Whole Industry Strategic Plan (WISP) Call for Evidence Response from TfSE

1   Introduction and Role of TfSE

Introduction

1.1   This document provides Transport for the South East's (TfSE's) response to a Call for Evidence[1], issued by Great British Railways Transition Team (GBRTT) to inform the development of a Whole Industry Strategy Plan for the British rail sector.

1.2   This document starts by describing the role of TfSE and our interest in the future development of the rail network, particularly the part of the network that serves South East England. We follow this by setting out the context that is informing our response, and then provide detailed responses to each of the questions included in the Call for Evidence document.

The role of TfSE

1.3   TfSE is the sub-national transport body for the South East of England. Our purpose is to determine what investment is needed to transform our region's transport system and drive economic growth. We were established in 2017 to determine what transport infrastructure is needed to boost the region's economy. Our role is to add strategic value by making sure that funding and strategy decisions about transport in the South East are informed by local knowledge and priorities.

1.4   Our partnership is made up of 16 local authorities, five local enterprise partnerships plus representatives of district & borough authorities, protected landscapes, and national delivery agencies. Our region – covering the historic counties of Berkshire, Kent, Hampshire, the Isle of Wight, Surrey, East Sussex, and West Sussex – is the second most productive in the country behind London. It is home to 7.5 million people and more than 300,000 businesses, an economy of over £400bn (GVA per annum) and is our nation's key international gateway for people and goods. It boasts world-leading universities and research institutes, diverse towns and cities and stunning coasts and countryside. It is a great place to live, work, study, visit and do business. Our focus is on ensuring that this success story continues.

1.5   Our Strategic Investment Plan, which we will consult on in mid-2022, will state our priorities for the future direction of, and investment in, the rail network that serves South East England. This includes all of the network currently managed by Network Rail's South East Route, Wessex Route, and parts of the Western Route. We are also interested in the role and future of High Speed 1 in serving Kent and East Sussex, as well as international rail markets.

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[1] GBRTT (2021), "Call for Evidence", **https://gbrtt.co.uk/call-for-evidence-launch-document/**, accessed December 2021

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2   Strategic Context

Strategic Vision

2.1   In July 2020 TfSE adopted an ambitious transport strategy that sets out the following vision:

> "By 2050, the South East of England will be a leading global region for net-zero carbon, sustainable economic growth where integrated transport, digital and energy networks have delivered a step change in connectivity and environmental quality. A high-quality, reliable, safe and accessible transport network will offer seamless door-to-door journeys enabling our businesses to compete and trade more effectively in the global marketplace and giving our residents and visitors the highest quality of life."

2.2   This vision covers a **30 year period** from the date of the adoption of the Strategy in 2020 to 2050. It therefore aligns with the 30 year timeline for the WISP. Our Strategic Investment Plan will set out in more detail how we envisage our strategy will be delivered throughout this period. This will include elements to be delivered in the next 5 years, 10 years, and 30 years. We envisage most of the larger rail infrastructure interventions (other than those that are already developed to a high level of readiness of implementation) would be delivered in the latter half of the 30 year period, but we would aspire to see most operational interventions delivered in a shorter timeline.

2.3   TfSE believes Britain's railways are well placed to support the vision outlined above. However, it is worth exploring which circumstances are most appropriate to potential rail interventions (and, by implication, future investment in rail schemes).

Where Rail Works Best

2.4   Passenger rail services are capable of transporting high volumes of passengers through relatively narrow corridors at relatively high speeds. In most circumstances, passenger rail services are faster, cleaner (both in terms of carbon and air pollution), more space efficient, and safer than road transport. Their competitive advantage against the car is particularly powerful in large urban areas, where average traffic speeds are often below 10mph[2]. Rail is also very effective for journeys covering longer distances, especially if the service is operating on a high quality railway.

2.5   The key advantages of railways are as follows:

- Passenger rail services are capable of operating at a much higher **speeds** (typically 90 – 125mph on mainlines in South East England) than the highway speed limits (70mph).
- Most passenger rail services in South East England are powered by **electricity** (and some railways will soon be powered only by renewable energy)[3].

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[2] Brighton and Hove City Council (2018) "Brighton & Hove Bus Network Review 2018", Table 5, **https://www.brighton-hove.gov.uk/sites/default/files/migrated/article/inline/bus-network-review-2018.pdf**, accessed November 2020

[3] Railway Gazette (2020) "HS1 Ltd sets green targets", **https://www.railwaygazette.com/uk/hs1-ltd-sets-green-targets/57626.article**, accessed November 2020

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- Modern railways are capable of comfortably accommodating more than double the **capacity** of the highway[4] (for a fraction of the space).
- Passengers using the rail services are able to be transported to the centre of cities **without needing to have access to a car**, be qualified to drive, or find (and often pay for) a suitable location to park their car.
- Railways are the **safest** way of travelling on land)[5] and the recent safety record of railways in Great Britain has been improving and is comparable to the safest railways in Europe.

2.6   However, it is important to understand the limitations of rail compared to other modes:

- Railways are relatively **costly** to build, maintain, and operate, and this is reflected in fares that are often unaffordable for many people.
- Rail is rarely able to deliver a complete **point-to-point journey**, and its stations are not always located in places that make it easy to transfer to other modes.
- Rail is relatively inefficient, and therefore costly, in transporting small numbers of passengers over **short distances**. Railways that serve small markets typical require significant government support to survive.
- Rail is rarely a viable option for **very long-distance journeys** (e.g., from the UK to holiday destinations in southern Europe) due to long journey times and higher costs over these distances.
- Rail freight is relatively **inflexible** and expensive compared to road options, especially when carrying smaller volumes.

In summary, Rail has an important role to play in helping TfSE deliver its strategy. Rail can transport large volumes of people quickly, safely, efficiently, and in an environmentally sustainable way. That said, rail is much less competitive for short door-to-door journeys.

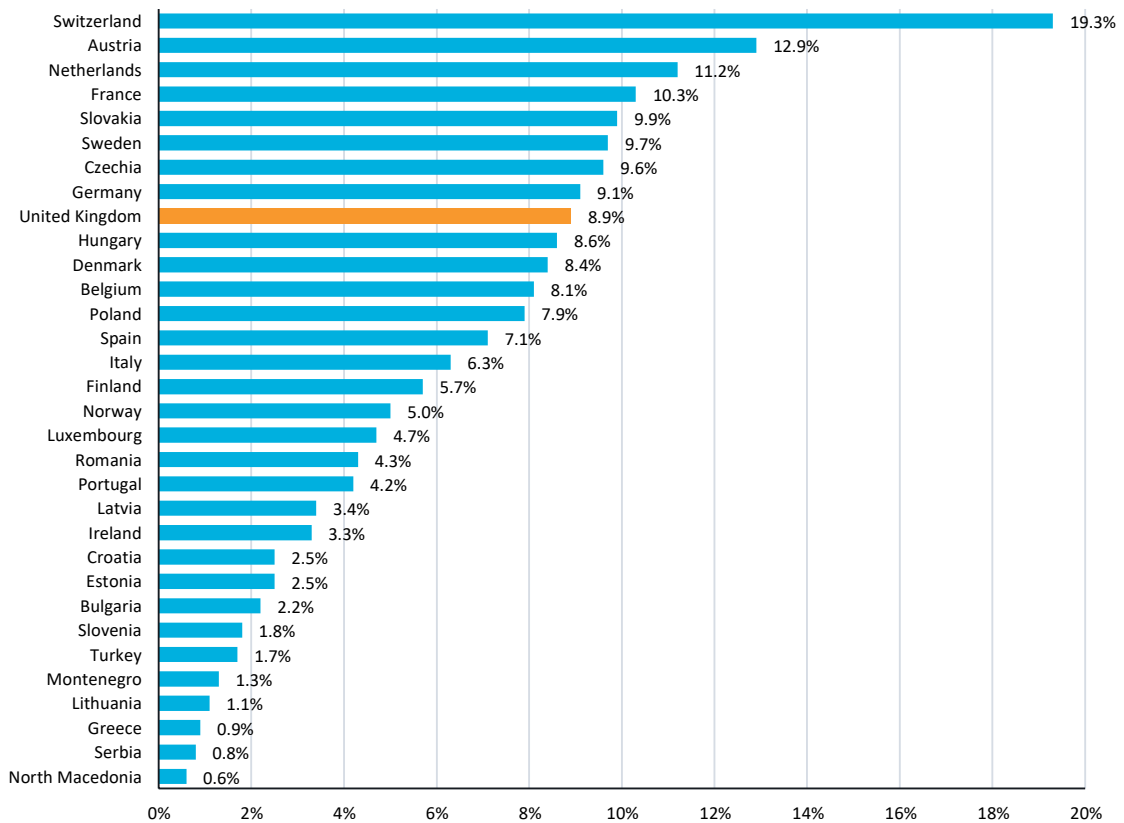## Rail Modal (Market) Share – the "size of the prize"

2.7   In line with most European countries, the railways in Great Britain have a relatively low mode share compared to highway transport. TfSE studies estimate around 4% of trips in the South East are currently undertaken by rail, while the rail modal share in the UK in 2018 was just over 9%.

2.8   The UK rail mode share is higher than many European countries, as shown in Figure 1, and exceeds the average across the European Union. However, the UK's rail mode share is lower than some European countries, including Switzerland, where rail mode share is more than twice as high as the UK. While each European country has its own characteristics, the fact that mode share is higher in countries with similar population densities to the UK suggests there is potential to grow the UK rail's mode share.

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[4] The Department for Transport's estimates HS2 will deliver additional capacity approximately equal to two, three-lane motorways (source: DfT (2013), "The Strategic Case for High Speed 2", paragraph 3.2.11, **https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/260525/strategic-case.pdf**)

[5] Technically aviation is safer on a passenger km basis: Department for Transport (2020) "Passenger casualty rates for different modes of travel (RAS53)", **https://www.gov.uk/government/statistical-data-sets/ras53-modal-comparisons**, accessed November 2020

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Figure 1: Rail mode share in European countries (2018)

Country	Percentage
Switzerland	19.3%
Austria	12.9%
Netherlands	11.2%
France	10.3%
Slovakia	9.9%
Sweden	9.7%
Czechia	9.6%
Germany	9.1%
United Kingdom	8.9%
Hungary	8.6%
Denmark	8.4%
Belgium	8.1%
Poland	7.9%
Spain	7.1%
Italy	6.3%
Finland	5.7%
Norway	5.0%
Luxembourg	4.7%
Romania	4.3%
Portugal	4.2%
Latvia	3.4%
Ireland	3.3%
Croatia	2.5%
Estonia	2.5%
Bulgaria	2.2%
Slovenia	1.8%
Turkey	1.7%
Montenegro	1.3%
Lithuania	1.1%
Greece	0.9%
Serbia	0.8%
North Macedonia	0.6%

Source: Eurostat

2.9   The government's Transport Decarbonisation Plan[6] has a key section on the role of rail transport. Rail has a critically important role to play in delivering TfSE's ambitious vision and strategy for a net-zero carbon transport system. Rail is most competitive in attracting passengers and most economically efficient when it focuses on high volume commuter and longer distance journeys.

> In summary, while rail mode share in Great Britain is higher than the European average, with the right policies and investments, it should be possible to grow this mode share towards levels seen in Switzerland, Austria, and the Netherlands.

Issues and opportunities

2.10   Through our technical work and stakeholder engagement to date, we have identified the following key issues and opportunities for the rail network in South East England:

- **Affordability**: The South East's railways need to provide batter value for money, simplify fares, and offer passengers more flexibility. This could include a more flexible part-time

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf

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season ticket offer or cheaper single leg pricing (although this could have an expensive impact on rail revenues).

- **Capacity**: Prior to the COVID-19 pandemic, over-crowding was a significant problem on some services and corridors. Other than demand-management, the remaining solutions are based on infrastructure investment, so are not cheap. There is a range of options for expanding/managing capacity on each corridor, which will be dependent on the particular constraints and opportunities on each corridor. Particular bottlenecks include:
  – Several London termini:
    - Great Western Main Line (Reading – London)
    - South Western Main Line (Woking – London)
    - Brighton Main Line (Gatwick – London)
    - South Eastern Main Line (Chislehurst – Tonbridge)
  – High Speed 1 (St Pancras International station platforms)
  – Southampton Central station and tunnels
  – Chatham Main Line (Rochester Bridge and junction).
  – Challenges with some level crossings (Totton, West Worthing, East Guldeford, Canterbury).

- **Connectivity**: Improving orbital (east – west) services and rail's offer for coastal communities would significantly improve rail connectivity in South East England and improve its competitiveness compared to the car. This is discussed in more detail below. Reduced peak demand for travel to work (especially to/from central London offers chances to create or restore more direct passenger links by train (e.g., Kent/Gatwick), as well as free up potential train paths for freight.

- **Performance and resilience**: If performance declines people feel they cannot trust rail as a mode of transport. Planned infrastructure investment at capacity bottlenecks will improve performance, but service planning and how train operators are incentivised also need to address the issue.

- **Carbon**: The high levels of electrification of the South East's railway means it is particularly well placed to make a significant contribution to the wider decarbonisation agenda. Filling the remaining, non-electrified gaps will ensure the railway can reach carbon neutrality as soon as possible, while also helping improve the cost and operational efficiency of the railway. The opportunity should be taken to generate and distribute renewable energy extensively on the Network Rail/GBR estate – especially taking account of rising electricity prices. Likewise, the railways operations, maintenance, and renewals (OMR) functions should address their own specific carbon impacts.

- **Integration**: Better integration between modes would increase demand for travel by rail, 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 Transport for the North and Solent Transport are already developing plans to improve rail integration and there are undoubtedly innovative approaches that TfSE could use to do so, alongside working with local councils to highlight the need for appropriate levels of financial support for the railway.

- **Accessibility:** While there has been good progress in improving accessibility for people with mobility impairments in recent years, significant issues remain. Accessibility in the broadest terms is a key barrier to many users. The Williams Rail Review identified this is a key challenge for the rail industry. The DfT's "Access for All" programme has unlocked some investment in some rail stations, but there is much more scope to go much further.

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- **International gateways**: Direct rail services to Heathrow Airport from the West and South would significantly improve public transport access to this key international gateway and help reduce congestion on the South West quadrant of the M25. Improved rail access to Gatwick from Kent would also relieve pressure on the road network.
- **Freight**: Rail freight has a role to play in supporting sustainable economic growth by providing a clean and efficient way of moving freight that would (likely) otherwise by transport on congested highways. Rail freight is growing [ref]; solutions need to be found that allow still more growth, including better local rail freight handling facilities and train path allocation on the network.
- **Growth**: Rail can play a significant role, through the access and connectivity it provides, to encourage inward investment, support economic growth, new development (for both housing and jobs) and regeneration.
- **Non-London markets**: Before 2020, there was less focus on markets for rail travel to destinations other than London. Carefully designed marketing campaigns and attractive fares could strengthen rail's market share, resulting in more passenger revenue and a greater contribution towards decarbonisation.
- **Devolution**: There may be opportunities to reconsider the former franchise map in light of the wider rail reform and devolution agendas. There also may be a case for managing smaller routes separately in order for focus not to be drawn away to the larger London market.
- **Technology**: Advances in technology will enable rail to fully contribute to TfSE's objectives, and many are already in use or being tested. These include contactless payment, alternative traction options (specifically hydrogen and/or battery power), new signalling systems (to increase the capacity of the network) and improved on-train Wi-Fi (making time spent on trains productive). Innovation in Mobility as a Service (MaaS) may also facilitate growth in rail demand by unlocking more 'travel blending', although there are risks that such technologies could undermine public transport and increase road congestion.

2.11 TfSE is supportive of any initiative, including the WISP, that helps address these issues and leverage the opportunities summarised above.

Connectivity challenges

2.12 Building on some of the issues outlined above, we would like to share some insights from TfSE's research into rail connectivity in the South East.

2.13 In October 2020, TfSE commissioned Steer to develop a national gravity model to identify if there are any obvious, significant gaps in the Strategic Road Network and the national rail network connecting national centres with the South East region. The results indicate that the South East's highways and rail network do have some gaps that present challenges at a regional and local level.

2.14 The analysis found there is poor rail connectivity across most of the South Coast, particularly between Southampton, Portsmouth, Chichester, Brighton, Eastbourne, and Hastings. Figure 2 below underlines the relatively low connectivity (shown as average speed between key stations) on this corridor.

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Figure 2: Average speed of passenger rail services on key South East corridors
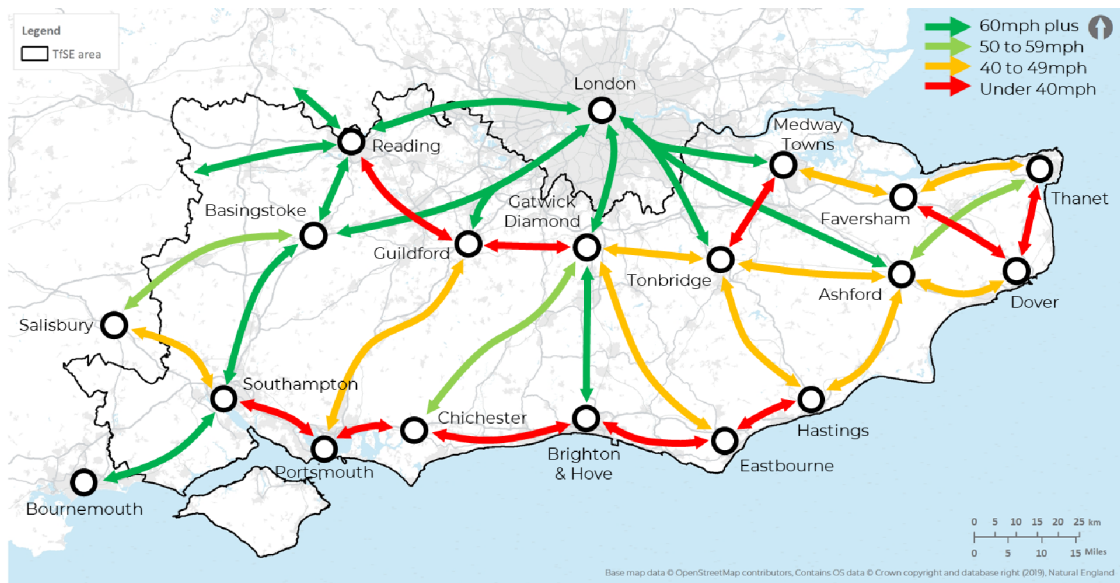
2.15 The analysis also found similar issues between Major Economic Hubs in Surrey and Berkshire often on similar corridors highlighted as having highway connectivity gaps. It also highlighted potential value in delivering improvements to rail services between: South Hampshire/Brighton and Bristol, the Midlands, and the North; and local services to Farnborough and Aldershot. In our view, this research also strengthens the strategic case for improvements along the North Downs Line corridor (Reading-Guildford-Redhill-Tonbridge).

2.16 Figure 3 and Figure 4 below highlight the key connectivity gaps within the South East and between the South East and the rest of the country, which TfSE would like to see addressed. These were identified by using a gravity model to estimate the latent demand between the South East's Major Economic Hubs and compare the quality of road and rail provision (categorised by capacity provision and the standard of highway/railway service provided) that serve the corridors with the highest "theoretical" demand. The key gaps shown below represent corridors with a modelled high demand but relatively poor highway/rail provision.

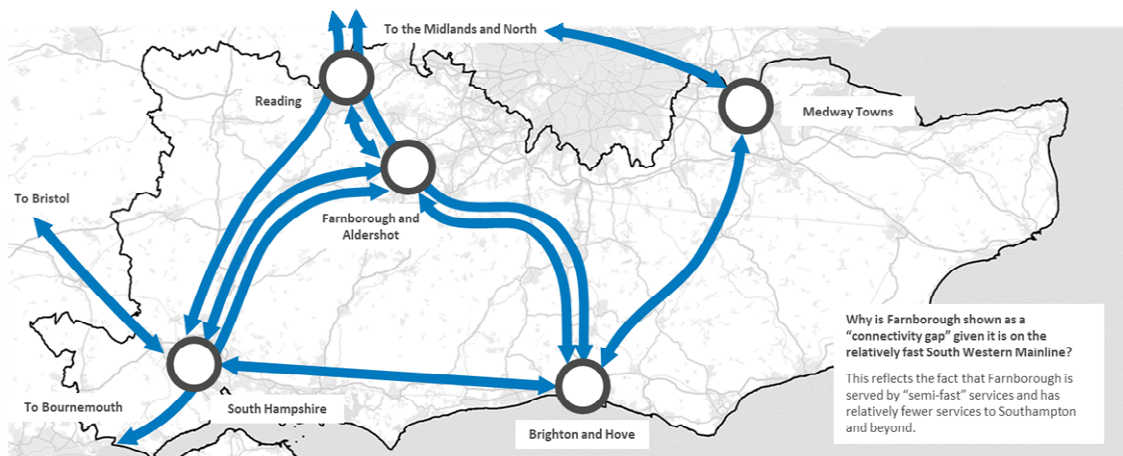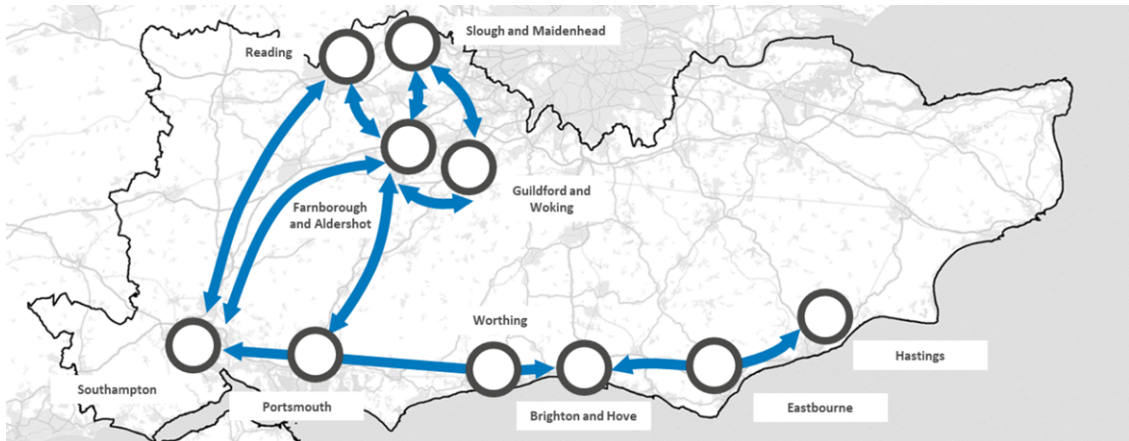**Figure 3: Connectivity gaps in South East England (regional level)**

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Figure 4: Connectivity gaps in South East England (local level)

Longer Term Trends, Scenario Planning and Uncertainty

2.17   In 2018 and 2019, TfSE worked with a wide range of partners and stakeholders to develop alternative future scenarios that describe different visions for the future economy, spatial distribution of people and jobs, and demand for travel in the South East area. This was done in the context of a "vision and validate" approach that encourages stakeholders to describe the future they wish to see, as opposed to a traditional "predict and provide approach", which extrapolates existing trends to project a future that may not be in line with stakeholder aspirations. This approach reflects best practice for long range planning and encompassing inherent uncertainty.

2.18   This was achieved by asking stakeholders to:

- identify plausible disruptions to trends that would lead to a wider spectrum of future outcomes; and
- use the insight gained to derive a preferred future which would drive the development of strategy, policy, and interventions.

2.19   As part of this exercise, TfSE worked with leading experts in transport policy and forecasting to identify the most important drivers in transport behaviour. The same group was also asked to assess the certainty of these drivers. The key drivers identified by this group are listed in **Error! R eference source not found.** below. Those drivers considered to have the highest levels of uncertainty are highlighted in bold.
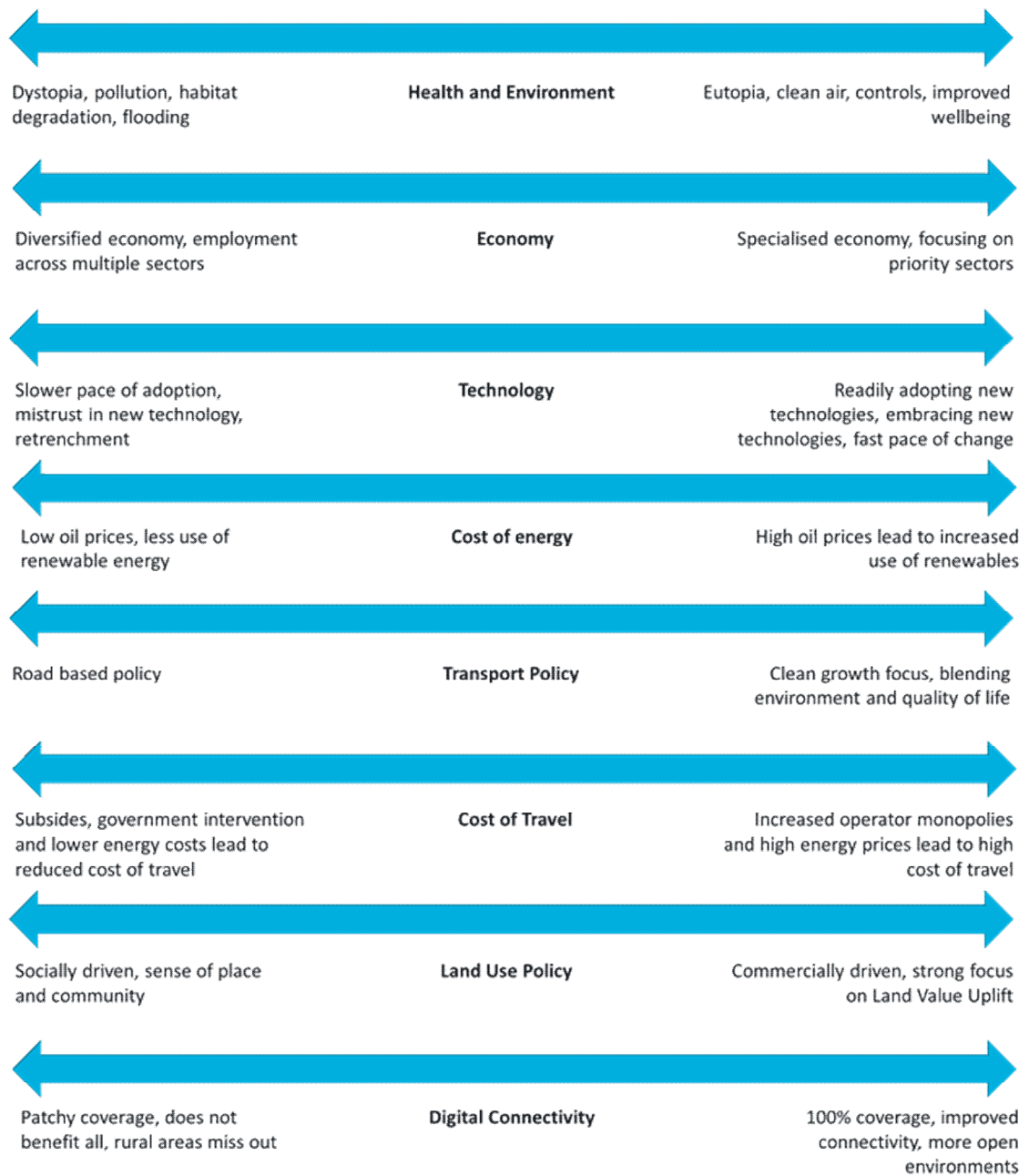
2.20   The most uncertain drivers listed above were developed further and are summarised in **Error! R eference source not found.** below:

Table 1: Key drivers identified in TfSE scenario development

Drivers with Most Uncertainty	Drivers with Less Uncertainty
Economy	Industry
Cost of travel	Relationship with London
Land use policy	Where people work
Transport policy	Where people live
Technology	Commuting
Digital connectivity	Education
Energy cost	Retail

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Drivers with Most Uncertainty	Drivers with Less Uncertainty
Health/environment	Mobility-as-a-Service
	New transport mode
	Demographics
	Socio-cultural shift
	Social inclusion
	Leisure opportunities
	Climate change

Figure 5: Uncertain drivers

Dystopia, pollution, habitat degradation, flooding — **Health and Environment** — Eutopia, clean air, controls, improved wellbeing

Diversified economy, employment across multiple sectors — **Economy** — Specialised economy, focusing on priority sectors

Slower pace of adoption, mistrust in new technology, retrenchment — **Technology** — Readily adopting new technologies, embracing new technologies, fast pace of change

Low oil prices, less use of renewable energy — **Cost of energy** — High oil prices lead to increased use of renewables

Road based policy — **Transport Policy** — Clean growth focus, blending environment and quality of life

Subsides, government intervention and lower energy costs lead to reduced cost of travel — **Cost of Travel** — Increased operator monopolies and high energy prices lead to high cost of travel

Socially driven, sense of place and community — **Land Use Policy** — Commercially driven, strong focus on Land Value Uplift

Patchy coverage, does not benefit all, rural areas miss out — **Digital Connectivity** — 100% coverage, improved connectivity, more open environments

2.21   The drivers presented above were combined to develop four hypothetical, yet plausible scenarios for the future South East economy and transport system (up to 2050):

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- London Hub – which assumed significant growth (and dominance) of London;
- Digital Future – which assumed an accelerated take up of emerging technologies;
- Our Route to Growth – which envisaged a more "self-sufficient" South East supported by stronger Major Economic Hubs; and
- Sustainable Future – which envisaged a significant shift to policies that protect and enhance the environment.

2.22   The resilience of the TfSE transport strategy to 2050 was then tested against each of the four future scenarios. Some of the interventions tested were, therefore, relatively exaggerated for scenario testing purposes and do not necessarily reflect Transport for the South East's view of their desirability or likelihood. However, these scenarios helped TfSE, and its partners define a preferred scenario for the future of the South East. This scenario, named "Sustainable Route to Growth", combined elements of the four original scenarios.

2.23   All five scenarios were modelled using a Land Use Transport Interaction Model (SEELUM – the South East Economics and Land Use Model). The results of each scenario were compared to a "Business As Usual" scenario, which projected forward central, more trend-based forecasts from government (generally based on the DfT's National Trip End Model).

2.24   A summary of the results of this exercise are presented in the Appendix and more fully in a published technical report (**accessible here**). However, the key findings from this exercise are summarised below:

- TfSE's Preferred Scenario (the Sustainable Route to Growth) generates a significant increase in trips from London to the South East area (up 47% compared to the Business as Usual scenario) as many people from outside the South East are attracted to [new?] employment opportunities within the area. Trips within the South East area and from the South East area to the rest of the country are 4% higher, which is driven by high growth in the South East's major economic hubs.
- While the number of trips is higher than in the Business as Usual scenario, many are being undertaken by sustainable modes. Bus and rail use is significantly higher (by 120% and 108% respectively compared to the Business as Usual scenario) and car trips are lower (down 9%). However, walking and cycling trips are also lower in comparison (7% less) due to the relative decline in cost of other modes.
- This scenario generates significant growth in radial trips on the rail network. However, much of this growth is in the contra-peak direction, which means it should be straightforward to accommodate this growth where there is currently spare capacity.

In summary, TfSE's Preferred Scenario for the future South East economy and transport system (the "Sustainable Route to Growth") would see a significant increase in demand for rail trips – although this would be tempered by recent impacts of the COVID-19 pandemic

2.25   TfSE's current work in preparing a Strategic Investment Plan (for consultation in 2022) will include packages of interventions that our model suggests could generated 100,000s of additional rail trips per day. We would be happy to present these results to the WISP team in more detail when our modelling is complete, towards the end of March 2022.

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3   Responses to Questions

Question 1 – Objectives

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Question 1

How would you apply these objectives to rail in your region or to your area of expertise within the transport sector? Do you have evidence you can share with us of how you have applied similar objectives in relation to rail, and do you consider the objectives to have missed any key areas?

How is it possible to make progress against a number of the objectives simultaneously? Do any of the objectives have larger barriers associated with them than others, or do any objectives pose possible barriers to others? Where would you make the trade-offs?

What long-term trends in wider society, the economy, and the environment will affect these five objectives over the next 5, 10, and 30 years? Please give evidence to support your response.

What are the key uncertainties you consider that the Strategic Plan must be resilient to in order to be effective over the next 5, 10 and 30 years?

Over the next 5, 10 and 30 years, which steps should the sector take to improve integration of rail with the wider transport system (including walking and cycling) in pursuit of these objectives?

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WISP Objectives

3.1   TfSE published its Transport Strategy for the South East in 2020. This document sets a vision for the South East, three overarching objectives (one for the economy, one for society, and one for the environment), and fifteen priorities. Many of these priorities map to the WISP objectives. This shows a high degree of alignment with the WISP objectives and our own priorities. Table 2 below presents a simple mapping of TfSE's objectives and priorities to the WISP objectives.

Table 2: TfSE Objectives and Priorities mapped to WISP Objectives

TfSE Objective	TfSE Priority	WISP Objective
Economic Improve productivity to grow our economy and better compete in the global marketplace	Improving connectivity between major economic hubs, ports, and airports.	Contributing to long term economic growth Levelling Up and Connectivity
	More reliable journeys.	
	A more resilient network.	
	Better integrated land use and transport planning.	
	A digitally smart transport network.	
Social Improve health, wellbeing, safety, and quality to life for everyone.	Promoting active travel and healthier lifestyles.	Delivering environmental sustainability
	Improving air quality.	
	An affordable, accessible transport network that's simpler to use.	Meeting customers' needs

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TfSE Objective	TfSE Priority	WISP Objective
	A more integrated transport network where it is easier to plan and pay for door-to-door journeys.	
	A safer transport network.	
Environmental Protect and enhance the South East's unique natural and historic environment.	Reducing carbon emission to net zero by 2050 at the latest.	Delivering environmental sustainability
	Reducing the impact of, and the need to, travel.	
	Protecting our natural, built, and historic environments.	
	Improving biodiversity.	
	Minimising resource and energy consumption.	

3.2 We see significant potential in applying the WISP objectives to the South East of England. There are examples in the South East where the WISP objectives are pertinent, and these are outlined for each WISP Objective below.

Complementary and competing objectives

3.3 There are many examples where the objectives set out in the Call for Evidence appear to be complementary. For example, the objective to achieve high customer satisfaction should encourage modal shift from road to rail, which, in turn, should boost revenue (improving industry finances) and enable more environmentally sustainable travel outcomes.

3.4 On the other hand, there are objectives that might work against each other. For example, reducing rail service provision might help reduce the cost of the rail industry to government in the short term, but this could be to the detriment of other objectives, including:

- **customer satisfaction** – customers will be less able to meet their travel needs if rail services are cut. This may not then be picked up through rail user surveys;
- **levelling up** – relatively isolated communities will be further isolated if rail services are cut; and
- **environmental sustainability** – cutting rail services might deter people from choosing rail over less sustainable travel options.

3.5 We have also identified several trade-offs to consider, including:

- **financial constraints** – it is difficult to see how the WISP objectives as a whole can be achieved without investing in maintaining and improving the railways, and this may conflict with the financial sustainability objectives outlined in the Call for Evidence;
- **rail network capacity** – there are trade-offs between maximising use of available capacity on the railway and the robustness of the timetable (and ease of recovery from perturbation). Likewise, there are trade-offs between how capacity is allocated in the railway, particularly between different passenger and freight markets (e.g., the NR South East Route needs to balance demand from its London and Kent/Surrey/Sussex passenger markets, while also providing enough paths for freight traffic);
- **competition with other transport models (e.g., active travel and bus)** – there is a risk that significantly improving rail in the absence of improving active travel infrastructure will result in modal shift from cycling/walking to rail (which is a less sustainable change

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than from car to rail), and/or could dilute revenues that support local bus services (rendering these services less financially viable); and

- **levelling up and climate change** – stimulating investment and growth in less prosperous areas is a laudable aim, but it will inevitably stimulate economic activity that might generate higher carbon emissions.

3.6   If TfSE were asked to take a position on any of the trade-offs listed above, we would choose the following:

- **financial constraints** – support increased investment in the rail industry (particularly invest-to-save), acknowledging the rail industry's finances will remain stressed in the short term;
- **rail network capacity** – adopt a position driven by the context of each capacity constraint, while acknowledging rail is generally better suited to serve middle/longer distance journeys;
- **competition with active travel** – prefer to see both rail and active travel mode share grow, noting there is evidence that growing one can feed the other[7]; and
- **levelling up and net-zero carbon emissions** – seek to address this by actively mitigating carbon impacts that arise through Levelling Up investment, including through Central Government support for policies that accelerate decarbonisation across the whole country.

Question 2 – Passenger Expectations and Freight

> **Question 2**
>
> *Passenger: how will rail passenger expectations, including accessibility requirements, evolve over the coming 5, 10 and 30 years, what will be the driving causes of these changing expectations, and how can they be most effectively met by the rail sector?*
>
> *Passenger: in your experience, how can we most effectively monitor and assess customer satisfaction? What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years? What evidence can you share to support your view?*
>
> *Freight: what evidence can you provide regarding the advantage(s) of transporting goods by rail and what evidence can you share for how that could develop in the next 5, 10 and 30 years? What do you consider to be the most effective role for rail freight in the existing supply chains served and those that it doesn't? How could this change over that period? In answering, please explain and take account of likely developments in technology and in the wider economy.*
>
> *What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years? What are the interventions over that period which will be the maximum value for money, and what evidence can you share to support your claim?*

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[7] Jappinen, Toivonen, and Salonen (2013) "Modelling the potential effect of shared bicycles on public transport travel times in Greater Helsinki: An open data approach" **https://www.sciencedirect.com/science/article/pii/S014362281300132X**, accessed December 2021.

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Stakeholder needs

3.7 TfSE has not commissioned research into rail passenger expectations *per se*, but we have consulted widely with stakeholders in the South East to understand their needs and aspirations for the railway.

3.8 Our research has found that stakeholders in the South East wish to see, for example:

- Decarbonisation of the whole transport system (including rail electrification).
- Significant improvements to urban mass transit systems, which in the Solent Area could include a heavy rail metro service offer.
- Significant improvements in east – west rail/Cross County connectivity (improvements to journey times and frequency).
- More rail capacity on routes where the current railway is unable accommodate the needs of long distance passenger, local passenger, and rail freight customers.
- Improvements to the Marshlink railway to enable local stakeholders in East Sussex and Kent to realise future aspirations for this railway.
- Better value for money / lower rail fares.
- A more accessible rail network, especially for those with mobility challenges.
- More integrated fares, ticketing, and information on the rail network.
- A more resilient railway (which could include a second London – Brighton route in the longer term).
- More 24/7 services, particularly at airports and major towns and cities.
- Faster services for the more isolated communities, particularly those on the coast.
- Improvements to connections to airports (e.g., Heathrow western and southern rail access projects, Kent-Gatwick).

Future passenger needs

3.9 TfSE has developed a **Future Mobility strategy** that explored how customer characteristics and needs might evolve in the coming decade. These changes include:

- **Age** – the young and the old are less likely to have access to cars and rely on public transport. The younger generations are more engaged with innovations leaving older generations behind.
- **Background** (ethnicity, religion, culture, race, ethnicity, language) – cultural needs and differences are often overlooked when considering transport interventions and services, language can also be a barrier to behavioural change and safety and security is a key consideration for many ethnic minorities.
- **Gender and sexuality** – some people are more affected by personal security issues when travelling than others, leading to fear of travel at certain times or in certain locations. Technology is also often designed from a male perspective.
- **Disability** – people with physical and hidden disabilities are underserved by mobility with infrastructure required above minimum standards.
- **Life-stage** – users of transport and mobility options can have different accessibility needs depending on their stage of life. Families with children will require greater access to education establishments but also may require more space in vehicles to allow for prams or buggies. Retired people may have more flexibility in when they travel than those in work, but they may be less able to use active modes and have specific accessibility needs.

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- **Employment status** – mobility affects employment status through proximity and ease of access to workplaces. While the ability to work remotely or from home affects the need for travel.
- **Affluence** – affordability of different transport modes strongly influences choices and where choice is limited users may be forced to use less affordable modes. In rural areas, people spend higher proportions of income on travel due to the reliance on private car use and ownership.
- **Household make-up** – Household make-up can impact transport requirements and choices. A car shared across multiple household residents may be more affordable than for a single occupancy household. However, travel as a large household by publicly-available modes can be more expensive.
- **Access to banking** – there remains a significant proportion of the population that do not have bank accounts and make payments only with cash. This can limit access to modern payment systems

3.10 The Future Mobility Strategy developed four "bundles" of future mobility interventions that could be applied to four different typologies of places: Major Economic Hubs, Urban Settlements, Rural Settlements, and Remote Rural areas. Further detail is provided in the published report[8].

Freight

3.11 South East England is home to some of the busiest ports and airports in the UK – including the Channel Tunnel and Channel Ports. TfSE is supportive of investment in interventions that improve connectivity between our key international gateways and the rest of the country.

3.12 Historically, freight has been heavily reliant on road transport. TfSE is keen to promote greater use of rail. Some ports have been successful in this regard, such as the Port of Southampton, which reportedly enjoys a rail mode share of around 40%[9] and the port's masterplan[10] has ambitions to increase this percentage as the port grows.

3.13 TfSE is publishing a freight, logistics and international gateways strategy to identify what investment is needed to better connect our region's ports, airports, and international rail links, supporting sustainable economic growth here in the South East and across the UK.

3.14 To drive this work forward, we created a steering group and a wider industry forum bringing together partners from across the freight and logistics sector, local authorities, national agencies, and transport bodies. Together, they have provided the energy, enthusiasm and investment needed to accelerate our journey towards a better connected, more productive, and more sustainable future.

3.15 Work on this started in early 2021 and our new draft Freight Strategy and Action Plan is due to be considered for acceptance and publication by TfSE's Partnership Board on 24 January 2022. The strategy is providing inputs into both our area studies and our Strategic Investment Plan (SIP) for the South East. A draft SIP is due for publication for consultation in summer 2022. We

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[8] TfSE "Future Mobility Strategy" (2021) **https://transportforthesoutheast.org.uk/app/uploads/2021/07/Future-mobility-strategy-Final-report.pdf**, accessed December 2021.

[9] Figure provided by the Port of Southampton at a TfSE Stakeholder event

[10]
https://www.southamptonvts.co.uk/admin/content/files/New%20capital%20projects/Master%20Plan%202016/Master%20Plan%202016%20-%202035%20Consultation%20Document%20Oct%202016.pdf

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would be delighted to share our evidence base, insights, and recommendations from our freight studies with GBRTT and Network Rail.

3.16   Whilst our draft SIP is still under development at present, we expect to see TfSE's wider rail freight ambitions (in the TfSE Freight Strategy) taken on board and at least the following rail freight interventions included:

- Improvements in gauge clearances between the Channel Ports and South and West London and on non-HS1 routes serving the Channel Tunnel
- Access for freight trains to the expanding Southampton Port near Fawley, along with expansion of existing rail freight facilities there
- Continued improvements for rail freight movements between Southampton and the Midlands
- Improved facilities at the Port of Newhaven to support rail access
- Decarbonisation of freight traction
- Investment in Freight Consolidation Centres with access to the rail network
- Partnering on potential pilot rail freight innovations (such as express parcels delivery, alternative fuels).

Customer satisfaction

3.17   Customer satisfaction, as measured by the most recent pre-pandemic National Rail Passenger Survey, is lower for two of the three largest operators in South East England when compared to the benchmarked score for similar operators (the "London and South East" group of operators). The key indicators where South East operators perform below the national average are listed in Table 3 and Table 4 below. Great Western Railway and Cross Country are not shown as most of the responses to surveys on their performance will have come from passengers outside the South East.

Table 3: NRPS Results for largest South East franchised operators[11]

Measure	South Western	Southern	Southeastern	Benchmark
Overall journey satisfaction	75	79	83	82
Overall station satisfaction	75	80	81	80
Overall train satisfaction	73	75	80	78

Table 4: Poorly performing NRPS indicators

Operator	Indicator	Performance	Benchmark
South Western Railway	Provision of information	79	84
	Upkeep and repair of train	65	75
	Station cleanliness	70	76
	Toilet facilities at stations	44	50
	Helpfulness of staff at stations	73	78

[11] Transport Focus (2020) "National Rail Passenger Survey Spring 2020" **https://www.transpo64rtfocus.org.uk/publication/national-rail-passenger-survey-nrps-spring-2020-main-report/**, accessed December 2021

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Operator	Indicator	Performance	Benchmark
	Station environment	68	75
	Availability of staff at stations	67	70
	Shelter facilities at stations	68	71
	Availability of seating at stations	40	53
	Availability of wi-fi at stations	30	37
	Train punctuality/reliability	64	74
	Journey time	76	82
	Connections with other services	74	77
	Value for money	37	44
	Upkeep and repair of train	71	75
	Provision of information on train	72	76
	Toilet facilities on train	29	44
	Gap between train and platform	55	64
	Train cleanliness (inside)	71	76
	Train cleanliness (outside)	68	72
	Dealing with delays	33	37
	Information about delays	37	44
	Internet connection	27	35
Southern	Upkeep and repair of station	69	72
	Cleanliness	73	76
	Bike parking facilities	56	60
	Value for money	42	45
	Upkeep and repair of train	64	75
	Space for luggage	47	58
	Toilet facilities on train	38	44
	Comfort of seats	60	64
	Gap between train/platform	58	64
	Personal security	70	74
	Train cleanliness (inside)	64	76
	Train cleanliness (outside)	64	72
	Availability of power sockets	25	38
Southeastern	Ticket buying facilities	73	79
	Bike parking facilities	53	60
	Personal security at station	69	72
	Value for money	39	45

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Operator	Indicator	Performance	Benchmark
	Personal security on train	71	74
	Train cleanliness (outside)	67	72
	Availability of power sockets	25	38

3.18   TfSE is supportive of any measures that improve customer satisfaction, particularly for those indicators listed above.

3.19   Beyond the measures typically included in the NRPS, TfSE would also support measures to:

- improve the accessibility of the rail network and passenger rail services;
- reduce the complexity and perceived poor value for money of rail tickets – a common Pay As You Go zoning for the South East is being developed and is supported by TfSE
- Improving the resilience of the rail network and how it operates, including in the face of climate change. This is especially important to business (whether in terms of passenger or freight use), where certainty is valued more than speed. GBR must realistically consider the intensiveness of use that rail infrastructure is expected to support; and
- enhance integration within between rail and other modes of transport – there are many examples in the South East of poor integration between rail services and infrastructure that TfSE would like to see addressed.

Integration

3.20   Public transport information and ticketing arrangements are not sufficiently coordinated nor adequately integrated, particularly across transport modes. Parts of the South East are included in the London Travelcard area and are included in Transport for London's contactless travel arrangements. However, outside the London area more generally, 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., centred on Solent and/or the Sussex Coast conurbations); and
- Integrated, multi modal payment systems.

3.21   All this 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 multimodal planning apps although this is a fast-developing area of interest, and third parties may provide solutions soon.

3.22   Additionally, there are several examples of poor physical integration in transport hubs. For example, Canterbury is served by two rail stations and a bus station, which are all located over half a mile apart from each other in and around the City Centre.

3.23   The railway must take account of the aims, policies, and strategies of the region's local transport authorities, particularly looking at Bus Service Improvement Plans (BSIPs) and Local Cycling and Walking Infrastructure Plans, so as to integrate railway activity as much as possible with them – for mutual benefit.

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Question 3 – Financial Sustainability

> *Question 3*
>
> *Where are the most significant opportunities and barriers to delivering financial sustainability in the rail sector over 5, 10, and 30 years and how do we achieve/overcome them? How can we most effectively monitor and assess this? What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years? What are the interventions over that period which will be the maximum value for money?*

Context

3.24   We approach this question by first defining our understanding of what is meant by "financial sustainability". The WISP objectives suggest there are three key elements:

- increasing income/revenue;
- reducing cost/subsidy to government/taxpayers; and
- achieving high levels of efficiency.

3.25   Before addressing each of these themes, it is helpful to consider the financial position of the GB rail industry pre-pandemic (2019/20). This is outlined in Table 5 below.

Table 5: Pre-pandemic GB rail industry finances (2019/20)

Income (£bn)		Expenditure	
Passenger Revenue:	11.6	Franchised Operators	10.6
		• Staff	3.6
		• Diesel fuel	0.2
		• Rolling stock	2.9
		• Network Rail charges	2.8
		• Other costs (less industry costs)	1.1
Government Support	6.5	Network Rail	8.4
		• Operating costs	2.1
		• Maintenance	1.7
		• Renewals	2.9
		• Financing costs	2.1
		• Other costs (less industry costs)	(0.4)
Other Income	2.0	Other Costs	1.1
Total	**20.1**	**Total Costs**	**20.2**

Source: ORR[12]

3.26   This shows that, in 2019/20, the total cost of the GB rail industry was £20.2bn. In the same financial year, the Government provided a contribution of £6.5bn, representing a cost recovery of 68%. As we will explain in the following section, this is one of the highest – if not the highest – levels of cost recovery in Europe[13]. This suggests the financial position of the GB rail industry prior to the pandemic was relatively strong compared to comparator railways.

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[12] Office of Rail and Road (2020) "Rail Industry Finance (UK)", **https://dataportal.orr.gov.uk/media/1889/rail-industry-finance-uk-statistical-release-2019-20.pdf**, accessed December 2021

[13] European Commission (2021) "Rail Market Monitoring", **https://transport.ec.europa.eu/transport-modes/rail/market/rail-market-monitoring-rmms_en**, accessed January 2022 – Figure 35 in the spreadsheet titled "2021-7th-rmms-report-package-data-

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Benchmarking

3.27   In 2015 the European Commission published a report on the "Cost and Contribution of the Rail Sector"[14], which included a benchmarking exercise of all EU member state rail networks. While much of the data informing this study is now quite old, it does provide helpful insights about the relative performance of the UK[15] rail network compared to its peers.

3.28   This report shows that, at the time this study was undertaken:

- the UK rail network's operating costs were just below the average for the EU on a train km basis;
- the UK rail network had the third highest revenue yield in the EU on a passenger km basis; and
- freight utilisation was significantly below the EU average (and, as the report later argues, the UK's potential).

Financial sustainability

3.29   We recognise the rail industry is facing significant financial pressures. These are partly driven by the pandemic, but also reflect longer term pre-pandemic trends and pressures, such as a decline in 5-day working/commuting and competition from new mobility entrants (such as ride sharing businesses).

3.30   As the rail industry has high fixed and relatively low marginal costs, we believe growing rail's patronage and market/modal share is the best way of strengthening the industry's financial sustainability – at least in the short term.

3.31   In contrast, we do not believe implementing significant cuts in rail services will enable the industry to stabilise its finances, as doing so will merely drive people away from the railway, resulting in lower revenues. That said, we consider there may be scope for rationalising timetables on busier corridors (e.g., Brighton Main Line).

3.32   We are also mindful that the rail industry appears to be shifting from a customer that previously had low elasticity (i.e., London commuters with little alternative other than train to reach Central London) to those with higher elasticity (e.g., leisure travellers, or anybody who might substitute a rail journey with a digital experience). The rail industry therefore needs to become significantly more focussed on customers and their needs so that revenue levels can be stabilised and grown.

3.33   We believe there are opportunities South East's rail network where modest investment could unlock material cost savings. For example, by electrifying the remaining (unelectrified) parts of the South East Route's network, services that are currently operated by a small diesel fleet based in Selhurst could be replaced by electric rolling stock based in Brighton (and efficiently interworked with the rest of the Southern fleet). The same principle applies for the non-electrified sections of the North Downs line and for Reading-Basingstoke.

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and-figures.xlsx, which is accessible from this page, shows the level of cost recovery by public service contract and commercial fares for each EU member state, as well as Norway and the UK

[14] European Commission (2015) "Study on the Cost and Contribution of the Rail Sector" **https://transport.ec.europa.eu/system/files/2016-09/2015-09-study-on-the-cost-and-contribution-of-the-rail-sector.pdf** accessed December 2021

[15] This study includes data from Northern Ireland as well as Great Britain.

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Income

3.34   Clearly, the pandemic has materially challenged the rail industry's finances. At the time of writing, revenues had not yet recovered to 70% of pre-pandemic levels, while costs have not reduced in line with revenues.

3.35   TfSE therefore believes the fastest route to recovery must be through **attracting back old customers and generating new customers**. TfSE's Strategic Investment Plan will include several packages of interventions that are designed to attract many more people to rail (in Kent alone, demand would grow by 20% compared to business as usual) – but these are longer term interventions. In the short term, interventions[16] that might help stimulate demand could include:

- Greater use of yield management to stimulate off peak demand;
- More flexible season tickets that are aligned to hybrid working patterns (more working from home, less commuting);
- Marketing campaigns targeting the leisure sector; and
- Marketing campaigns highlighting the environmental credentials of the railway (especially low carbon).

3.36   Another route to growing revenue might be to **increase fares in real terms** – particularly on journeys that have been demonstrated as "inelastic" i.e., less price sensitive. However, **TfSE does not support a material increase in regulated fares**. This risks deterring people from using the railway and incentivising them to use alternative modes of transport, which are more likely to be car and air than walk or cycle. There is also a fundamental question of equity and fairness and a desire, on our part, at least, to ensure the railway is accessible to all.

3.37   There may also be opportunities for increasing income from **other sources**. For capital projects, this could include some form of developer contribution and/or land value capture. For operational costs, this could include other revenue generating activities at stations and on board rail services (other bundling opportunities with other pre and post journey stages may also be lucrative). TfSE is supportive of developing well connected rail stations as **strategic mobility hubs**, which would bring other services (transport and other economic functions) closer to the railway and may offer routes for additional income (e.g. retail, parking, freight).

Costs

3.38   The cost figures presented above are for the whole of Great Britain, which includes remote parts of the country where the economics of rail are fundamentally different to the South East. It is challenging (and probably unhelpful) to segregate costs between elements of the passenger rail network that serve the TfSE area and elements that serve the rest of Great Britain (particularly as many services in the South East also serve London). That said, ORR analysis suggests (pre pandemic) London and South East operators required less government support than regional operators, but more than long distance high speed operators. There appears to be a general trend whereby high density, long distance services are more likely to be "financially sustainable" than sparser and/or shorter distance journeys.

3.39   Given the current cost structure of the GB rail industry, TfSE considers that there is relatively limited scope to reduce the operating costs of the railway, at least in the short term. However,

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[16] TfSE acknowledges many of these interventions are being delivered (or have been delivered recently).

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looking at the highest cost elements, one could consider the following options for generating some savings (or at least controlling costs) in the medium to longer term:

- **Staff** – increased automation and new ways of delivering customer service and a more visible staff presence could provide ways of controlling costs, protecting, and enhancing rail revenues, and delivering better service (automation is likely to be easier to deliver through signalling, control, engineering etc rather than front line roles)
- **Diesel fuel** – all diesel operations should be eliminated and replaced with (cheaper) electricity traction
- **Rolling stock** – this could be more standardised and modularised to enable more flexible deployment, easier driver training, simpler parts/maintenance regimes etc.
- **Network Rail Costs** – this is largely driven by Operations, Maintenance, and Renewals, which is a complex area of engineering and not one TfSE is well placed to comment on in any detail. There is a growing importance for those engineering activities to become more decarbonised. Attention should be given to using parts of the GBR/Network Rail estate for generation (and distribution) of clean energy for the railway (e.g., installation of photovoltaic panels at stations to provide clean, renewable power, to reduce reliance on potentially more expensive power from the grid).
- **Complexity of rail sector interfaces –** the new industry structure should reduce the number of cross-company interfaces around the rail sector. GBR will bring in-house a range of railway functions; the end of franchising will allow GBR to provide more of a common approach across different parts of the railway, including possible reductions in service operating costs by taking on the revenue risk from the new Passenger Service Contracts.
- **Other costs** – the new GBR model should enable the pooling of several functions that are replicated at a small scale across the industry (e.g., customer contact centres, websites, compensation processes, lost property offices, booking systems). Also, many stakeholders in the South East would like to see the access charge for HS1 services significantly reduced when the current concession ends.

Efficiency

3.40 To discuss how the GB rail industry might improve its efficiency, it is helpful first to define what "efficiency" means for the operational railway. We suggest there are two primary metrics, which describe the deployment of assets, that might help shape this discussion:

- track utilisation – how many services use a section of the railway with a given capacity; and
- train utilisation – how many passengers use a given train (essentially seat occupancy), taking account of total seats available.

3.41 According to the European Commission benchmarking study cited above, at the time that study was undertaken, the UK had:

- the 2nd highest level of track utilisation (which, incidentally, contributed to weaker operating performance – sweating infrastructure assets having a negative impact on service resilience and timetable recovery); and
- slightly better than average train utilisation.

3.42 Figure 6 shows how the UK performed in this study compared to its European peers.

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Figure 6: Track utilisation and train utilisation in European countries (2015 study) – UK circled in red
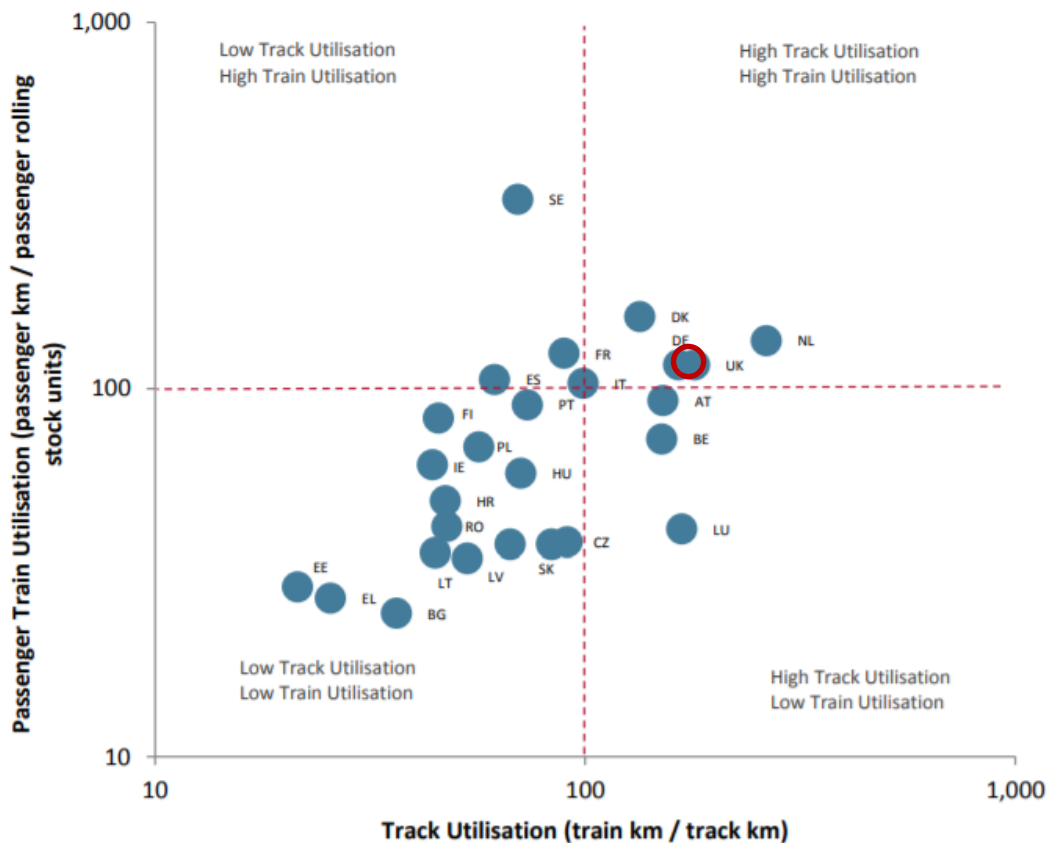
3.43   In summary, the UK is using its track assets efficiently, but there may be scope for deploying its rolling stock more efficiently. We suspect this trend is even more pronounced in the South East due to the "peakiness" of pre-Pandemic passenger demand, the weak counterflow observed in this area, and the much smaller longer distance market (and therefore much less revenue yield).

3.44   It is not clear how the South East can better utilise its rolling stock without reducing service levels. This is increasingly challenging as new trains tend to be walk-through integrated units that cannot be split or joined in service. However, there may be a case for considering:

- **Greater use of yield management** in fares to smooth demand throughout the day, whilst not making the rail fares regime more complicated.
- **Rationalising services on the Brighton Main Line** by (for example) merging the Gatwick Express service and conventional services.
- **Optimising the balance between direct or trunk-and-feeder operation around the customer –** some parts of the network will operate more efficiently on a trunk-and-feeder basis (as on the GW Main Line). On other corridors, it may be more feasible/desirable to provide new links (particularly linking places outside central London) if line capacity can become available through careful service pattern review and rationalisation.
- **Electrifying remaining "islands" of diesel operation** and replacing the diesel fleet with a more standardised electric rolling stock platform.
- **Focussing "expensive" rolling stock on high speed, high density flows** by, say, limiting the extent to which the Cl.395 fleet works off the HS1 network.

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- **Increasing the speed of services** by, say, reviewing Section Running Times on parts of the network that serve high density flows. Reducing journey times can reduce fleet size, staff costs, and a host of other cost drivers.
- **Reducing dwell times**, particularly on "stopping" services, by adopted rolling stock fleets with wider doors – a key need for the replacement for the Kent Networker fleet.

Targets and Initiatives

3.45   TfSE wishes to see revenues recover but acknowledges it will be challenging to reach pre pandemic levels in the shorter term. The long-standing trend of decline in 5-day commuting suggests the South East's railways will need to find new customers (and journey purposes) to replace those who no longer commute full-time.

3.46   In the longer term, TfSE sees significant opportunity for revenue growth through modal shift and stimulating demand through investment. Our Strategic Investment Plan is likely to include the following packages of interventions, which are designed to attract more people to rail:

- **A turn up and go metro service** in the Solent conurbation, supported by two world class mass transit systems.
- **Significantly enhanced east-west rail services** (e.g., Ashford – Gatwick, Brighton – Southampton – Exeter, Southampton – Reading – Heathrow/Old Oak Common, Brighton/Portsmouth – Reading – North of England).
- **Faster London/radial rail services for coastal/less prosperous areas,** particularly those in North Kent, East Kent, and East Sussex.
- **Better Strategic Mobility Hubs**, particularly at major rail junctions and at other multimodal interchanges.
- **Reinstated railways** in East Sussex and the Isle of Wight, (as part of the Restoring Your Railway programme) enabling direct journeys such as Brighton – Uckfield – Tunbridge Wells by rail.
- **Extended railways to support housing growth**, including new passenger services on freight-only branch lines at Fawley and the Hoo Peninsula, and new stations (in various locations).
- **Better access to international gateways** including Heathrow, Gatwick, Ebbsfleet international, and the expanding Port of Southampton (for freight, but also to serve future growth in the cruise liner market).

3.47   Modelling undertaken for the development of the Transport Strategy suggests there could be scope to double rail patronage on some routes in the South East, although this will require investment in capacity to achieve.

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Question 4 – Economic Growth

Question 4

As Britain recovers from the effects of the COVID-19 pandemic, what evidence do you have for how rail can contribute to wider economic growth over the next 5, 10, and 30 years? What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years? What type of interventions over that period will provide maximum value for money from rail's economic contribution, and what evidence can you share to support your views?

In the context of enabling development and regeneration opportunities both in the immediate vicinity of stations and within the surrounding area, how can rail best facilitate improvements to places and local growth, through improved connectivity and unlocking commercial activity, housing, and employment over the next 5, 10 and 30 years?

What innovative and modernising ideas do you have which would benefit the railway while supporting the strategic objectives? Please give evidence and make reference to how they would maintain or enhance the railway's safety record.

Economic growth

3.48 Along with the rest of the country, the COVID-19 pandemic has hit the South East hard. Crawley in West Sussex had the highest portion its workforce on furlough in the country at the height of the first wave of the pandemic (see Figure 7 below). The aviation sector has been particularly affected and will likely take many years to recover to pre-pandemic strength. TfSE is therefore supportive of interventions that target areas that have been hardest hit by the pandemic (hence our support for a Package of Interventions on the Brighton Main Line).

Figure 7: Percentage of workforce on furlough at peak of first wave of the COVID-19 pandemic (2020)
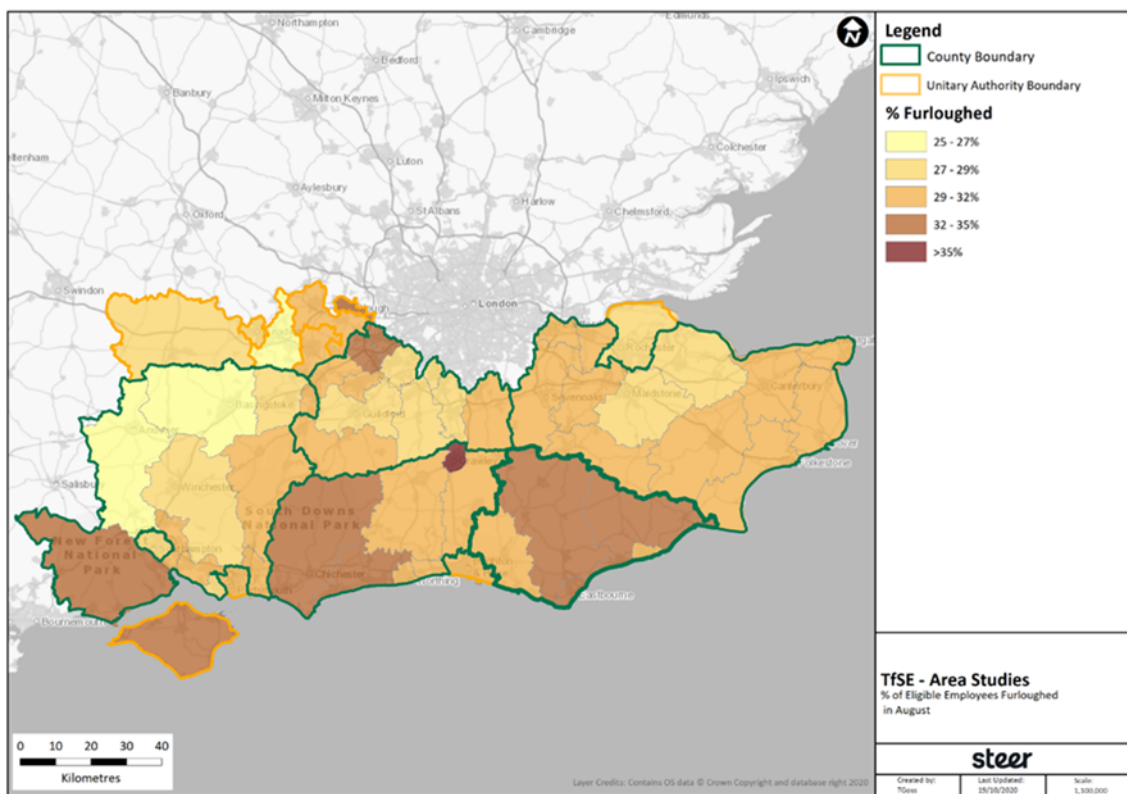
3.49   TfSE's Strategic Investment Plan will include several packages of rail based interventions, that will help boost the South East's economy. We have undertaken detailed modelling of these packages in our Land Use Transport Interaction Model. Together, the railway interventions that we have modelled have the potential to boost the South East's economy (measured as Gross Value Added) by over £1bn per annum (by 2050). Our modelling work is still ongoing, but we would be delighted to share our results with GBRTT when this work is complete.

3.50   TfSE has modelled the impacts of our proposed packages of interventions on the South East's economy using a Land Use Transport Interaction Model. The early results of this modelling indicate that targeted investments in the rail network have the potential to unlock over £1bn in Gross Value Added (per annum) to the wider South East's economy.

3.51   TfSE is particularly interested in the opportunities to improve connectivity on the South East's "orbital" and "coastal" rail services, which have received significantly less investment than London services in recent years.

3.52   We are also supportive of investment that enhances access to the South East's key ports (including Channel Ports and Southampton) and airports (including Heathrow and Gatwick). We see significant opportunity for high rail freight mode share between the South East's ports and the rest of the UK.

Enabling development

3.53   We believe there are opportunities to develop the railway network in a way that unlocks new development (both for housing and jobs) regeneration opportunities. The initiatives and listed in paragraph 3.46 above would all be important opportunities to support new development. GBR will need to be agile in its ability to respond to opportunities that may arise from new development proposals and from proposals for new spatial allocations in local planning authorities' development plans. Some enabling transport infrastructure may be required to release areas of land for development and GBR need to be alive to those cases too.

Innovation, modernisation, and safety

3.54   TfSE is supportive of the Rail Technical Strategy and the long term ambitions of the Digital Rail Programme to deliver innovative schemes that improve the performance and efficiency of the railway. In particular, we support innovations in traction that work towards the decarbonisation of the rail industry – notably for freight, which is not well suited to the largely third rail traction provided in the TfSE area. Local partners in our area are actively developing hydrogen solutions for bus and road freight – including a hydrogen hub for Newhaven, which will serve Brighton buses. Opportunities such as this could be coordinated with the railway to provide lower carbon rail solutions too.

3.55   TfSE would like to see innovative tools rolled out that have been delivered outside our area. This includes widespread contactless and Pay As You Go payment systems, as well as state-of-the-art communications and information systems that help rail users, but also provide integration with local bus networks, provision of bike/e-bike hire and other elements of joined-up MaaS (or similar) products. We support efforts to make operational and timetable data widely available for third parties to enable developers to create new services and products that benefit rail passengers.

3.56   TfSE is interested in exploring innovative approaches to the procurement and delivery of interventions in the South East, including scope for using land value capture to reduce reliance on Central Government funding.

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3.57   With respect to safety – TfSE strongly supports the removal of level crossings that intersect busy roads. For example, the Strategic Road Network between Hastings and Ashford has two level crossings. There are also crossings in busy town centres at Reigate, Totton, Cosham, and West Worthing.

Targets

3.58   The TfSE Transport Strategy for the South East identifies 5 Objectives and 11 Key Performance Indicators (KPIs) that support the WISP Economic objectives. These are shown in Table 6.

Table 6: TfSE Transport Strategy for the South East Economic Objectives and KPIs

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

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Question 5 – Levelling Up

Question 5

What evidence can you provide for how the rail sector contributes to the four levelling up outcomes and to improving connectivity in across Great Britain, including through cross-border services? How does this change depending on the type of place where the sector operates (including in cities, towns and rural areas), and what are the most cost-effective ways at the sector's disposal to improve that further during the next 5, 10, and 30 years?

How could the rail industry, over the next 5, 10, and 30 years, become more responsive to, and more accountable to, local communities and passengers? Please give evidence and examples in your response.

What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years? What are the interventions over that period which will be the maximum value for money, and what evidence can you share to support your views?

Levelling Up

3.59   The UK Government's "Levelling Up" advisor, Neil O'Brien MP, has stated that Levelling Up means[17]:

- Empowering local leaders & communities;
- Growing the private sector & boosting living standards, particularly where they're lower;
- Spreading opportunity & improving public services, particularly where they're lacking; and
- Restoring local pride.

3.60   For TfSE, Levelling Up is about improving socioeconomic outcomes for communities that have much lower levels of prosperity than nearby communities. TfSE believes there is a relationship between prosperity and transport connectivity, but acknowledges transport is one of many drivers of weak socioeconomic outcomes.

3.61   Figure 8 below shows the areas of the South East with the highest levels of deprivation, along with an overlay of journey times to London. While there are some deprived areas of the South East with good connectivity to London (such as Slough and North West Kent), most of the more deprived areas are poorly connected to the Capital. For many areas, this also means they are poorly connected to the rest of the country, as geography dictates that, in order to reach the rest of the UK, it is necessary to go through (or round) London.

3.62   TfSE is strongly supportive of interventions that improve rail connectivity to less prosperous areas of the South East. Our Strategic Investment Plan is expected to include interventions, such as extending HS1 services to Hastings and Bexhill as a means of promoting regeneration and growth in one of the most deprived parts of the South East.

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[17] The Business Desk (2021) "Gove leaves Government's levelling-up vision waiting on spending announcements" **https://www.thebusinessdesk.com/news/1038728-gove-leaves-governments-levelling-up-ambitions-waiting-for-spending-announcements/** accessed January 2022

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Figure 8: Deprivation and transport connectivity in South East England (2020)[18]
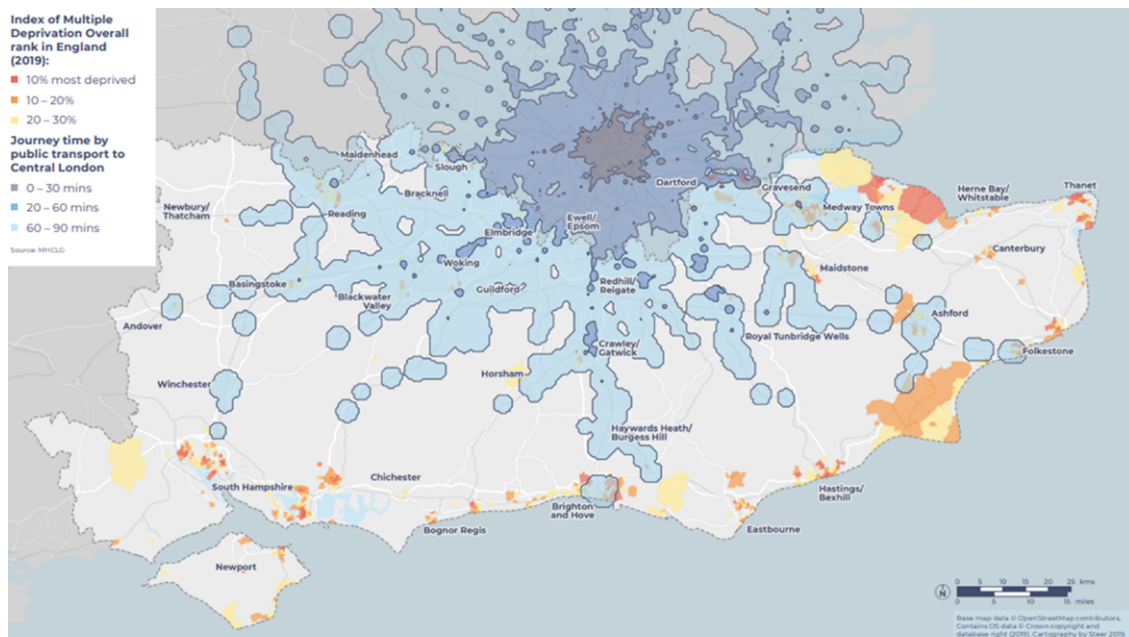
3.63 TfSE is developing a series of packages of interventions designed to boost the connectivity of the rail network in less prosperous areas. These packages, which will be set out in our Strategic Investment Plan, are likely to include:

- extending High Speed passenger rail services to East Kent and East Sussex;
- improving journey times for passenger rail services in North Kent;
- delivering a high-quality, high-frequency, urban metro service for the Solent conurbation (supported by bus and potentially tramway systems in Southampton and Portsmouth);
- reinstating closed railways on the Isle of Wight;
- improving cross country and cross regional services;
- improving connections to ports and airports;
- enhancing access, integration, and the affordability of public transport services; and
- enhancing access to employment opportunities, key services, and amenities.

3.64 TfSE has undertaken spatial analysis of the modelling of the packages of interventions outlined above. This has enabled us to understand which districts and boroughs would most benefit from an uplift in GVA arising from these packages. This work is still ongoing, but we would be delighted to share our results with GBRTT when this work is complete (encouragingly, early analysis indicates many of the interventions listed above deliver significant economic benefits for the most deprived areas of the South East.

3.65 TfSE has modelled the impacts of our proposed packages of interventions on the South East's economy using a Land Use Transport Interaction Model. The early results of this modelling indicate that targeted investments in the rail network have the potential to unlock over £1bn in Gross Value Added (per annum) to the wider South East's economy.

3.66 TfSE is particularly interested in the opportunities to improve connectivity on the South East's "orbital" and "coastal" rail services, which have received significantly less investment than

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London services in recent years. This could include providing/restoring direct services where otherwise at least one change of train would be needed.

3.67   We are also supportive of investment that enhances access to the South East's key ports (including Channel Ports and Southampton) and airports (including Heathrow and Gatwick). We see significant opportunity for high rail freight mode share between the South East's ports and the rest of the UK.

Community Engagement

3.68   Local transport in the TfSE area is currently the responsibility of five two-tier county councils and eleven single tier unitary authorities as local transport authorities (LTAs). There are no Combined Authorities in the area, and no firm plans to create any in the near future. The rail industry's engagement will therefore continue to rely on relationships with the same set of stakeholders that Network Rail and train operators engage with today – LTAs, Local Enterprise Partnerships, National Parks, Planning Authorities, Community Rail Partnerships, business organisations, civic organisations, other operators, public service providers, developers, etc.

3.69   TfSE enjoys an excellent working relationship with Network Rail and operators in the area and looks forward to working with Great British Railways as it develops over the next few years.

3.70   Network Rail is a key stakeholder for TfSE and is represented on several working groups and forums, including our Area Study Working Groups. Network Rail has helped shape priorities for our Strategic Investment Plan and worked closely with us to align objectives and understand the deliverability of the emerging packages of interventions.

3.71   TfSE welcomes any opportunity to contribute to the strategic planning process in the rail industry and continues to support Route Level and Regional Level strategy planning.

Targets

3.72   The TfSE Transport Strategy for the South East identifies 5 Objectives and 9 Key Performance Indicators (KPIs) that support broader **social** objectives, which generally align with the WISP Levelling Up Objectives. These are shown in Table 7 below.

Table 7: TfSE Transport Strategy for the South East Social Objectives and KPIs

TfSE Priority	Key Performance Indicator
• A network that promotes active travel and active lifestyles to improve our health and wellbeing.	• Increase in the length of the National Cycle Network in the South East. • Increase in the length of segregated cycleways in the South East. • Increase mode share of trips undertaken by foot and cycle. • Number of bikeshare schemes in operation in the area. • Social Mode share of walking and cycling.
• Improved air quality supported by initiatives to reduce congestion and encourage further shifts to public transport.	• Reduction in NOx, SOx and particulate pollution levels in urban areas.
• An affordable, accessible transport network for all that promotes social inclusion and reduces barriers to employment, learning, social, leisure, physical and cultural activity.	• A reduction in the indicators driving the Indices of Multiple Deprivation in the South East, particularly in the most deprived areas in the South East area.

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TfSE Priority	Key Performance Indicator
• A seamless, integrated transport network with passengers at its heart, making it simpler and easier to plan and pay for journeys and to interchange between different forms of transport	• Increase in the number of cross-modal interchanges and/or ticketing options in the South East.
• A safely planned, delivered, and operated transport network with no fatalities or serious injuries among transport users, workforce or the wider public	• Reduction in the number of people Killed and Seriously Injured by road and rail transport.

Question 6 – Environmental Sustainability

> *Question 6*
>
> *What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years?*
>
> *What are the interventions over that period which will be the maximum value for money, and what evidence can you share to support your views?*
>
> *How can rail best invest in climate resilience, supported by smarter forecasting, planning and technology, over the next 5, 10, and 30 years and what evidence do you have to support your view?*

Interventions and resilience

3.73   TfSE's Transport Strategy for the South East sets ambitious goals for achieving environmental sustainability. The Strategic Investment Plan is expected to include several packages of interventions that aim to reduce carbon emissions, reduce the impact of transport on the historic/natural environment, and reduce the impact of transport on people. The strategy also explicitly promotes the approach of achieving biodiversity net gain in our interventions.

3.74   TfSE has used the Land Use Transport Interaction Model (SEELUM) described in paragraph 2.23 to estimate carbon emissions from transport ("at tailpipe") and test several scenarios for carbon reduction. TfSE has also used this model to test the impacts of schemes identified as part of the Area Studies. Further information about this work is provided in a published technical report[19]. This study identified three findings:

- While our modelling shows there should be a reduction in transport emissions per person in the South East by 2050 (driven by efficiencies in fuel technology and conversion to zero emission fleets), this is partially off-set by population growth.
- There is a risk that spatial planning policies may encourage a shape of employment growth (e.g., in Major Economic Hubs and regeneration areas) that hinders future employees from being able to travel by more sustainable modes. Significant developments in Major Economic Hubs should be especially planned (and sites allocated) in such a way that 'good growth' is achieved through mixed development patterns reflecting the ease of walking, cycling, and using public transport. This also risks undermining carbon reductions that could be achieved through efficiencies in fuel technology and conversion to zero emission fleets.

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[19] TfSE (2021) "Carbon Assessment Technical Report", https://transportforthesoutheast.org.uk/app/uploads/2021/03/Carbon-assessment-technical-report-final-TfSE-branded.pdf, accessed January 2022

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- Central government forecasts for the conversion of vehicle fleet appear to be very low and do not appear to align with central government policy, changing political narrative, or other industry forecasts. National Highways have provided constructive feedback to the Department for Transport and Department for the Environment, Food and Rural Affairs to this effect.

3.75   The key interventions listed in paragraph 3.46 will support the goal of achieving environmental sustainability by encouraging modal shift from car/air to rail. They also include interventions that involve decarbonising the railway and promoting better interchanges with other forms of public transport and active travel.

3.76   Some of the interventions that are being promoted by TfSE may have an adverse impact on the environment during the construction period (including carbon, through embedded emissions), and we are keen to mitigate these impacts as much as possible. We are also promoting schemes that may incur a higher upfront capital cost (such as tunnels rather than cuttings or at-grade infrastructure) to limit their impact on the natural and historic environment.

3.77   The South East's rail network is vulnerable to the impact of Climate Change. For example, the Folkestone Warren railway has historically suffered significant disruption from weather and coastal subsidence, and this risk of disruption is expected to worsen as Climate Change takes effect. The Strategic Investment Plan will include some interventions aimed at strengthening resilience. This includes developing a diversionary route between London and Brighton Main Line (delivered through reopening Uckfield – Lewes line) and providing an alternative route to the railway at Folkestone Warren (which would be achieved by building a chord between the Canterbury East and Canterbury West lines).

Delivering environmental sustainability

3.78   The high proportion of electrification of the South East's railway means it is particularly well placed to make a significant contribution to the government's decarbonisation agenda. Electrifying the unelectrified gaps will ensure the railway can reach carbon neutrality as soon as possible, while also helping reduce costs and increase the operational efficiency of the railway.

3.79   The railway also can support the decarbonisation agenda through promoting modal shift from air and car to rail. The London – Paris Eurostar service (which until recently called at Ebbsfleet and Ashford) shows the level of modal shift that can be achieved with the right level of targeted investment[20].

3.80   Additionally, modal shift can support other environmental objectives by reducing noise, air pollution, and the impact of the car on the built and natural environment. In the longer term, higher rail mode share can provide an alternative to highway capacity expansion (and many of the environmental risks associated with this type of investment).

3.81   TfSE is also alive to the increasing risk of climate change resulting in higher levels of disruption to the transport system – particularly in impacts to infrastructure. Some of the South East's key highway and rail corridors cross areas prone to flooding and subsidence (e.g., Folkestone

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[20] Eurostar's market share on the London – Paris route was reportedly 75% pre-pandemic, and the company was making inroads into the London – Amsterdam market. Source: International Rail Journey (2020) "First direct London Eurostar departs Amsterdam as Eurostar-Thalys merger progresses", **https://www.railjournal.com/passenger/high-speed/first-direct-london-eurostar-departs-amsterdam-as-eurostar-thalys-merger-progresses/** accessed December 2021.

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Warren line between Folkestone and Dover). Future investment programmes will likely need to include some resources to protect and strengthen the resilience of the most vulnerable parts of the transport network.

Targets

3.82   The TfSE Transport Strategy for the South East identifies 5 Objectives and 7 Key Performance Indicators (KPIs) that support broader **environmental** objectives, which generally align with the WISP Environmental Sustainability Objectives. These are shown in Table 8 below.

Table 8: TfSE Transport Strategy for the South East Environmental Objectives and KPIs

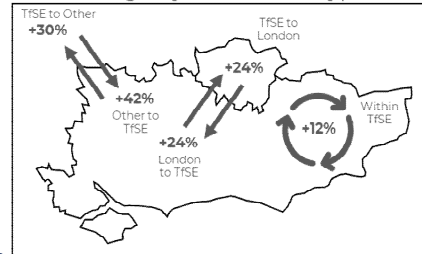| TfSE Priority	Key Performance Indicator
• A reduction in carbon emissions to net zero by 2050 to minimise the contribution of transport and travel to climate change.	• Reduction in carbon emissions by transport.
• A reduction in the need to travel, particularly by private car, to reduce the impact of transport on people and the environment.	• A net reduction in the number of trip kilometres undertaken per person each weekday. • A reduction in the mode share of the private car (measured by passenger kilometres).
• A transport network that protects and enhances our natural, built, and historic environments.	• No transport schemes or interventions result in net degradation in the natural capital of the South East, instead aiming for environmental net gain for priority ecosystem services (such as natural flood risk management). • No transport schemes or interventions result in a net loss of biodiversity but seek to achieve a minimum of 10% net gain in biodiversity managed for 30 years, in line with the requirements of the Environment Bill.
• Use of the principle of 'biodiversity next gain' (i.e., development that leaves biodiversity in a better state than before) in all transport initiatives Use of the principle of 'biodiversity next gain' in all transport initiatives.	• No transport schemes or interventions result in a net loss of biodiversity but seek to achieve a minimum of 10% net gain in biodiversity managed for 30 years, in line with the requirements of the Environment Bill.
• Minimisation of transport's consumption of resources and energy.	• Reduction in non-renewable energy consumed by transport.

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Scenario Forecasting Results

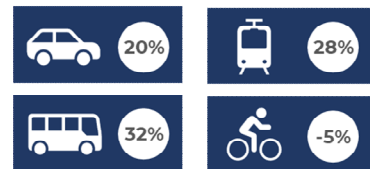# Business As Usual (2050)
Entire TfSE Area (TfSE)
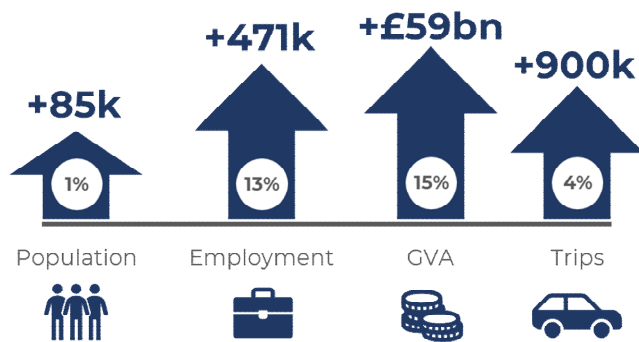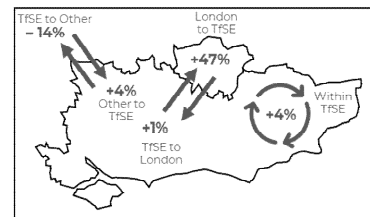
Change by key indicator

Change by movement type

1.09m — 14% — Population

420k — 13% — Employment

£217bn — 119% — GVA

3.34m — 16% — Trips

Change in trips by mode

- Car: 20%
- Tram: 28%
- Bus: 32%
- Cycle: -5%
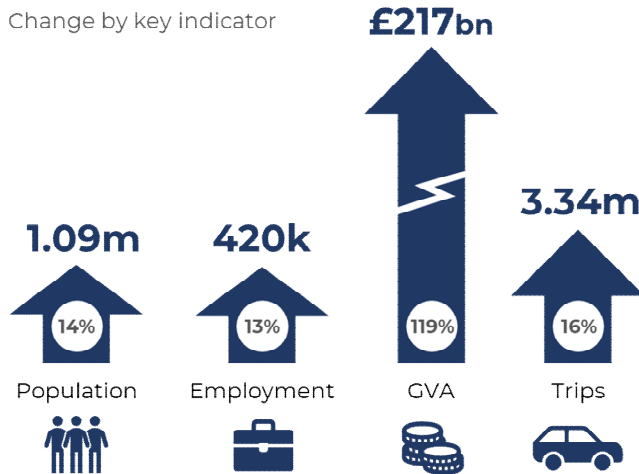
Sustainable Route to Growth
Entire TfSE Area (TfSE)

Change compared to **Business as Usual (2050)**

Change by movement type

+85k — 1% — Population

+471k — 13% — Employment

+£59bn — 15% — GVA

+900k — 4% — Trips

Change in trips by mode

- Car: −10%
- Tram: 107%
- Bus: 114%
- Cycle: 2%
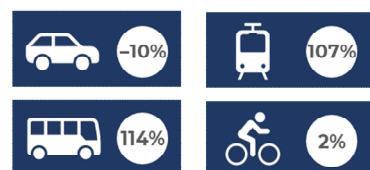
BAU 2050: 8.8m — 3.7m — £400bn — 24.2m

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