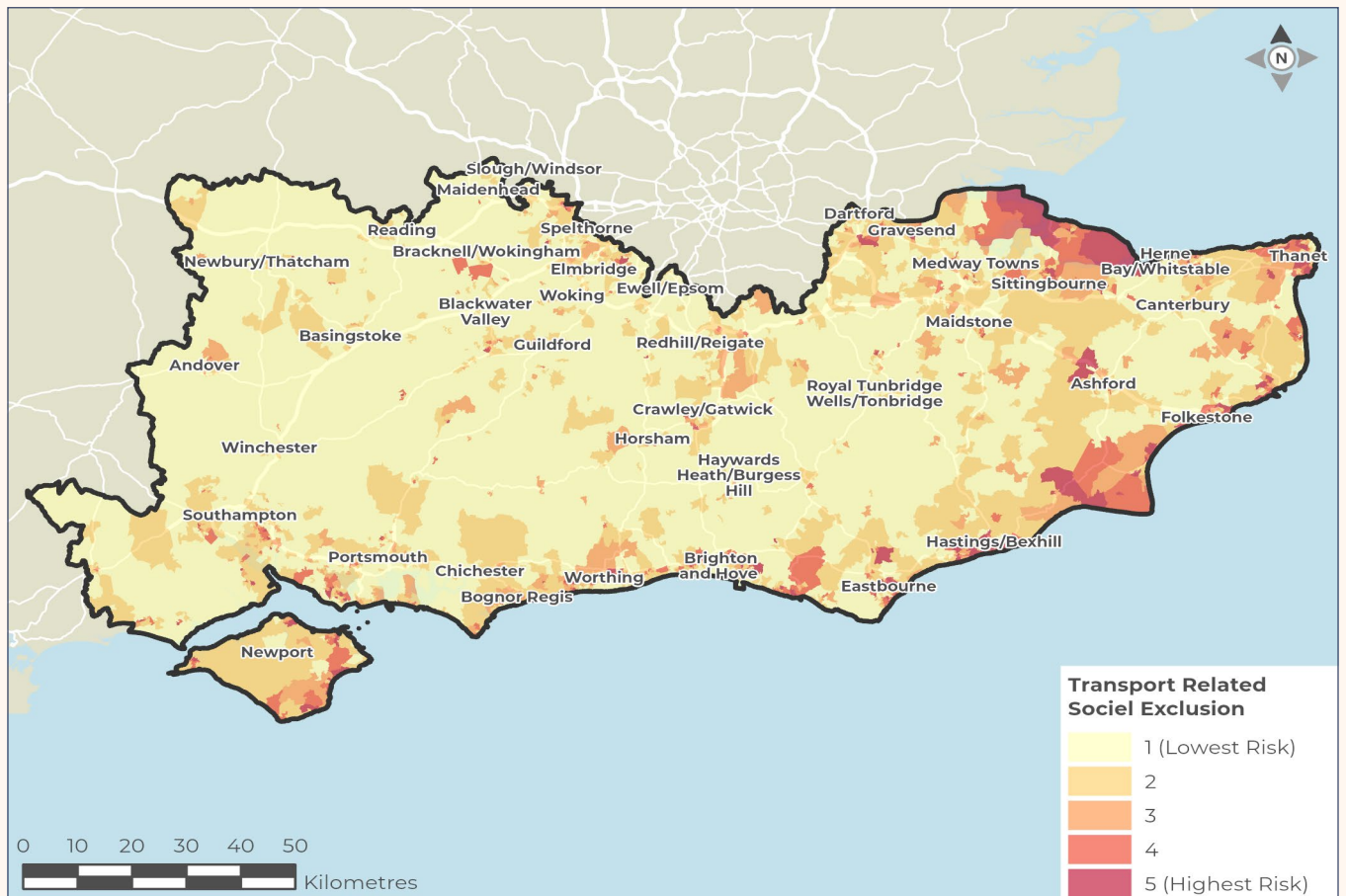


Figure 3.4: Highest to lowest Transport Related Social Exclusion risk across TfSE



According to the Commission, transport and accessibility play a part in the people’s social mobility. In their 2020 ‘Monitoring Social Mobility’ report they acknowledge that disadvantaged communities rely heavily on public transport and that poor quality transport can be a barrier to finding work. They note in particular that transport poverty can often be worse in rural areas. They also note that the majority of funding for transport in the UK goes towards strategic road and rail infrastructure improvements, which generally speaking do not benefit poorer or disadvantaged communities.⁷

Affordability of transport

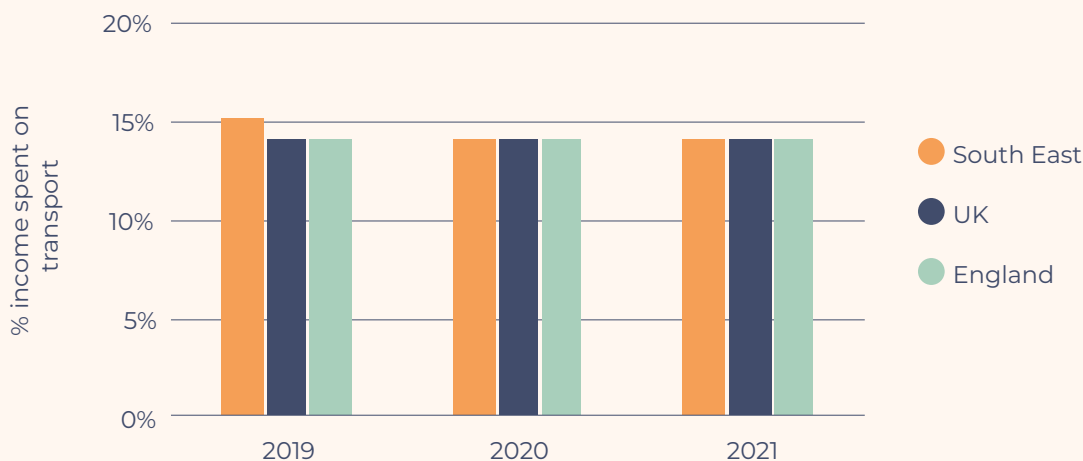
A particularly important aspect of the lifestyles of the residents of the TfSE region is firstly how much of their income they spend on transport overall and how affordable public transport is. As was made clear by the Social Mobility Commission, people in lower income groups tend to rely on public transport a lot for their connectivity and accessibility to services and jobs.

According to ONS data, on average people tend to spend just under 15% of their household income on transport. In 2019 the south east was marginally ahead of the rest of the country but that seems to have levelled out. Much of this statistic is weighted by the cost of driving because this is by far the most common form of transport used. Unfortunately, at the time of producing this report the figures for 2022 were not available so it was not possible to see whether the steep increases in petrol prices seen in 2022 had much effect on this statistic.

⁷ Social Mobility Commission (2020): Monitoring social mobility. 2013-2020: Is the government delivering on our recommendations?

Figure 3.5: Percentage of Household Income Spent on Transport

Source: Office for National Statistics. 2023. Family spending workbook 3: expenditure by region



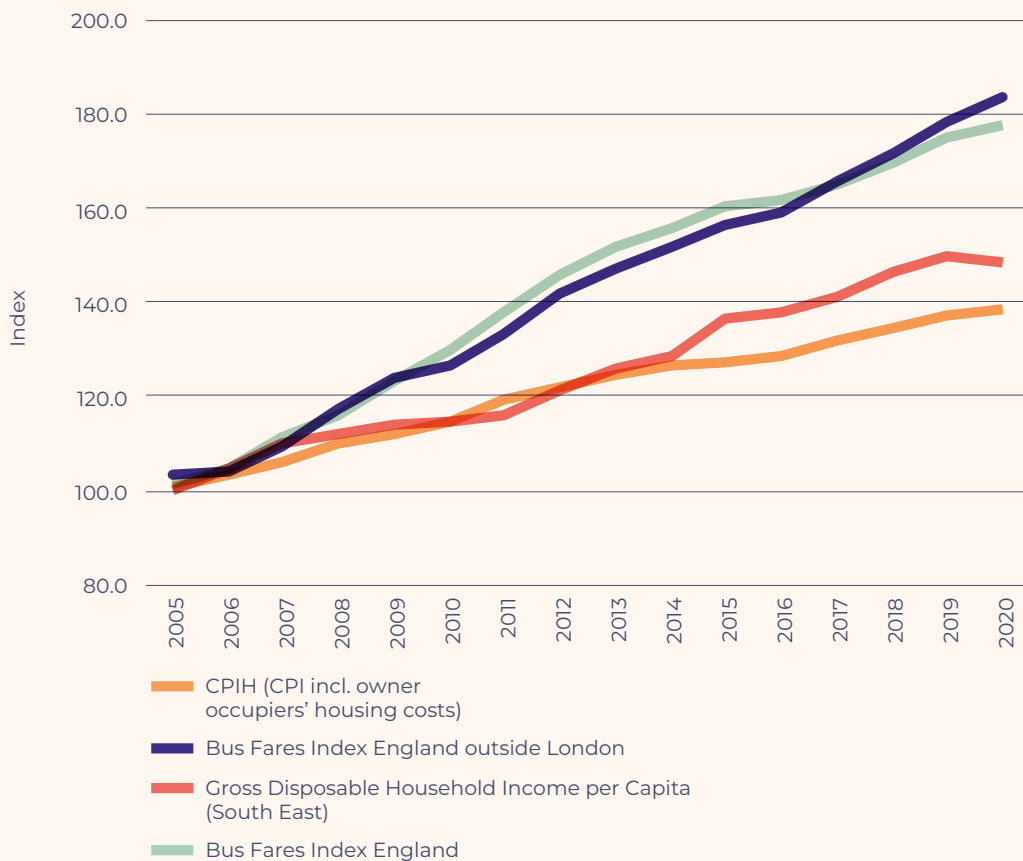
As can be seen in Figure 3.6 and Figure 3.7 it is clear that public transport fares, both bus and rail, have accelerated beyond both inflation and household earnings over the past 15 years. The data for rail fares is specific to the south east but unfortunately there was no regional-specific data for bus fares. There's nothing to suggest however that the pattern is any different specifically in the south east. This picture has two consequences for the residents of the TfSE geography: Firstly, those with lower incomes need and use buses far more than other income groups, this means that they are spending more and more of their income on transport.

Secondly, longer distance commuting by rail has become more and more expensive which will be impacting on some people's ability to travel further to find better paid jobs. Having said that, one of the up-sides to the pandemic has been the level of flexible working offered to staff, so travelling further for a higher paid jobs is now less of a barrier than it was before. According to the 2021 census, approximately 35% of TfSE residents now work from home on a regular basis⁸.

⁸ Census 2021 data was collected during the national lockdown, so working from home data is likely to be skewed upward reflecting the reduced travel taking place in this period.

Figure 3.6: Inflation of bus fares

Source: BUS0415 with bespoke Steer analysis Nomis Web. Official census and labour market statistics



Safety and health

People’s health and wellbeing play an enormous part of their lives and the impacts transport can have on this can be significant. Here we examine how safe the transport system is in the TfSE geography and how active and healthy the resident population is.

Road safety

TfSE have a desire to improve the efficiency and performance of the road network to support people’s daily lives. Improving the safety of that system is also vitally important and a priority within the Transport Strategy.

As shown in Figure 3.8, the majority (38%) of casualties caused by fatal or serious collisions in the TfSE Geography involved a car, whilst almost a quarter (23%) involved a motorcycle. A third of casualties involved either pedestrians or cyclists. The split by road user type is similar to the average for England, though the pedestrian casualty rate in the TfSE geography is slightly lower (16% compared to 20%).

Figure 3.7: Inflation of rail fares

Source: ORR- Table 7182: Average change in fares by ticket type, Great Britain, 2004 to 2022 Office of Rail and Road. Table 7182 - Average change in fares by ticket type

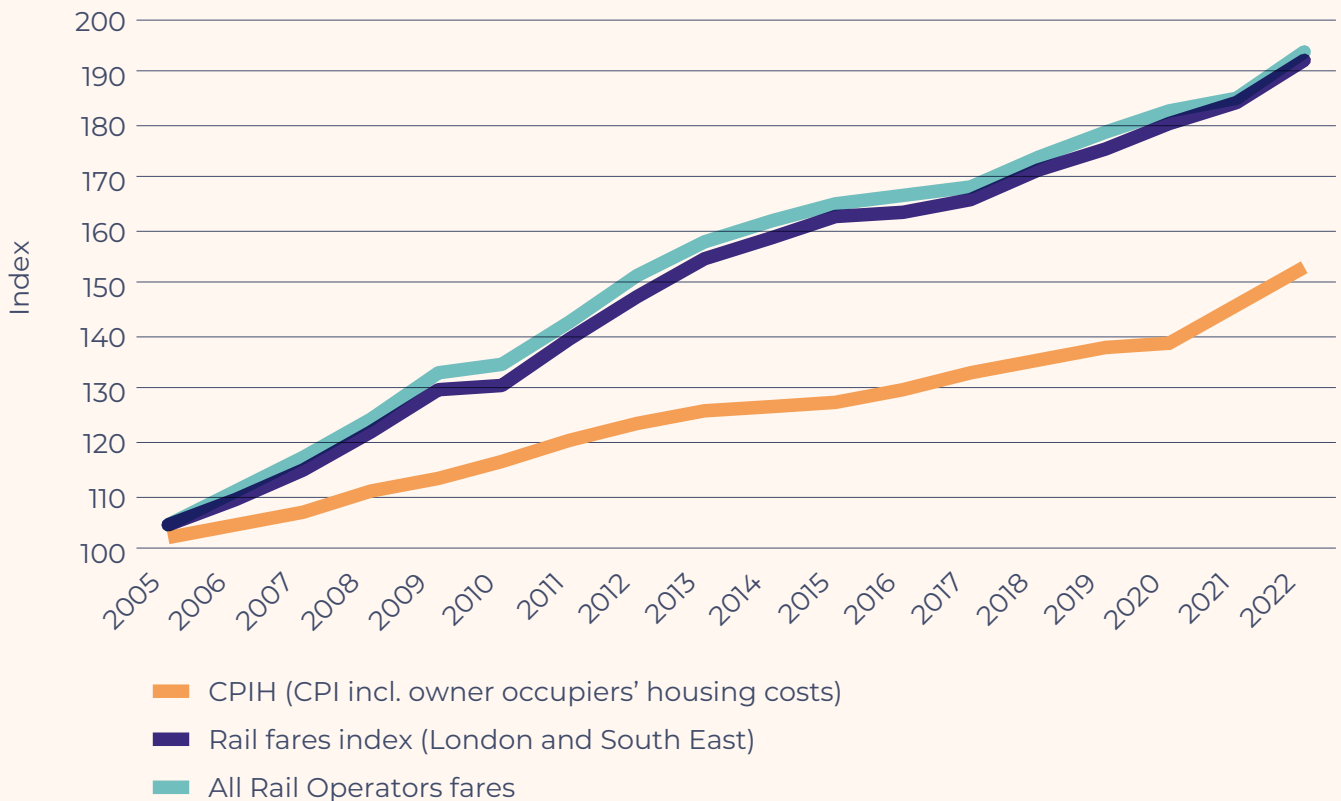


Figure 3.9 shows that there has been a significant drop in road collisions in the 5 years from 2014 to 2019, this is despite a background growth in car miles driven over the same period. So, the policies and investments of both local authorities and National Highways were clearly having a significant impact as are the standards and quality of the overall vehicle fleet as older/less safe vehicles are replaced with newer ones with higher standards of brakes and collision avoidance systems.

However, Figure 3.10 shows that, per capita, there have been consistently higher fatal or serious collisions when compared to the England average. There is a drop in road collisions during the pandemic in 2020, with an understandable increase in 2021, but still lower than before the pandemic.

Figure 3.8: Casualties caused by Fatal or Serious Collisions in the TfSE Geography by Road User Type
 Source: DfT Department for Transport. 2022. Road accidents

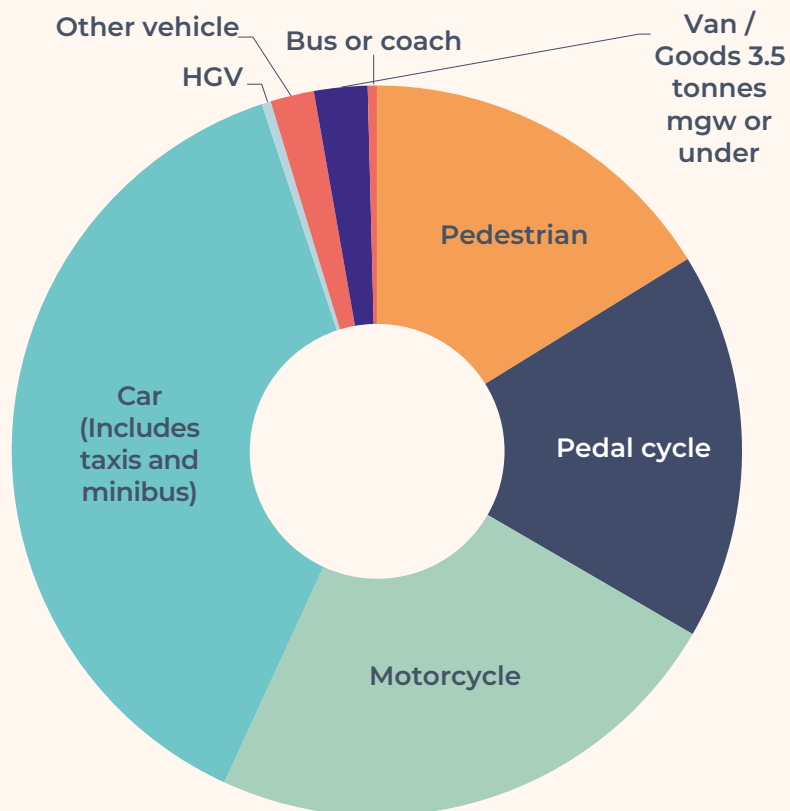


Figure 3.9: Road collisions in the South East per billion vehicle miles

Source: GOV.UK – road accidents and safety Department for Transport, 2023. Road accidents and safety statistics

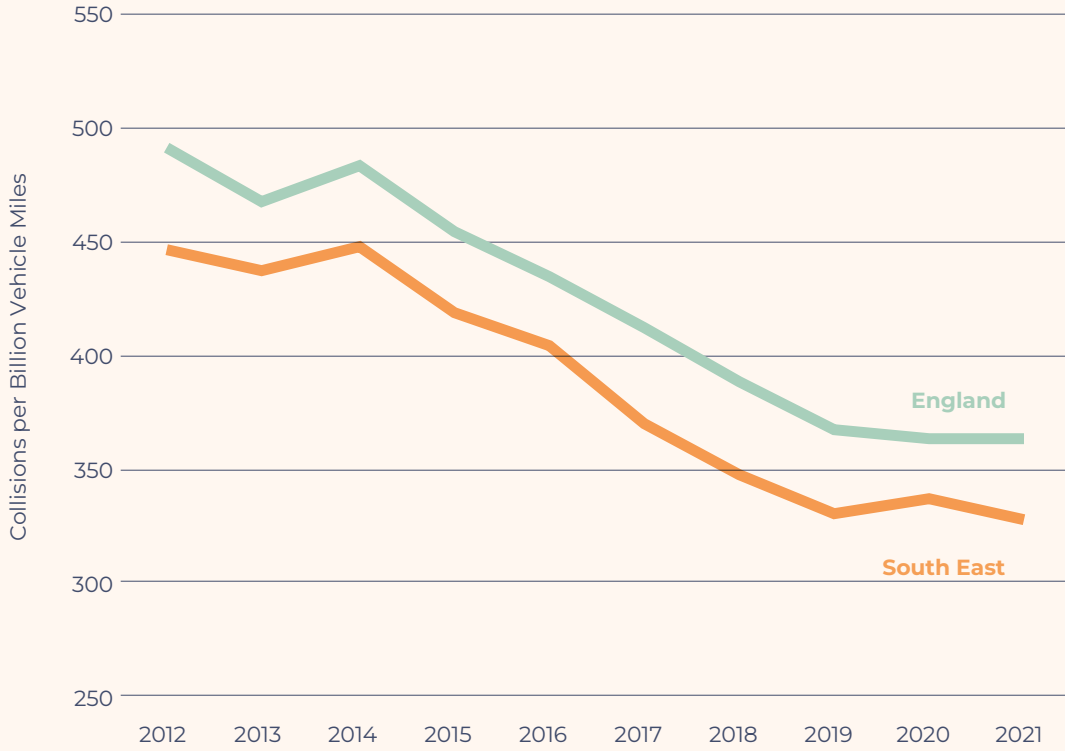
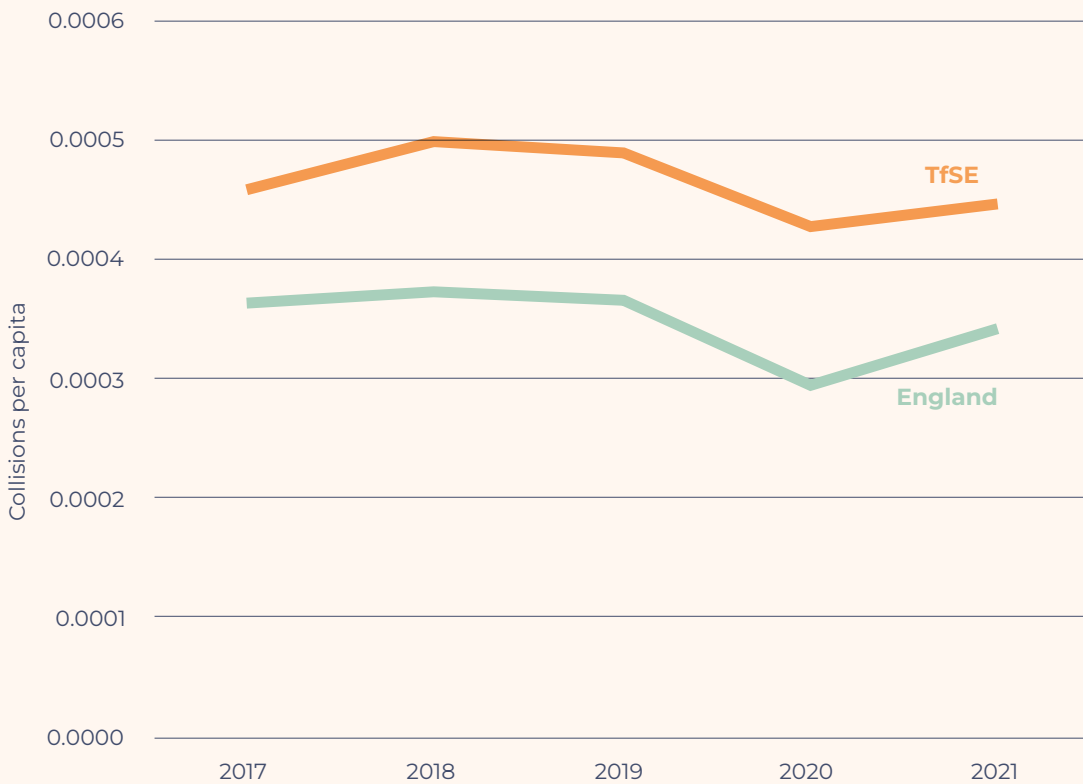


Figure 3.10: Fatal or Serious Road Collisions per Capita

Source: DfT Road Accident Reports Department for Transport, 2023. Road Traffic Statistics - Road accidents

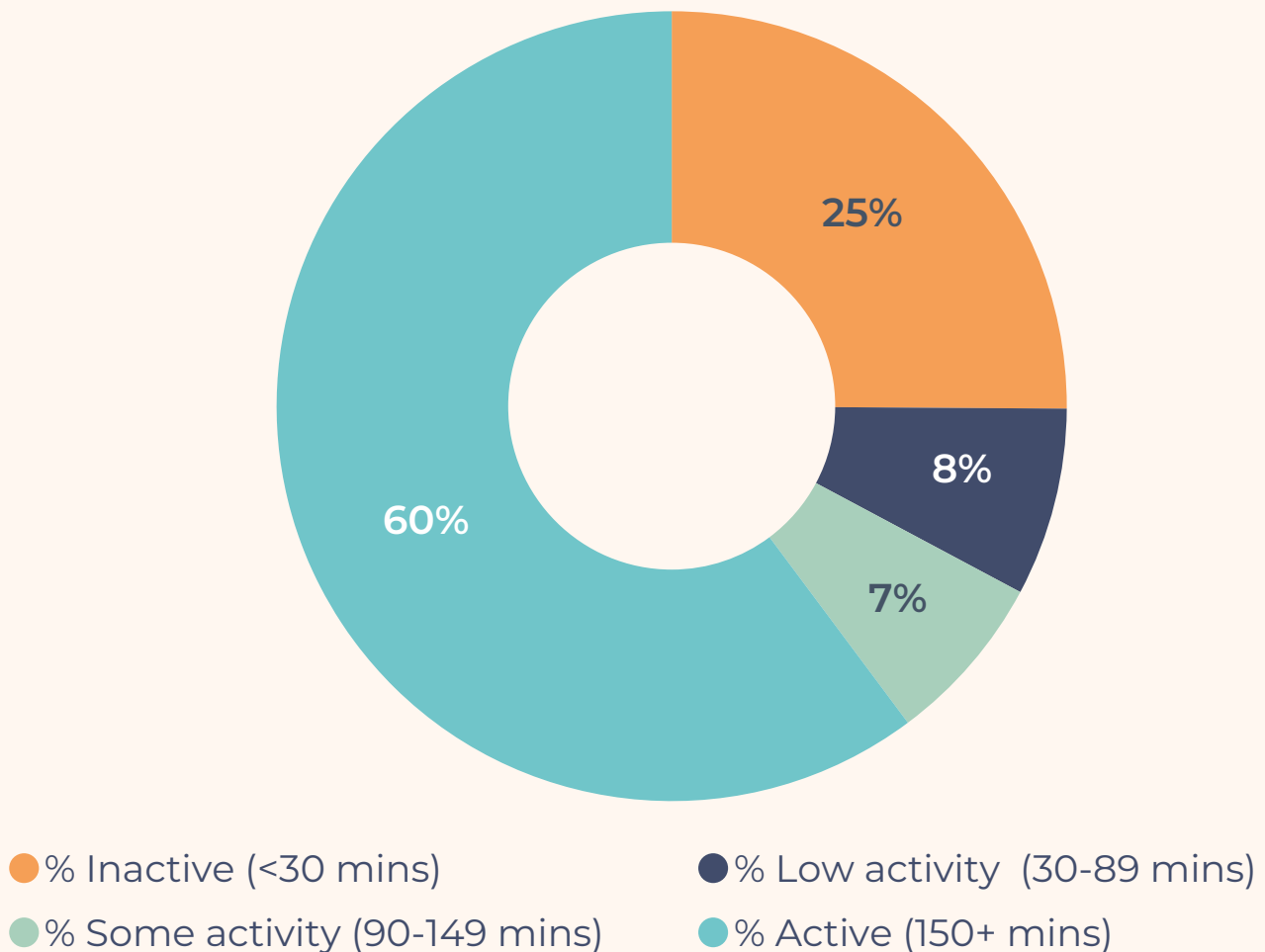


Health and activity

A community's health is often a measure for their overall standard of living. There is a strong theme in the Transport Strategy to support healthier lifestyles by encouraging an increased use of active travel modes (walking, wheeling and cycling). In Figure 3.11 and Figure 3.12 we can see from Sport England and the Office for Health Improvement and Disparities data that generally speaking the residents of the south east are more active than their counterparts across the rest of England; with 60% of people being in the most active bracket and 25% being inactive.

Greater use of active travel modes can certainly support people in the region to become more active and whilst the overall picture compares well against the rest of England there will be parts of the region where inactivity levels are much higher. This is where investment in active infrastructure to support modes can have the greatest health benefits.

Figure 3.11: Adult activity levels in the South East
Source: Active people Sport England. Active People Interactive.



Mortality linked to air pollutants

Air pollution is one of the most serious impacts that traffic and transport can have on the health of residents and communities. Several local authorities in England have either started or are planning to start Clean Air Zones; including Portsmouth in the TfSE region which has one covering buses, taxis and HGVs in a central city area.

The data for mortality linked to air pollution does not provide much of a historical trend for the south east because data was not available at a regional level prior to 2018 and the most recent data is from 2020. What data there is does suggest, shown in Figure 3.13 that there is a downward trend. As with the rest of this report this data will be examined again when the next State of the Region report is published.

Figure 3.12: Adult Inactivity Levels

Source: Office for Health Improvement and Disparities Public Health England.

Physical Activity.

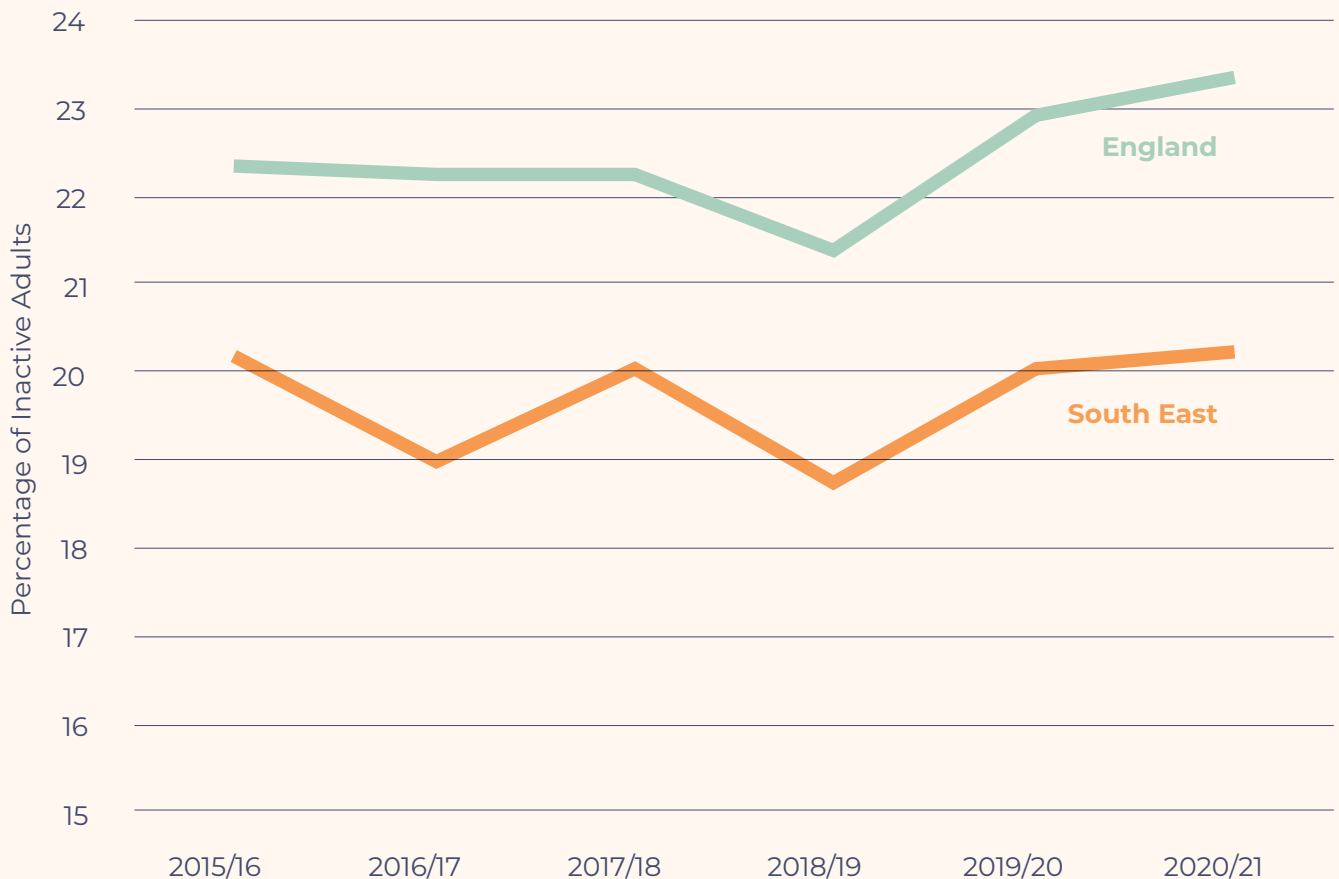
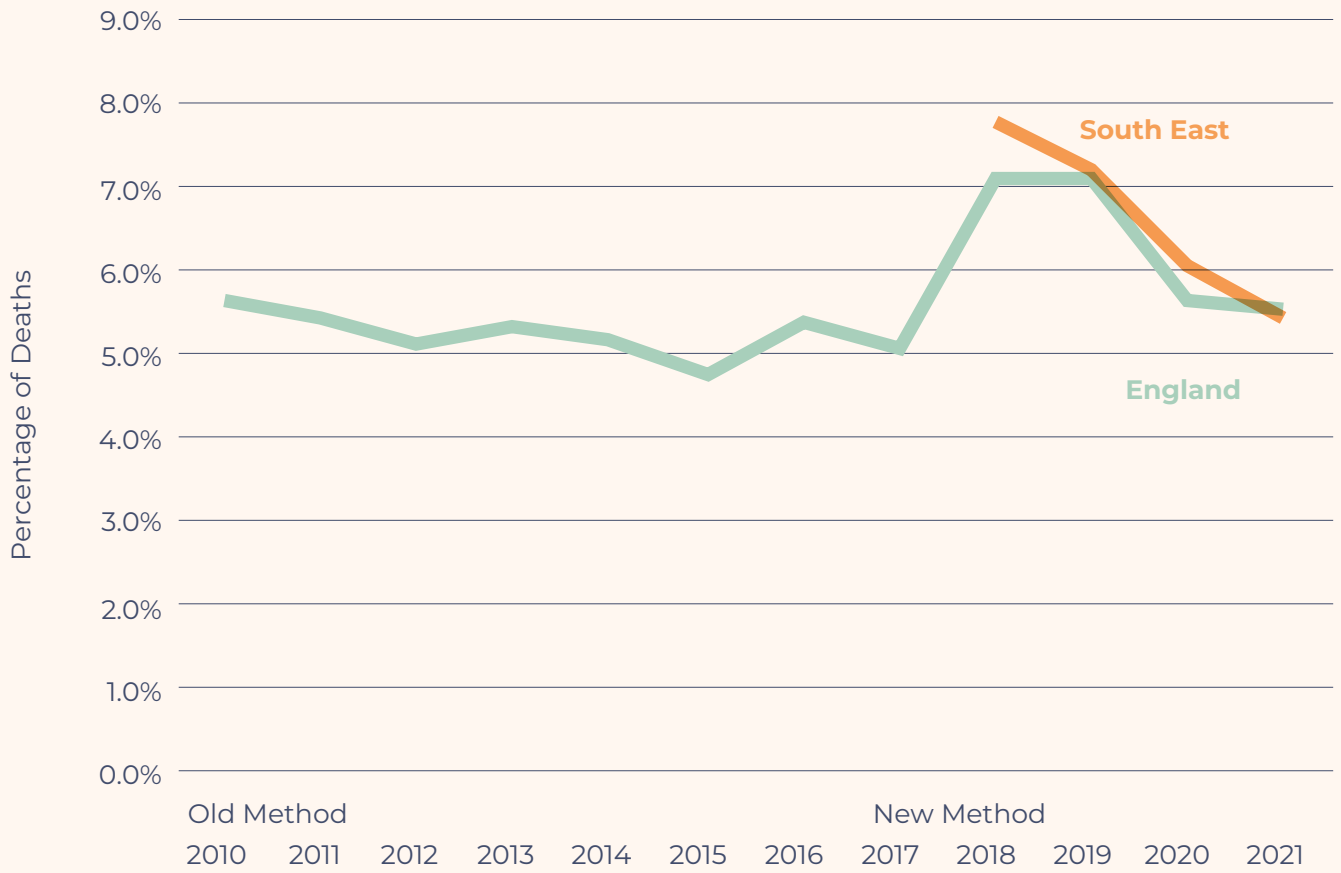


Figure 3.13: Mortality rate linked to air pollution

Source: Fingertips Public Health England. Public Health Outcomes Framework. ; Note: the method used prior to 2018 was deemed to under report mortality rates and hence was updated. This means that the data prior and post 2018 aren't directly comparable.



4. What are our impacts on the environment?

Stated aims of the TfSE Transport Strategy and Strategic Investment Plan

A stated aim of TfSE is that the Transport Strategy and Strategic Investment Plan should have a positive impact on the environment. The transport system has wide-ranging environmental impacts, including noise, the emission of pollutants and ultimately climate change. This chapter examines the environmental effects caused by transport in the region.

In headline terms both documents say that they should impact on:

- **Carbon** – transport is now the highest carbon emitting sector in the UK economy, making up almost a quarter of all emissions⁹ and achieving net zero is arguably the biggest challenge for transport planning at this time.
- **Air quality** – the effects of air quality on people’s health is well documented and there is a legal requirement to reach certain standards. Particulates from road transport are the biggest contributors to poor air quality where people live.
- **Adaption to climate change** – despite stated international goals to keep global heating below 1.5C above pre-industrial levels, our climate is already changing. Our infrastructure needs to adapt to changing conditions in order to continue to provide the safe and reliable networks the region needs.
- **Habitat** – without careful consideration, building new transport infrastructure can have a negative impact on the physical environment around it. However, there is a growing push towards any and all infrastructure enhancements to actively have a net-positive impact on habitats and biodiversity.

9 DfT Transport and Environment Statistics 2022

Emissions and air quality

Greenhouse gas emissions

As shown in Figure 4.1, transport emissions in the region have decreased over time at a corresponding rate to those across the country. The sharp decrease in 2020 reflects the impact of the Covid-19 pandemic, rather than a sustained decrease in carbon emissions.

Figure 4.1: Carbon emissions from Transport

Source: UKGOV UK local authority and regional greenhouse gas emissions national statistics, 2005 to 2020 - GOV.UK (www.gov.uk)

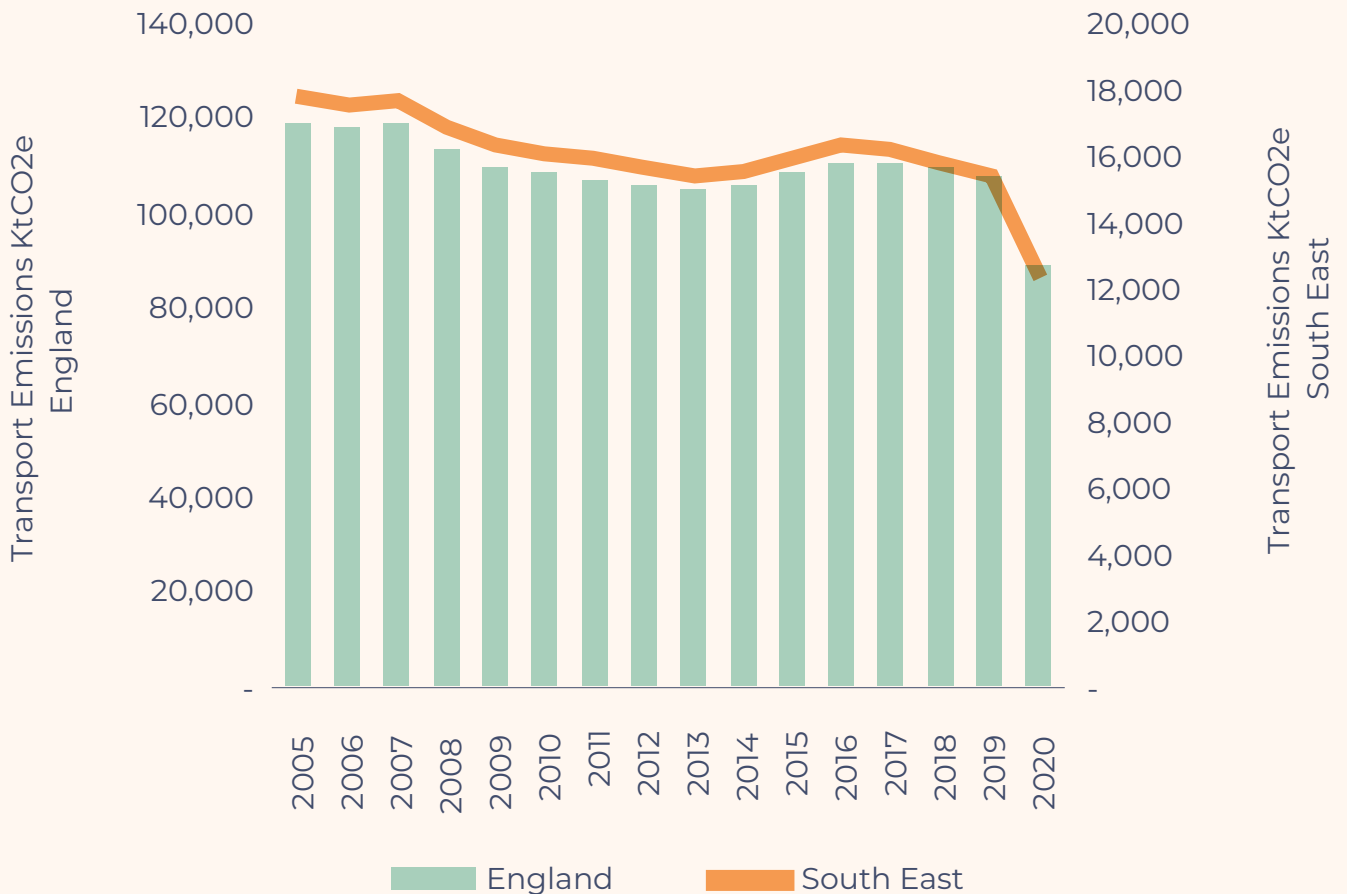
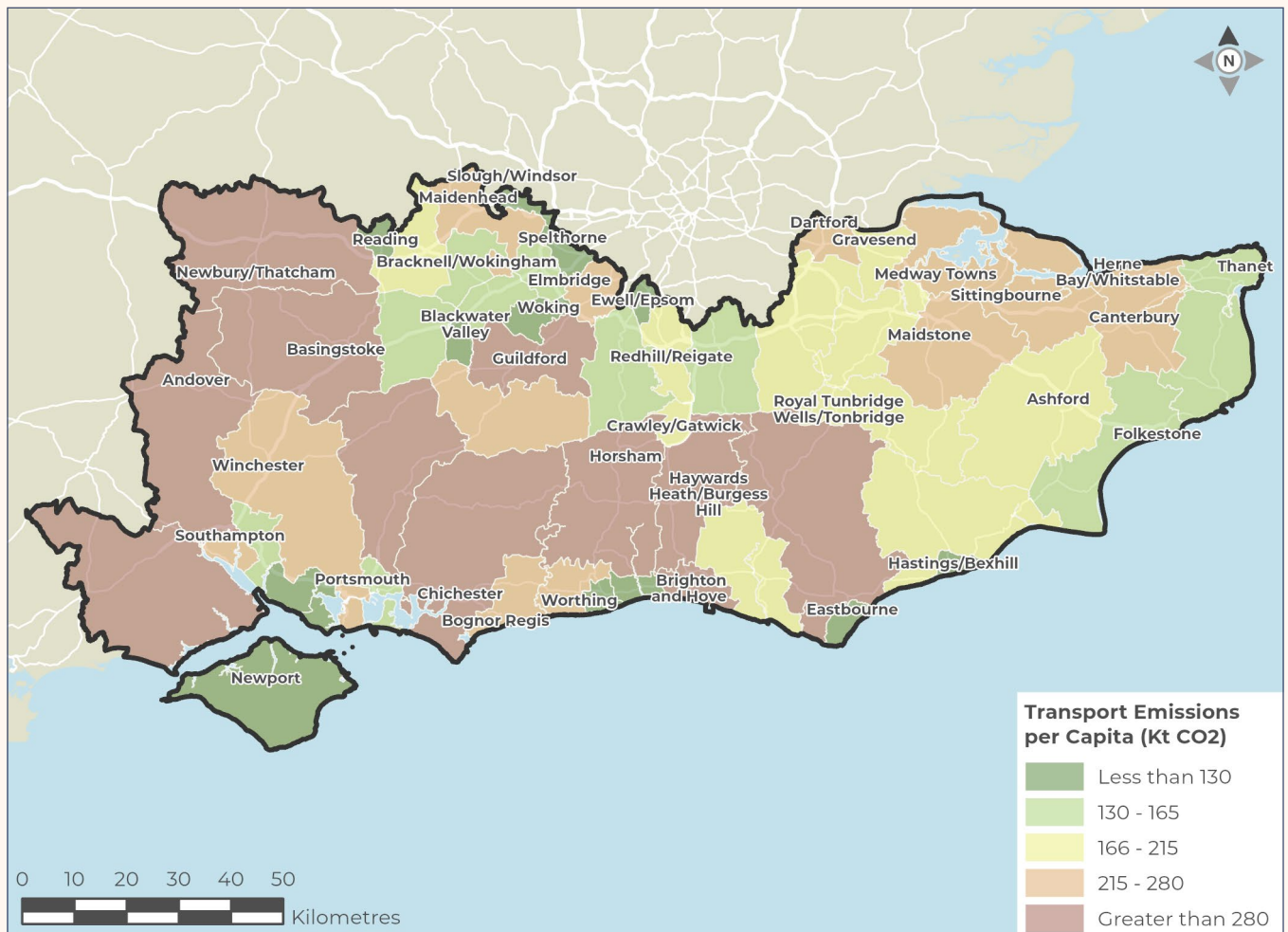


Figure 4.2 shows the carbon emissions from transport per capita in the region by local authority as of 2020. As shown in the figure, the largest emitters are the more rural authorities in the region. This is principally for 3 main reasons:

- Trip distances in rural areas are longer than in urban areas because jobs/services and daily lives are further apart;
- The majority of the Major and Strategic Road Networks, which carry the most HGVs and longer distance trips, run through the more rural authorities; and
- Public transport options are far fewer in rural areas than they are in urban so the opportunities to choose not to drive are often limited.

Figure 4.2: Transport Emissions per capita

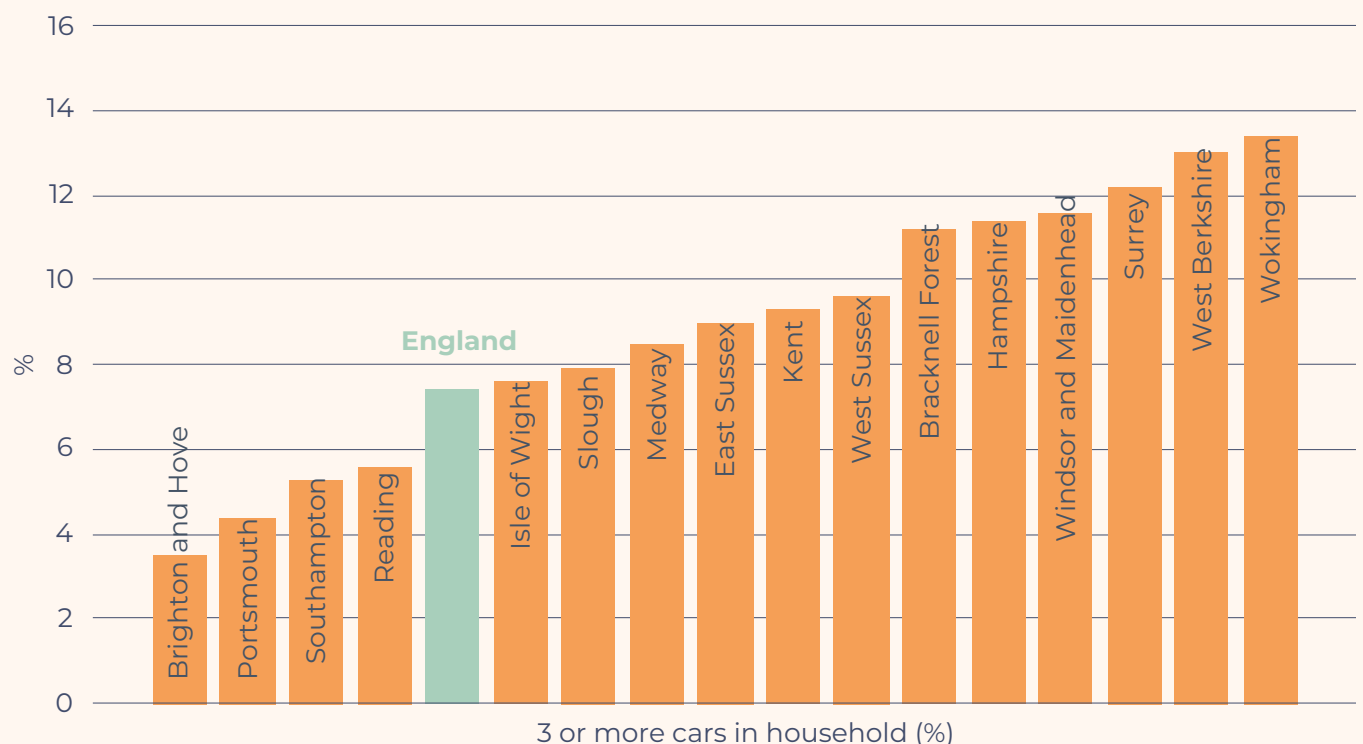
Source: UKGOV UK local authority and regional greenhouse gas emissions national statistics, 2005 to 2020 - GOV.UK (www.gov.uk)



Access to cars and the general affluence of areas also has an impact on how much and how far people drive. Typically, more affluent households have multiple cars and tend to travel much further in their daily activity. Figure 4.3 below figure shows the percentage of households in the region with 3 or more cars per household, with over 13% of households in West Berkshire and Wokingham having 3 or more cars. The UK average is 7.5%.

Figure 4.3: Percentage of Households with 3 or more cars

Source: ONS UK local authority and regional greenhouse gas emissions national statistics, 2005 to 2020 - GOV.UK (www.gov.uk) and ONS Percentage of households with 3+ cars by South East regions, 2011



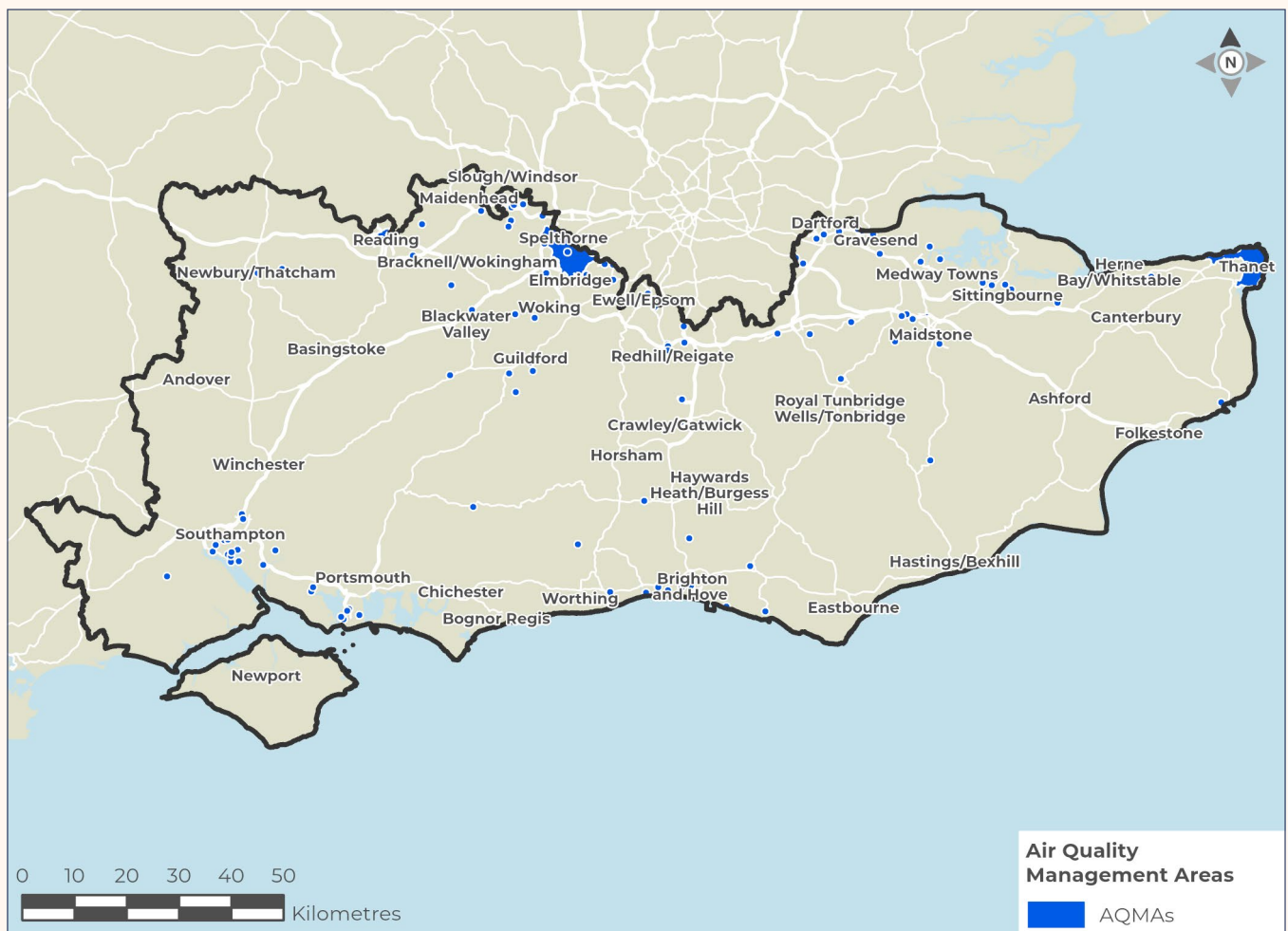
Air quality

Since December 1997 each local authority in the UK has been required to review and assess air quality in their area. This involves measuring air pollution and forecasting how it will change in the next few years. The aim of the review is to make sure that the national air quality objectives will be achieved. If a local authority finds any places where the objectives are not likely to be achieved, it must declare an Air Quality Management Area there.

This area could be just one or two streets, or it could be much bigger. The current Air Quality Management Areas in the region are shown below in Figure 4.4.

At present, there are 360,000 people living within an AQMA within the region, approximately 5% of the total population. On average, 25% of the UK population live within an AQMA.

Figure 4.4: Air Quality Management Areas

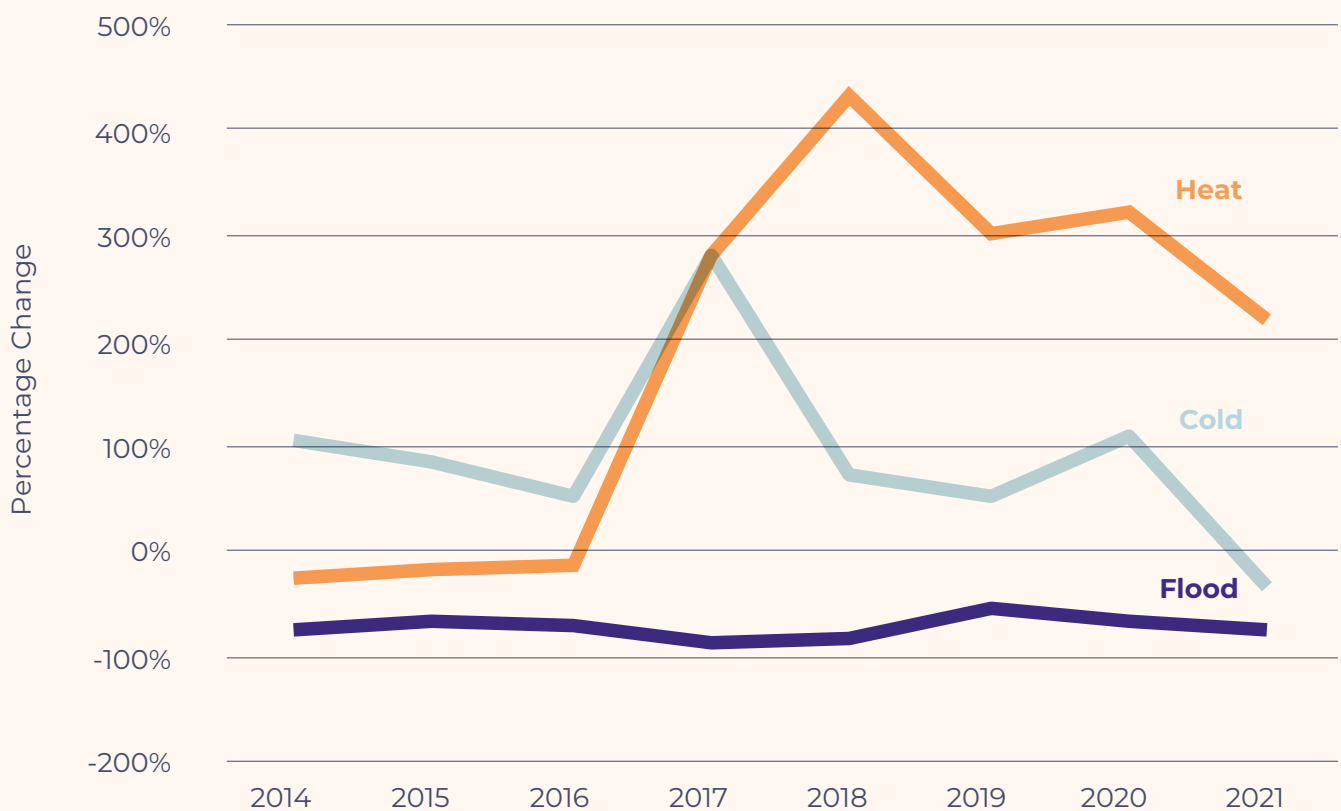


Adapting to climate change

Extreme weather events are increasing in frequency and severity¹⁰ as a result of climate change. As such our transport networks can be affected by weather events such as flooding, heat or snow. It is imperative for the region therefore that our infrastructure is adapted to reduce the impacts of these events.

¹⁰ Natural disaster risks: Losses are trending upwards | Munich Re

Figure 4.5: Percentage Change in Delays on the southern rail network caused by Weather Events
Source: Network Rail



Extreme weather on the rail network

Figure 4.5 shows the percentage change in weather events impacting the rail network in the south east since 2013. As can be seen, delays caused by extreme heat have increased by up to 400% when compared to the baseline year. As of February 2023, severe weather events account for 7% of all delays across the rail network.¹¹

Large parts of the rail network continue to depend on structures, buildings and earthworks assets that were installed as the railway was originally built between 1850 and 1920. A growing number of these assets are reaching 'end of life', as well as being exposed to changing weather patterns, which increase defects, failures and weather-related disruption to passengers and freight users. We have made resilience improvements to our assets over the last decade. However, according to network rail, we have seen a 50% increase in adverse weather impacts over the past five years compared to the previous ten ¹² – a trend that we expect to continue.

Mitigating actions of transport

This section looks at how the impact from transport discussed above can be mitigated. These actions include:

- Shifting to electric vehicles
- Accelerating the use of alternatives to private car travel, including active travel
- Biodiversity net-gain from new infrastructure

Shifting to electric vehicles

Uptake of Electric Vehicles

Moving from diesel or petrol fuelled cars to electric cars can considerably reduce greenhouse gas emissions and improve air quality and is recognised in the DfT's Transport Decarbonisation Plan (2021) as the single biggest mitigating factor.

Figure 4.6 shows the percentage split of licensed vehicles in the region by fuel type in Q1 2022. Internal Combustion Engine (ICE) cars currently still dominate the overall fleet make-up. However, Figure 4.7 demonstrates how the number of licensed hybrid and battery electric vehicles has been accelerating rapidly over the last few years. In the last four years the numbers have gone from 20,000 non-ICE's to over 120,000 hybrid and battery electric cars operating as of Q1 2022.

¹¹ Network Rail (2023) England and Wales Strategic Business Plan, Control Period 7

¹² Network Rail (2023) England and Wales Strategic Business Plan, Control Period 7

Figure 4.6: Percentage Split of Licensed Vehicles in TfSE Region by Fuel Type (2022)

Source: UKGOV Vehicle licensing statistics data tables - GOV.UK (www.gov.uk) - Number of licensed vehicles by fuel type, 2012 onwards

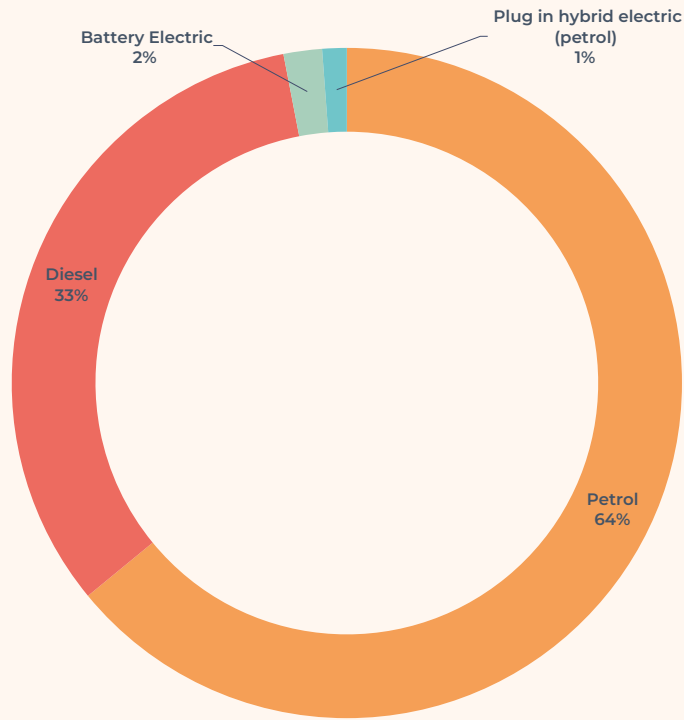
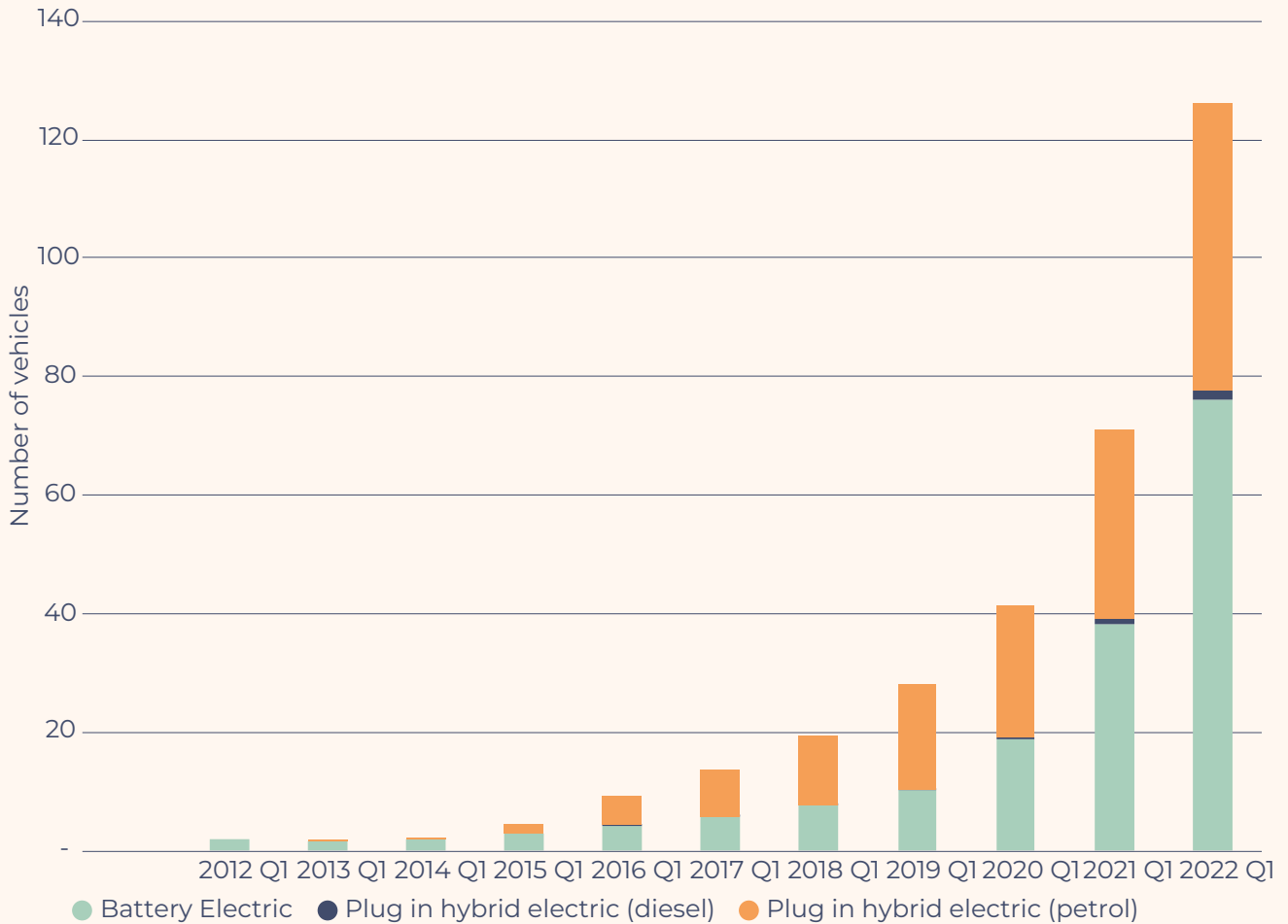


Figure 4.7: Electric or Hybrid Cars Licensed in the South East Region

Source: UKGOV ibid



Electric vehicle infrastructure

To support this rapidly accelerating take up of cars with a plug, the charging infrastructure network needs to keep pace. If the roll out of this infrastructure does not also accelerate rapidly then it could put off some people from purchasing an electric vehicle and slow the rate of decarbonisation.

Figure 4.8 shows that since October 2019, the number of EV charging points has increased across the south east region with a slight plateau between April 2020 to August 2020, possibly due to the pandemic. As of June 2022, the number of EV charging points in the region is roughly 4,000.

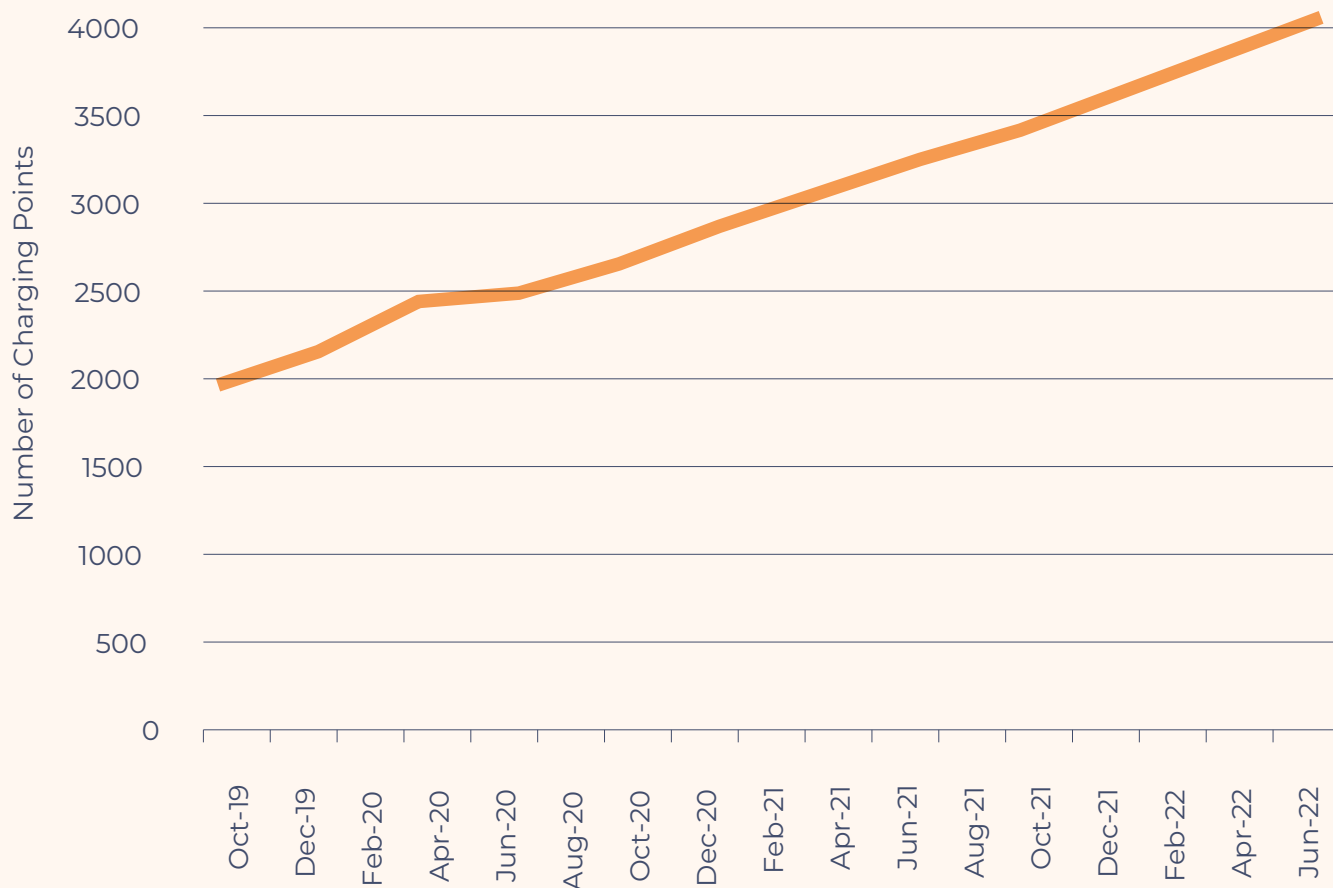
The number of required charging points in the TfSE geography is shown in Table 4.1.

Table 4.1: Required Charging Points in the TfSE Geography
Source: TfSE

	On-Street Residential (7kW)	Town Centre (22kW)	Strategic/ Destination (50kW)
Low Estimate	11,575	987	2,061
High Estimate	22,933	1,955	3,607

Figure 4.8: Number of EV charging points in the South East

Source: Electric Vehicle Charging Device Statistics Department for Transport. Electric vehicle charging device statistics July 2022 - GOV.UK (www.gov.uk)



The UK Government has committed to provide 300,000 public electric charging points by 2030¹³, whilst the Society of Motor Manufacturers and Traders believe that 2.3 million charging points will be required by 2030 in order to keep up with demand¹⁴. It is predicted that there will be approximately 9.5 million hybrid or electric cars in the UK by 2030¹⁵, looking at a ratio of cars to charging points, the government plans for 1 public charging point per 32 vehicles, whereas the SMMT plans for 1 charging point for every 4 vehicles.

Figure 4.9 below, shows the number of charging points per 100,000 of population, with Brighton and Hove and Folkestone having the highest number per capita.

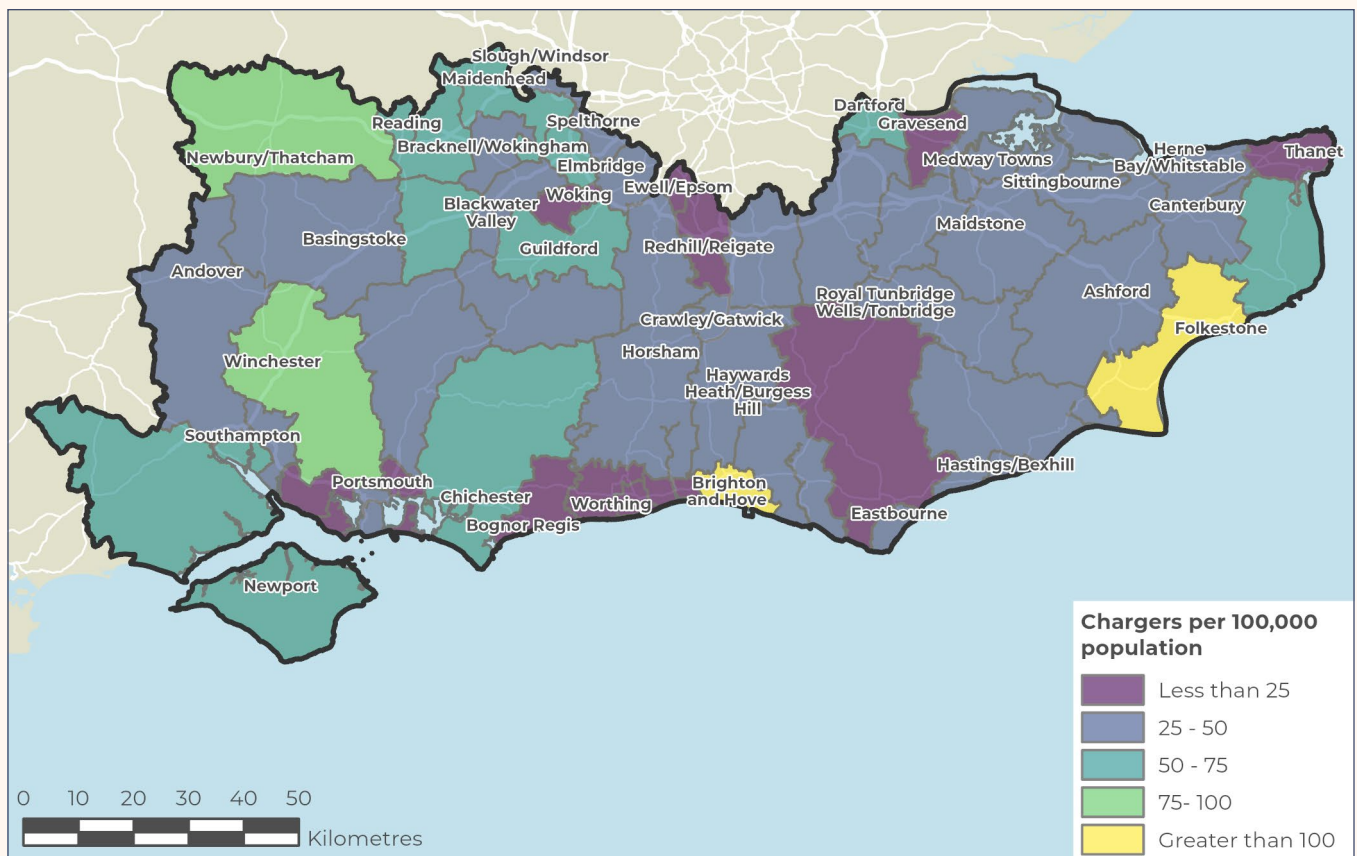
13 Department for Transport. Tenfold expansion in chargepoints by 2030 as government drives EV revolution - GOV.UK (www.gov.uk)

14 Full throttle needed for UK automotive success - SMMT, 2021

15 Local Government Association. Electric vehicles: What's going on out there?

Figure 4.9: Public charging devices per 100,000 of population

Source: ZapMap & DfT Table ECVD_01a



Use of alternatives to private car travel

It is important to provide viable alternatives to private car travel. Figure 4.10 shows the average split of trips per person per year by different transport modes.

As shown in the figure below, car journeys dominate how people move around the region with around 60% of all journeys. People walk for around a third of journeys; with all other modes of transport only totalling just 7% of journeys.

Figure 4.10: Mode Share of Trips per Person per Year in the South East
Source: GOV.UK – NTS0221

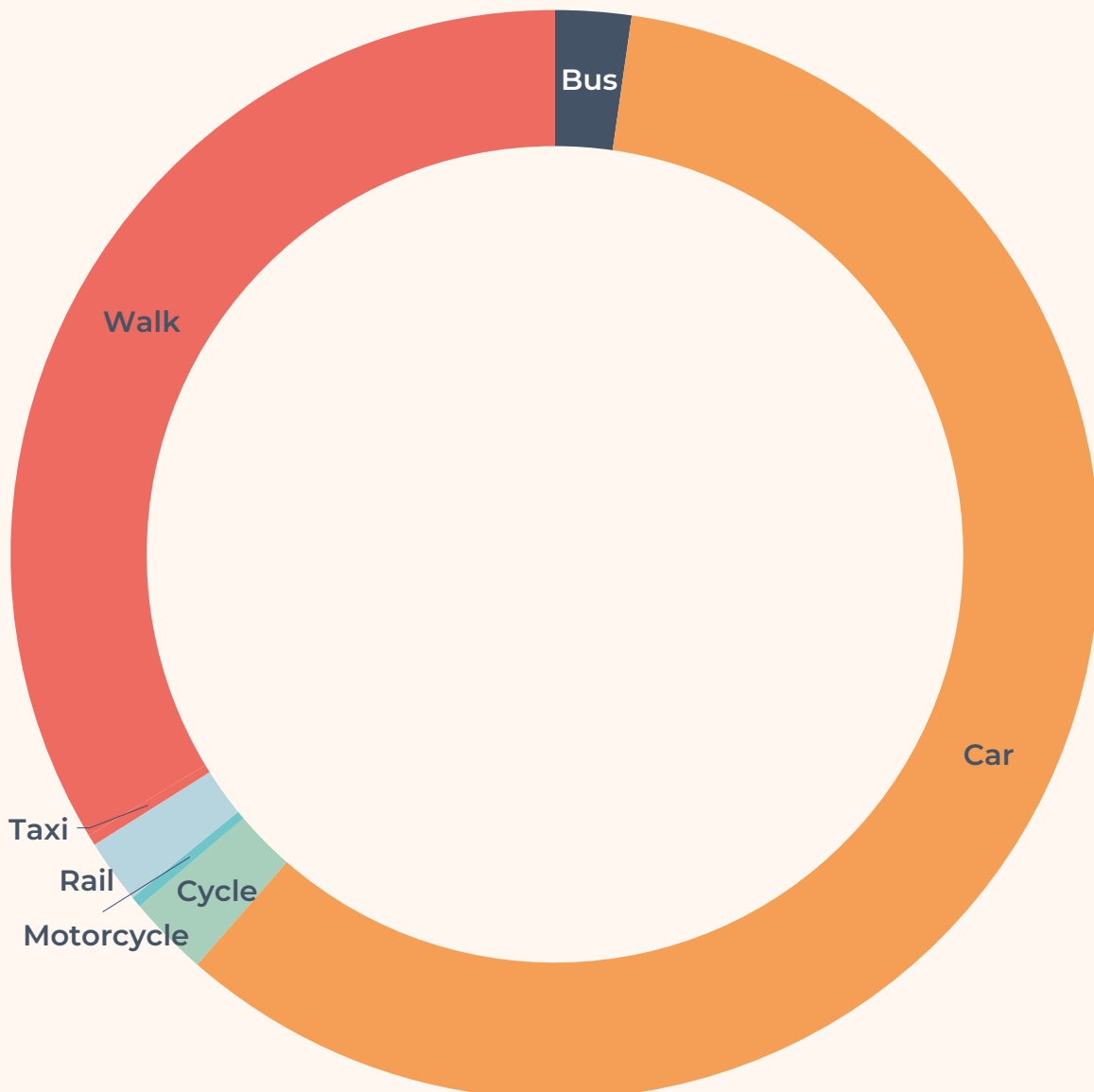
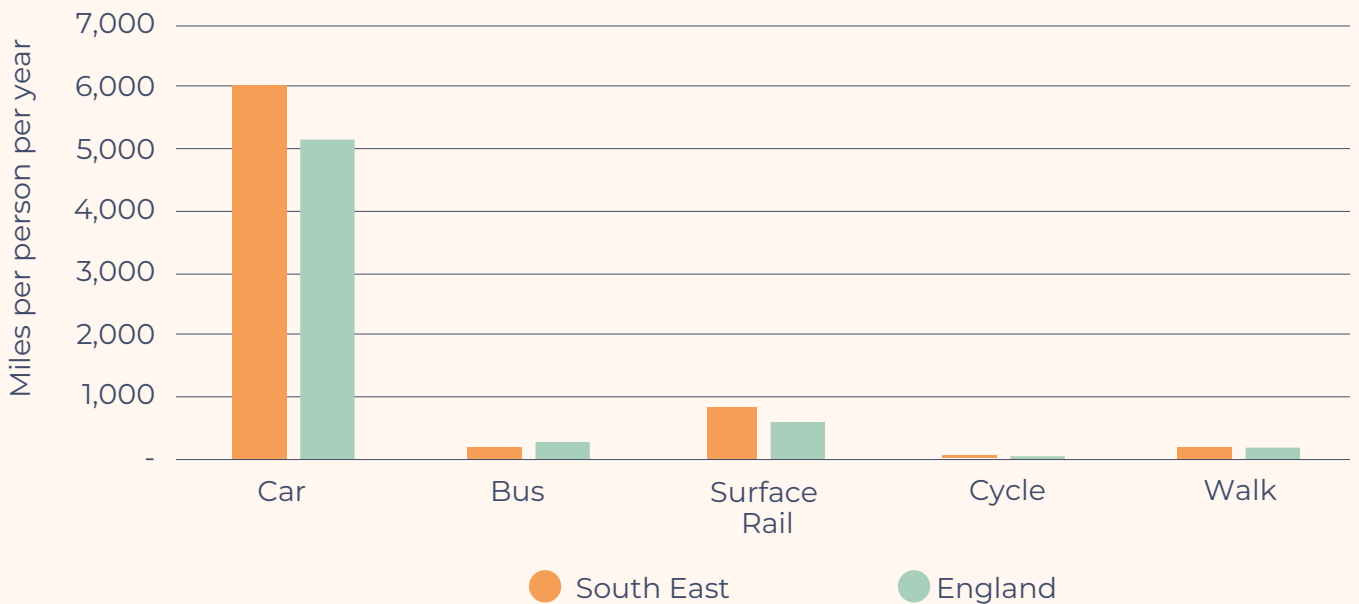


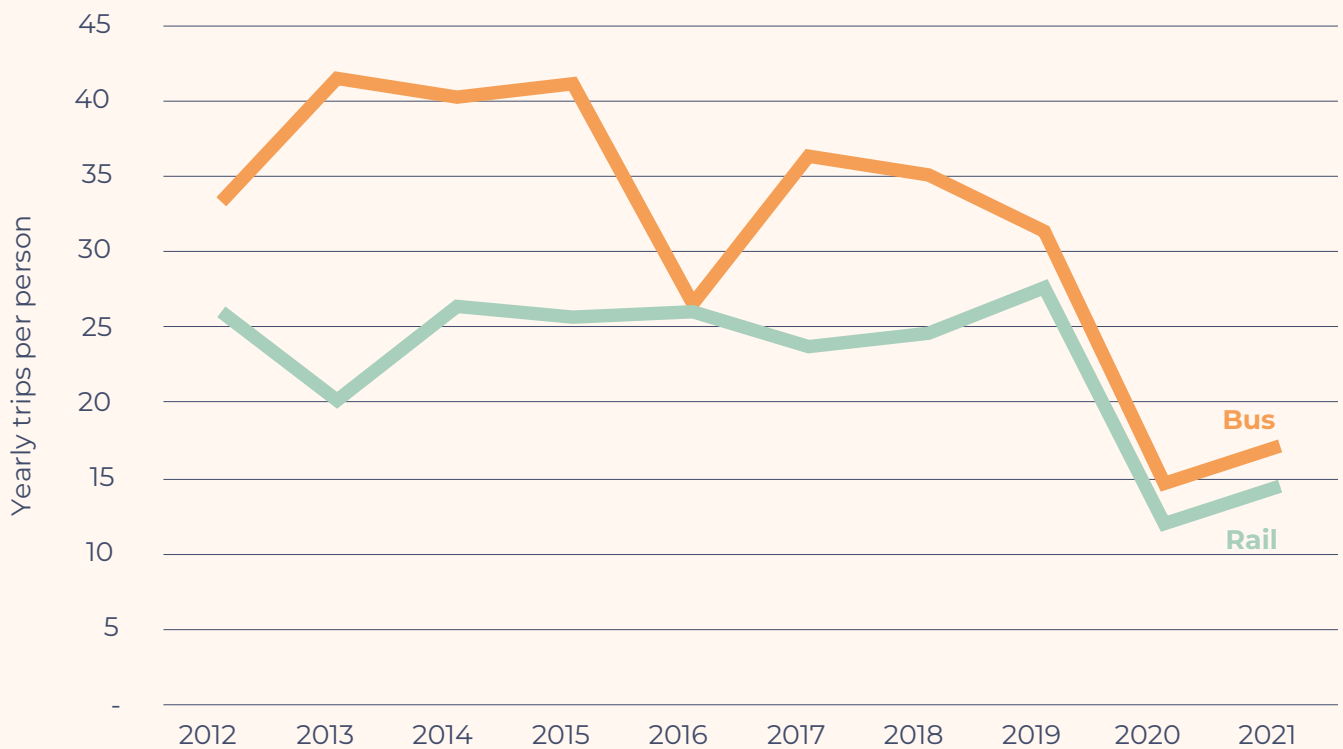
Figure 4.11 shows the average distance of travel by mode, as miles travelled per person per year. When compared to the England average, journeys by car and rail were longer and shorter by bus, cycling and walking. According to this data, the average person in the south east walked 10 fewer miles per year when compared to the England average.

Figure 4.11: Average Distance of Travel by Mode
Source: GOV.UK – NTS0221



The below Figure 4.12 shows the number of public transport trips taken per person per year in the region. Whilst the number of rail trips remains fairly static until the onset of the pandemic, the number of bus trips indicates an overall downward trend, in line with industry projections.

Figure 4.12: Rail and Bus Trips per Person per Year
Source: UKGOV Department for Transport. 2022. Mode of travel - Yearly trips per person by mode South East, 2012 onwards



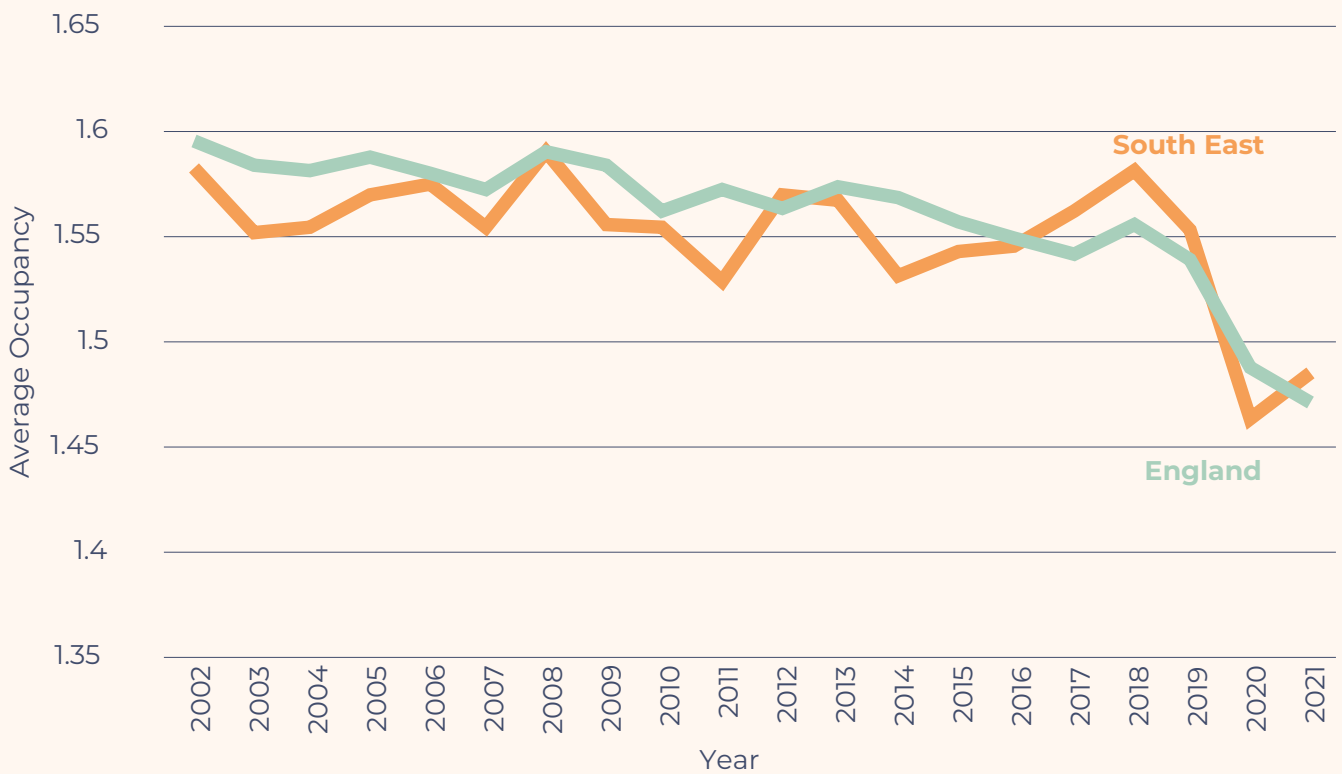
Vehicle occupancy

Research suggests that cars emit more GHGs per passenger mile than trains and coaches that carry more people, and so maximising the number of people per vehicle can reduce emissions per person¹⁶. As shown in Figure 4.13, the vehicle occupancy rate was negatively affected by the Covid-19 pandemic.

16 Department for Transport. 2022. Transport and environment statistics 2022 (www.gov.uk)

Figure 4.13: Vehicle Occupancy Rate

Source: UKGOV Vehicle mileage and occupancy - GOV.UK (www.gov.uk) - Vehicle occupancy rates South East and England, 2002 onwards



Micromobility

New and emerging micromobility solutions such as e-bikes or e-scooters are important to provide an alternate form of transport to private cars. In a 2021 survey of micromobility users, it was found that by using micromobility schemes provided a reduction of about 3.7 car miles per week resulting in a saving of 1kg of CO2 per person per week 17.

Figure 4.14 shows the total rides and distance per year for a rental e-scooter and rental e-bike trial taking place in the Solent across Southampton, Portsmouth and the Isle of Wight.

As shown in the Figure 4.14, the number of KM and rides is increasing year on year. This increase should be caveated by the expansion of the scheme, providing additional vehicles and coverage.

Figure 4.14: Rides and KM per annum
Source: Local Authority Supplied Data

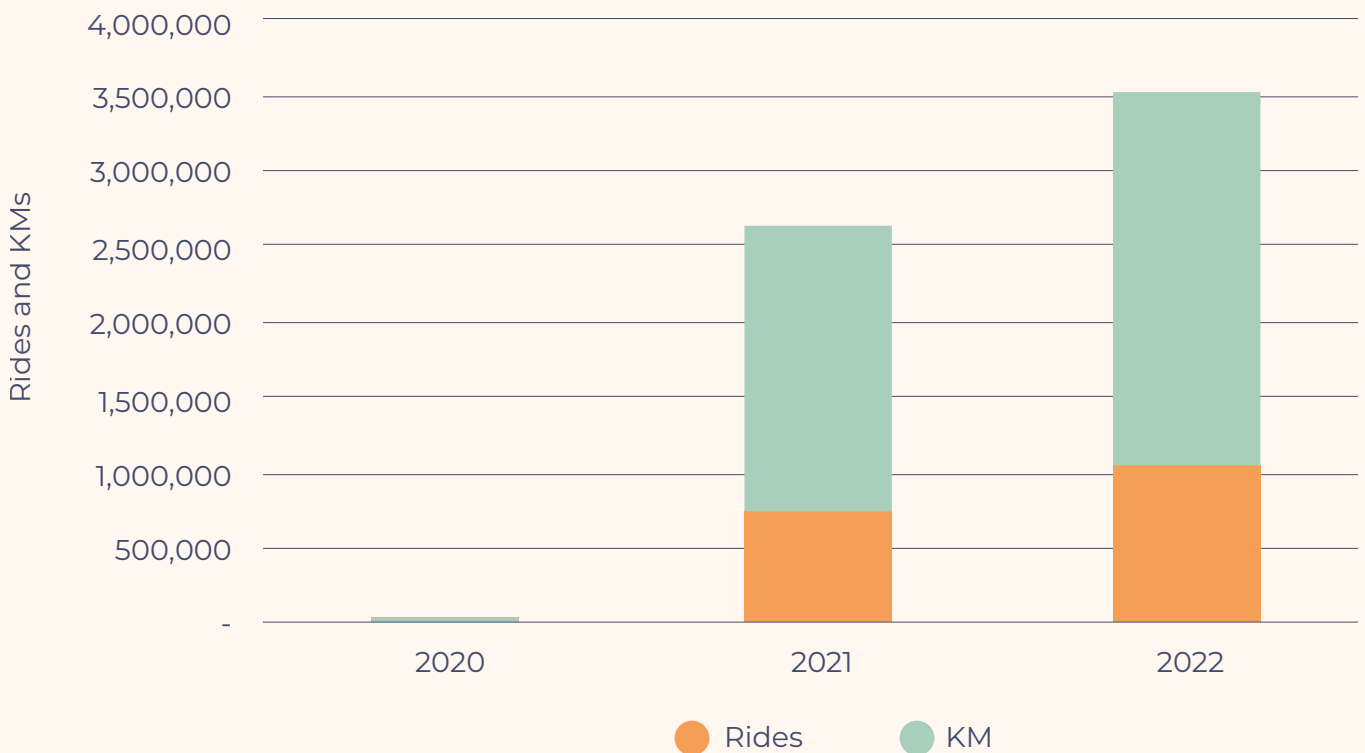
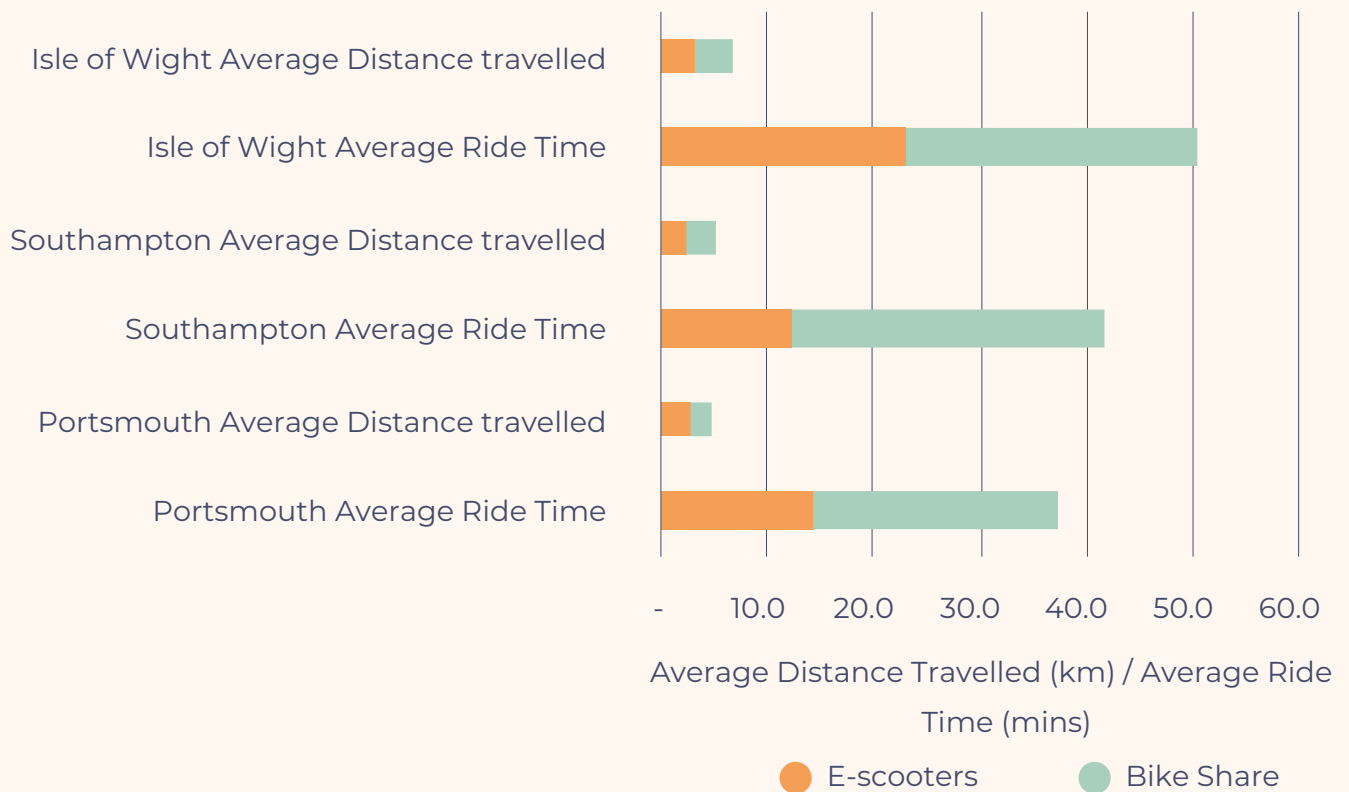


Figure 4.15 demonstrates average ride times and distances travelled, of note is the higher average ride time and distance travelled in the Isle of Wight when compared with Portsmouth and Southampton. This could be indicative of the relatively lower urban density of the Isle of Wight when compared with the cities of Southampton or Portsmouth.

Figure 4.15: Average Ride Time and Distance Travelled
 Source: Local Authority Supplied Data



5. Next Steps

This report has provided a snapshot of the region in terms of economic, social and environmental indicators and will provide a baseline for measuring changes to these indicators. It provides a 'baseline' for future monitoring of how well the region is tracking against the indicators used in this report, which were identified as important to demonstrate whether the region is moving in the direction desired by the Transport Strategy.

The TfSE Transport Strategy and Strategic Investment Plan are in the process of being delivered. This report will be reproduced every two years to provide a monitoring tool for understanding associated changes in the identified indicators across the region.

It is acknowledged that not every indicator in this report can be attributed to the delivery of the Transport Strategy and Strategic Investment Plan, but will still provide valuable context and an understanding of wider trends in the region which may impact the prioritisation or delivery methods for interventions listed in the Transport Strategy and Strategic Investment Plan.





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