TRANSPORT FOR THE South East

Rail Strategy

Transport for the South East

February 2026

Prepared by:

Steer
14-21 Rushworth Street
London SE1 0RB

+44 20 7910 5000

www.steergroup.com

Prepared for:

Transport for the South East
County Hall, St. Anne's
Crescent, Lewes, BN7 1UE

24481609

Table of Contents

List of Figures

Tables

Executive Summary

Overview

This document is a daughter strategy to the Transport Strategy, which specifically focusses on the issues and opportunities associated with improving rail service delivery in the Transport for the South East (TfSE) area and wider South East.

The Rail Strategy reflects the missions set out in the Transport Strategy. It contains a detailed evidence base to enable TfSE to advise the Secretary of State about the current and future priorities for rail investment in the TfSE area and inform the Long Term Rail Strategy. The Rail Strategy will also be used to advise others responsible for the delivery of rail projects, including Network Rail, Great British Railways (GBR) and the rail regulator, the Office for Rail and Road (ORR).

It aims to enable TfSE to advise mayoral strategic, unitary and local authorities in our area on the issues and opportunities for rail and support them in developing their own strategies. It will also articulate regional priorities to national stakeholders, including Network Rail and GBR.

It sets out a long-term, place-based vision for the region's rail network, aiming to support sustainable, inclusive, and productive growth through to 2050. It is not a list of short-term projects, but a strategic framework to guide investment, policy, and partnership decisions over the coming decades. Specific rail-related projects are set out in TfSE's Strategic Investment Plan (SIP). Both have been developed concurrently to ensure alignment. The strategy also aligns with TfSE's broader transport vision: to deliver the highest quality of life for all and achieve sustainable, net zero carbon growth through a resilient, reliable, and inclusive transport network.

Therefore, the vision for rail in the TfSE area is:

> "A resilient and fully decarbonised rail network across the TfSE area providing a viable and attractive choice for medium to longer distance journeys, supports sustainable housing and employment growth and strengthens links between international gateways and the wider UK for both freight and passengers."

The South East's rail network is at a pivotal moment. The region faces structural challenges - low productivity growth, housing unaffordability, climate change, and spatial inequalities - while adapting to shifting travel patterns, new technologies, and constrained public finances. The rail system, shaped by nearly two centuries of development, is heavily focused on radial routes into London, but orbital and cross-country links are underserved, despite highly congested road networks. Ageing infrastructure and capacity constraints limit rail's ability to help address the challenges the region faces.

Strategic Objectives and Missions

The strategy sets out how rail supports the delivery of TfSE's core missions, as well as national government priorities and the Secretary of State's Long Term Rail Strategy objectives. Successful delivery of the strategy will deliver improved outcomes across all five missions from our Transport Strategy:

- **Strategic Connectivity:** Enhancing both radial (to London) and orbital (between regional hubs) corridors will support economic growth across the region, with rail journeys a more attractive option for orbital routes.
- **Sustainable Growth:** Alignment of rail investment with housing and employment growth will help to ensure that development is sustainable. Rail can support the delivery of major developments at the region's ports and airports, including Southampton, Heathrow and Gatwick.
- **Resilience:** Addressing single points of failure, ageing assets, and climate vulnerabilities will ensure reliability of the network.
- **Inclusion and Integration:** Integrated fares and ticketing will make rail more affordable, accessible, and better integrated with other modes. Improving the accessibility of railway stations and speeding up the rollout of step-free access will make rail a viable option for disabled people across the region.
- **Decarbonisation:** Accelerated electrification and modal shift to rail, for both passengers and freight, will support the achievement of climate goals.

Key Challenges

The TfSE area's rail network faces mounting pressures from:

- Rapid population growth and ambitious housing plans, which, without high-capacity public transport, risk leading to greater road congestion and emissions. New housing developments are not always well aligned with existing rail infrastructure, making it harder to support sustainable travel and economic growth.
- Many stations lack step-free access or good local bus connections, limiting accessibility and demand. While some routes have seen recent upgrades, others continue to struggle with outdated infrastructure and rolling stock, and funding constraints slow further improvements.
- Freight demand is evolving, with significant traffic that could be better served by rail, including intermodal and construction traffic, but bottlenecks and limited terminal capacity restrict this potential.
- Decarbonisation is a pressing need, as gaps in electrification and reliance on diesel trains undermine climate goals.
- The cost of rail - both for passengers and public authorities - remains a barrier, especially in less affluent areas.

If these challenges are not addressed, there is a real risk of declining connectivity, worsening congestion, and missed opportunities for clean and sustainable growth.

Opportunities

The High Speed 1 route, the UK's first domestic High Speed line, presents a number of opportunities for the region. There is available capacity for additional rail freight, if some of the remaining technical and commercial barriers can be addressed, and this could have a significant benefit in relieving road congestion around Kent and supporting the government's rail freight growth targets.

Investment in the region's ports and airports will require major improvements to the rail and public transport networks – but aside from the local growth that they can generate, this infrastructure can have a broader impact on regional connectivity.

With targeted investment and reform, the rail system in the TfSE area can unlock sustainable housing and economic development, improve social inclusion, and strengthen its role as a national and international gateway.

Strategic Priorities

The strategy takes a corridor-based approach, defining conditional outputs for each of the seven rail corridors in the TfSE area. A conditional output, in this context, is an aspirational specification for the service the network should be able to provide. These outputs are conditional because, until detailed design work has been carried out, there may be trade-offs between them or more cost-effective options to deliver something similar.

This approach has been taken to recognise the complex nature of the region's rail network: in many areas, there are a number of potential options for delivering each output. TfSE is not a delivery body and has therefore focused on setting out the priorities for the area and potential options.

The key investment priorities as set out in the strategy can be summarised as follows:

- More trains with improved frequency, faster services and reduced journey times for most east-west services, and corridors connecting major economic hubs throughout the TfSE area, e.g. the Arun Valley line and Medway to Ashford.
- More direct London services, from destinations including the South Coast, Portsmouth, North Kent and Medway.
- Increased resilience and capacity by addressing capacity constraints, including those at East Croydon, Woking and Southampton.
- Improved access to airports, including earlier/later services to Gatwick, western and southern access to Heathrow and improved links to Old Oak Common to enable interchange with HS2.
- The introduction of bi-mode rolling stock as a short-term solution for those lines that are still not electrified, e.g. the North Downs and Marshlink lines.
- Improved freight capacity and journey times through improved infrastructure such as diversionary routes, more intermodal rail interchanges and gauging upgrades.
- Improved integration of rail with local public transport networks and active travel routes, including integrated ticketing.
- Maintaining high standards of customer service and improving reliability and punctuality.

Appendix A summarises the conditional outputs in the strategy as they align to Mayoral Combined Authority (MCA) and county geography, and to our Transport Strategy missions.

Pathways to Delivery

There are several crucial delivery partners in delivering rail improvements for the TfSE area, including Network Rail and GBR, Local Transport Authorities and the Department for Transport (DfT).

While TfSE is not a delivery body, it plays a critical role as a strategic convenor, champion, and technical resource. In delivering the Rail Strategy, TfSE will:

- **Provide evidence, data and analysis to inform decisions** – through the TfSE Analytical Framework, State of the Region Report, and more.
- **Support early-stage scheme development** – via funding and technical expertise.
- **Align regional and local voices** – especially where emerging MCAs and local authorities lack cross-boundary coordination.
- **Champion the region** – ensuring the South East's needs are reflected in national programmes and GBR priorities.
- **Embed wider priorities** – e.g. decarbonisation, social inclusion, freight growth – in scheme appraisal and pipeline development.

As rail reform and devolution progress, TfSE will work closely with DfT, Network Rail, GBR, Mayors and the existing local and new unitary authorities to ensure that regional priorities are captured in local, regional and national strategies. The strategy will also feed into the Wider South East Rail Partnership Rail Plan, which captures priorities across the broader geography of the wider South East.

1. Introduction

1.1. Context

1.1.1. The TfSE Rail Strategy is a daughter strategy to the Transport Strategy, which specifically focusses on the challenges and opportunities associated with improving rail service delivery in the TfSE area and wider South East.

1.1.2. It reflects the Transport Strategy's missions but articulates these in ways that will enable TfSE to provide a stronger and more detailed evidence base and support advice to the Secretary of State about the priorities for rail in the TfSE area. The Rail Strategy will also be used to advise others responsible for the delivery of rail projects, including Network Rail, Great British Railways (GBR) and the rail regulator, the Office for Rail and Road(ORR). It will ensure that they have the evidence and rationale to support decision-making about rail investment in the TfSE area over the next 25 years.

1.1.3. It will also enable TfSE to advise the mayoral strategic, unitary and local authorities in our area on the specific challenges and opportunities across their own areas and the wider South East. It will support them in developing their statutory role in governing, managing, planning, and developing the rail network and ensure they are aware of the wider implications of their aspirations for the development of the rail network in their area.

1.2. Background

1.2.1. Rail has shaped the South East of England for just under two centuries. It has powered the growth of our towns and cities, connected people to jobs and services, and formed the backbone of national and international trade. It made possible the commuter belts of the 20th Century, with towns developing around the rail network and increasing the number of people able to access high-value employment. It will be increasingly central to enabling a more sustainable, inclusive, and productive South East in the 21st Century.

1.2.2. Today, the region is at a critical juncture. The long-term structural challenges facing the TfSE area – namely, low productivity growth, deepening housing unaffordability, climate change, and growing spatial inequalities – require a bold response. We must also adapt to rapid changes in travel patterns, evolving technologies, and constrained public finances. Rail cannot be all things to all people, but it can and must do more.

1.2.3. Building on the missions set out in our Transport Strategy, this strategy sets out a vision for the future of rail in the TfSE area. It is not a list of schemes or a short-term investment plan. Specific rail-related projects are set out in TfSE's SIP. Both have been developed concurrently to ensure alignment. Instead, the strategy provides a strategic framework to guide decisions over the coming decades. It defines the outcomes we want to see, identifies the conditions under which they can be delivered, and charts

potential pathways to get there. It highlights the core problems holding back rail today, the opportunities to use the network more effectively in the future, and the case for investment to support the region's growth and success.

1.2.4. Our approach is rooted in 'Place'. **Figure 1** below shows the complexity and density of the rail network in the TfSE area, and the diversity of the areas it serves. Each rail corridor reflects the character and economic function of the places it connects, shaping how people and goods move within and beyond the region. Different corridors across the TfSE area face different challenges. That's why our strategy focusses on two broad groups of rail corridors:

- **Radial routes**, which link the region's communities to London and accommodate some of the highest levels of passenger demand in the country; and
- **Orbital routes**, which connect places outside the capital, including key UK ports, airports, growth areas, and urban centres - corridors that have often been overlooked but are essential to the South East's future prosperity.

1.2.5. We also set out a high-level delivery framework. We know that delivery will be complex, long-term, and subject to change. But we believe that by setting clear priorities, aligning partners around shared outcomes, and advocating for the right investment and policy levers, we and our delivery partners can make meaningful progress, starting now.

1.2.6. TfSE has a critical role to play, convening partners across boundaries, championing the needs of the region, and building the evidence base and tools needed to move from vision to delivery. We are also clear that no single organisation can do this alone. We must work in partnership with GBR, the DfT, Network Rail, new Mayoral Strategic Authorities, local authorities, freight and passenger operators, investors, and communities to make this strategy a reality.

Figure 1: The rail network in the TfSE area

2. Vision and objectives

2.1. A strategic vision for rail in the TfSE area

2.1.1. Transport for the South East's vision for its rail network aligns fully with its overall 2050 Vision set out in the Transport Strategy:

"Our vision is for the South East to offer the highest quality of life for all and be a global leader in achieving sustainable, net zero carbon growth. To achieve this, we will develop a resilient, reliable, and inclusive transport network that enables seamless journeys and empowers residents, businesses, and visitors to make sustainable choices."

2.1.2. This Rail Strategy sets out how the region's rail system can contribute to this vision through offering fast, reliable, and comfortable rail services. It aims to deliver a railway that is inclusive, fully integrated with the wider transport system, and capable of supporting the region's economy, population, and environment over the long term.

2.1.3. Therefore, the vision for rail in the TfSE area is:

"A resilient and fully decarbonised rail network across the TfSE area providing a viable and attractive choice for medium to longer distance journeys, supports sustainable housing and employment growth and strengthens links between international gateways and the wider UK for both freight and passengers."

2.1.4. We believe rail can play a central role in enabling sustainable housing and employment growth, including for local passenger journeys within our urban areas. We also want to see rail freight flourish, including its role in transporting construction materials for development, supported by investment in capacity and electrification.

2.1.5. This ambition is shaped by important national changes. The structure and governance of rail are undergoing reform, with GBR expected to take on a more unified role with responsibility for both operation and maintenance of rail infrastructure and publicly owned passenger services. Reform is also underway at a regional and local level, with the gradual introduction of Mayoral Strategic Authorities (MSA) and the consolidation of local government into integrated, single-tier unitary authorities. The MSAs will offer greater opportunities for integrated planning and delivery, as well as stronger local leadership in the future development of the railways in the TfSE area.

2.1.6. Rail sits within a broader, highly integrated network, and this strategy reflects collaboration with our neighbouring Sub-national Transport Bodies (STBs), including through the Wider South East Rail Partnership (WSERP). The partnership brings together three STBs – England's Economic Heartland, Transport East, and TfSE in collaboration with the DfT, Network Rail, and Transport for London (TfL).

2.1.7. Its collective mission is to champion a transformative vision for the region's rail network that meets the needs of passengers, freight, and businesses while supporting government priorities for economic growth, net zero, and equitable prosperity.

2.1.8. This strategy acknowledges upfront that funding constraints are intensifying – particularly from central government sources. Passenger demand has shifted post-pandemic, with traditional commuting declining and leisure and discretionary travel rising. These changes must inform a realistic but ambitious long-term strategy.

2.2. Alignment with Government priorities

2.2.1. National government has identified six core missions as national priorities. Rail can most strongly be linked to the Economic Growth mission: particularly as in the TfSE area, rail services are a key part of the regional economy. Rail will be crucial to supporting growth at our major international airports, as well as fast-growing cities like Reading and Southampton.

2.2.2. This strategy, and TfSE's broader vision and missions, also align well with the DfT's strategic priorities:

- improving performance on the railways and driving forward rail reform
- improving bus services and growing usage across the country
- transforming infrastructure to work for the whole country, promoting social mobility and tackling regional inequality
- delivering greener transport
- better integrating transport networks

As set out in the Railways Bill 2025, in future, a Long Term Rail Strategy will set out strategic objectives for the railway across Great Britain and set the context for GBR. In the bill, government has set out five objectives for this strategy:

- meeting customers' needs
- financial sustainability
- long-term economic growth
- reducing regional and national inequality
- environmental sustainability

2.2.3. GBR must also have regard to the transport plans and strategies of MCAs when it makes decisions on the network. This strategy, setting out priorities across the region, will form a valuable part of those MCA plans.

Figure 2 below shows how the Rail Strategy conditional outputs align to core government missions. **Figure 3** on the following page then shows how the TfSE Rail Strategy objectives align to the Secretary of State's Long Term Rail Strategy objectives.

Figure 2: Golden policy thread from government Missions to rail outputs

Government's National Missions for Change	• Kickstart economic growth • Strong foundations		• Build an NHS fit for the future • Break down the barriers to opportunity • Safer streets		• Make Britain a clean energy superpower
Department for Transport's Strategic Priorities		• Better integrating transport networks • Improving bus services and growing usage across the country			• Delivering greener transport
	• Improving performance on the railways and driving rail reform		• Transforming infrastructure to work for the whole country, promoting social mobility and tackling regional inequality		
Transport for the South East's Regional Transport Strategy Missions	**STRATEGIC CONNECTIVITY**	**SUSTAINABLE GROWTH**	**RESILIENCE**	**INCLUSION & INTEGRATION**	**DECARBONISATION**
Transport for the South East's Strategic Investment Plan Packages	• East-west connectivity • International gateways and freight • Improved timetables	• Urban and suburban metro rail • Unlocking development	• Tackling bottlenecks • Diversionary and alternative corridors	• Better integrated hubs • Inclusive infrastructure • Fares and ticketing	• Railway electrification and decarbonisation • Mode shift

Figure 3 :TfSE Rail Strategy objectives alignment with the Secretary of State's Long Term Rail Strategy objectives

Long term rail strategy objectives	TfSE Rail Strategy Objectives
Meeting customers' needs	• Improve integration with other modes. • Improving the accessibility of railway stations and speeding up the rollout of step-free access
Financial sustainability	• Maintain performance and customer satisfaction on key routes to maintain/increase industry revenue
Long-term economic growth	• Increasing connectivity to support sustainable growth across the TfSE area by improving radial and orbital rail corridors. • Improve the reliability of the network by addressing single points of failure.
Reducing regional and national inequality	• Improve rail connectivity to areas with low transport accessibility • Align rail investment to the development of housing, employment and the area's major ports and airports. • More integrated fares and ticketing to make rail more affordable & accessible
Environmental sustainability	• Accelerate electrification and modal shift to rail • Make orbital routes rail journeys a more attractive option than the car.

2.3. TfSE's strategic objectives

2.3.1. TfSE's 2025 Transport Strategy outlines five missions that articulate the challenges, opportunities, and actions that are most pertinent to the TfSE area.

Strategic Connectivity

2.3.2. The TfSE area boasts some of the UK's best radial links to London, but orbital, cross-country, and coastal routes remain underserved. The latter corridors are characterised by having lower frequencies, slower journey times, and much lower passenger rail mode share. Areas that suffer from poor London connectivity compared to their neighbours, such as Thanet and Hastings, are also priorities for the region.

2.3.3. There is a major opportunity in aligning rail investment with expected growth in housing, employment, and with major developments at our ports and airports. Every major airport in the TfSE area is expanding, as illustrated by Heathrow's Third Runway, Gatwick's Northern Runway and Southampton's runway extension projects. At both Gatwick and Heathrow, expansion is expected to include proposals for significant improvements in public transport connectivity. There are new plans to expand the port of Southampton substantially. Within the region, areas such as Southampton and Medway are fast-growing, both in terms of population and employment. These new and growing corridors must be supported by high-quality rail connectivity.

Sustainable growth

2.3.4. Rail enables denser, more sustainable development, as suggested in the Secretary of State's long-term rail strategy objectives. Rail-led development – often called Transit-Oriented Development – helps protect the countryside while providing access to jobs, housing, and services. Rail investments should be closely coordinated

with housing and spatial planning decisions, helping the region to grow sustainably. There can be a virtuous circle here, as contributions from major developments can be channelled towards rail improvements such as new stations or additional services. This represents an opening to change a challenge into an opportunity in a region with high demand for housing, with limited national government funding available for rail investment.

Resilience

2.3.5. Resilience describes the ability of a system to respond to and recover from shocks and disruption. By these terms, the railway in the TfSE area faces major resilience risks, especially on busy radial corridors serving London, where key pinch points at Croydon (for the Sussex Coast) and Woking (for the South West) act as single points of failure on their respective routes. Ageing infrastructure, climate vulnerabilities, and capacity constraints make the system fragile. Tackling these issues will require targeted investment and improved operational strategies.

Inclusion and Integration

2.3.6. For too many people in the TfSE area, there are barriers to benefiting from the region's railways. This is why passenger services must become more affordable, more accessible, and better connected to local and regional services. A more integrated approach to fares, ticketing, interchanges, and services, with improved connections both within the rail network and to local buses, is essential to ensuring no one is left behind.

2.3.7. TfSE's 2025 Transport Strategy has identified several areas in the TfSE area that are at risk of Transport Related Social Exclusion – areas that also have relatively poor rail connectivity to the rest of the region and country[1]. Boosting connectivity in these areas is a powerful way of delivering more equitable socioeconomic outcomes.

Decarbonisation

2.3.8. Rail can make a significant contribution to achieving the UK's wider climate goals. Transport carbon emissions make up a significant portion of the region's carbon footprint, and the rate of decarbonisation is slower than it needs to be. Even with increased uptake of electric vehicles, local particulate emissions will remain a problem. Rail helps reduce these emissions quickly by encouraging travellers and freight customers to switch from higher carbon-emitting options to one of the lowest: each freight train can remove up to 76 HGVs from the road. Removing fossil fuel traction from the rail network further reduces emissions, which will be needed in the longer term.

2.3.9. While much of the rail network in the South East is electrified, key gaps remain, requiring small diesel fleets that are expensive, inefficient and polluting. Third rail electrification presents safety, supply and cost challenges but may still be required, with battery-hybrid offering part of the solution in other areas. Full electrification remains the most efficient and scalable approach for corridors with significant freight and/or long-distance high-speed intercity flows.

2.4. The role of rail in supporting the TfSE Missions

2.4.1. Rail plays a unique and powerful role within the transport system in the TfSE area

[1]TfSE Transport Strategy, p57

– particularly in urban and interurban contexts:

- **High capacity and speed:** Rail can carry large numbers of passengers at high speeds, with line speeds up to 186mph on High Speed 1
- **Low carbon traction:** Most rail services in the South East are already electric and can be fully decarbonised with the right complementary policies
- **Space efficiency and safety:** Railways offer more capacity than motorways in a smaller footprint and are the safest form of land transport
- **Accessibility:** Rail provides access to jobs, education, and services for those without a car, especially in urban and semi-urban areas
- **Productivity:** Unlike driving, rail allows passengers to work, read, or rest while travelling

2.4.2. However, it is also important to acknowledge that rail is not without limitations:

- **Cost and complexity:** Rail infrastructure is expensive to build, maintain, and upgrade. For many local authorities and delivery bodies in the TfSE area, the perceived cost of rail often makes it seem unaffordable – particularly for addressing more localised or short-term transport needs. What seem like small infrastructure schemes, such as chords to enable direct services, often balloon in costs as the expense of providing those services are taken into account, making them economically unviable.

- **Limited flexibility:** Rail is inherently less adaptable than modes such as bus or demand-responsive transport. Fixed routes and bespoke assets make it difficult and costly to adapt rail to changing demand patterns – for example, on some routes, weekend demand has grown sharply post-COVID, but increasing services is challenging given requirements for maintenance access. Rail is most effective on corridors with high, concentrated demand. In low-density areas or for short, point-to-point journeys, rail often requires strong integration with first and last mile modes. That said, the fixed nature of rail can also be a strength: investment in new lines or stations signal long-term commitment, giving residents, businesses, and developers the confidence to invest in those locations.
- **Freight constraints:** While rail is highly effective for bulk and long-distance freight, it is less suited to short-haul or dispersed deliveries, where HGVs offer greater route flexibility. As the UK economy has shifted away from traditional commodities like coal, the rail freight sector has had to adapt – pivoting towards growing sectors such as intermodal logistics, which is currently the fastest growing area of rail freight. This has required a rethink of terminal and interchange locations, access arrangements, and network capacity.

2.4.3. In the TfSE area, rail is particularly strong on radial corridors and in serving the London commuter and leisure market. Rail has a high mode share for commuting in the region, reflecting fast and frequent services to London. Even outside of peak times, key radial corridors have a dense and highly utilised service.

2.4.4. Ultimately, rail supports the socio-economic ambitions of the region: unlocking growth, linking labour markets, enabling clean transport to urban centres, and enhancing long-distance freight. With the right interventions, it can do even more to connect people, places, and markets across the region.

2.5. A whole-system view of the rail network

2.5.1. This strategy takes a whole-system view of the rail network in the TfSE area. We recognise that rail is not just about tracks and trains. It is a complex system where infrastructure, services, rolling stock, timetabling, governance, funding, and freight must work together to deliver a coherent and resilient offer to passengers and freight customers.

2.5.2. For example, resilience is not just about infrastructure. It is about greater standardisation in the train fleet, minimising the number of incompatible traction types and allowing stock to be deployed flexibly, and designing timetables that reduce the risk of cascading delays. A disconnected network with 59-minute connection times and four different train types operating on adjacent routes is not efficient or passenger-friendly, particularly when it also means complex and expensive ticket options. This is why we must plan for an integrated system where each part is optimised and works effectively with the others.

2.5.3. The key challenges we have considered as part of our approach to whole-system thinking are outlined below and include infrastructure, services, governance, freight, and funding.

Infrastructure

2.5.4. The TfSE area is home to some of the most intensively used rail infrastructure in the UK. It is also where long-standing bottlenecks have network-wide effects, impacting services across the region. Key priorities include:

- **Bottleneck removal**: Targeting congestion points (e.g. Croydon and Woking) to unlock wider timetable reliability, connectivity, and capacity.
- **Decarbonisation:** Strategic electrification, which supports decarbonisation and has the potential to generate cost savings (e.g. avoiding the need to maintain diesel fleets at depots focussed on electrified fleets).
- **Capacity constraints:** Additional tracks, junction upgrades, and line-speed improvements will be needed in some places if the railway is to support higher service frequencies, faster journeys (enabling services to overtake each other), and more rail freight.

Services

2.5.5. Many train services perform multiple roles and serve multiple markets. For example, a Southern service from Littlehampton to London supports London commuters, airport passengers, and interurban trips along the South Coast in one journey. Network planning must balance:

- **Frequency vs. complexity**: Simplified, "metro-ised" services can carry more people but may require more interchanges due to fewer direct trains.
- **Capacity vs. speed**: Well-designed infrastructure can enable overtaking and express running, improving journey times for longer trips while maintaining local connectivity.
- **Speed vs local connectivity:** New stations can generate new demand, but lengthen the journey time for existing passengers
- **Passenger vs freight:** Freight trains can be much longer than passenger services, as well as slower. This makes scheduling passenger and freight services on the same infrastructure more challenging, and it will sometimes require additional infrastructure, such as passing loops.

Integration

2.5.6. This strategy is focused on the rail network, but effective coordination across modes is essential in order to deliver the strategy outcomes.

- **Constraints on the road network** are a substantial driver of growth in rail demand, particularly for freight
- **Integrated fares and ticketing,** and more joined-up bus services, improve the accessibility of railway stations and make public transport as a whole more attractive.
- **Major projects outside of rail,** such as Heathrow expansion, are a substantial market for rail freight and the supply of aggregates and other construction materials.

Governance

2.5.7. Significant reform is underway in the country's rail sector. The creation of GBR and "nationalisation" of previously fragmented private franchises offer new opportunities for integration – potentially bringing simpler fares, unified passenger information, and improved customer service across modes and regions. At the same time, regional and local government is changing:

- **Devolution:** MSAs across the area are gaining powers that in other parts of England have enabled rail devolution. London and Liverpool already oversee the management and delivery of rail services, while Greater Manchester is seeking to take on greater responsibility for its stations. These powers, as well as additional funding opportunities, will only be available to established MSAs.
- **Local Government Reorganisation:** the establishment of Mayoral and unitary authorities means that spatial planning and transport powers and functions are becoming more joined-up, enabling better long-term integration between rail infrastructure and land-use planning.

2.5.8. TfSE will work collaboratively with GBR, DfT, local government, operators, and other STBs, including through the WSERP, to represent and advocate for local needs. Areas across the region are at different stages of the devolution process, and this should not limit their opportunities to feed into national plans.

Freight

2.5.9. Rail freight is both a driver and a beneficiary of investment. The development of rail freight interchanges provides investment and employment opportunities, as set out in TfSE's *Intermodal Rail Freight Interchange Study*[2]. Though it competes with passenger services for capacity, it can help strengthen the business case for infrastructure. Intermodal, aggregates, automotive, and other freight types each have a distinct geography, timings, and capacity requirements. However, key priorities include:

- **Electrification of strategic corridors** to improve freight decarbonisation and performance
- **Terminal development** including new rail freight interchanges to support growing intermodal traffic and options for new routes. Planning processes should treat freight facilities as critical infrastructure and support faster development
- **Supporting** the delivery of the Government's 75% Rail Freight Growth Target through modal shift and growing existing routes

[2] https://transportforthesoutheast.org.uk/app/uploads/2025/11/TfSE-Intermodal-Rail-Freight-Interchange-Study-October-2025.pdf

Funding

2.5.10. Public funding for rail is heavily centralised, with the DfT providing over £18 billion annually to Network Rail and a further £8 billion for HS2 in 2023/24[3] – vastly greater than local transport budgets. This public subsidy is crucial to both capital investment in the railway and covering ongoing operational costs.

2.5.11. However, future investment in the railways in the TfSE area does not have to rely solely on Treasury funds. A range of co-investment and alternative funding sources could be unlocked, including:

- **Future MCAs** and local government, which could offer match funding or raise capital through devolved transport powers
- **Revenue growth** of existing services through GBR should reduce net subsidy and support additional investment in services
- **Developer contributions**, especially where new housing or employment is unlocked by rail investment
- **Airport expansion projects**, such as at Heathrow and Gatwick, where sustainable surface access is a condition for growth
- **Open Access Train Operating Companies (TOCs)**, for example, Virgin Rail, who plan to introduce additional international passenger services between London, Kent, and Europe
- **Freight Operating Companies**, particularly for access routes to ports and interchanges, and for infrastructure improvements supporting intermodal growth

[3] DfT Annual Accounts 2023/24

3. The case for change

3.1. Context and background

The evolution of the railway in the TfSE area

3.1.1. Our rail network is one of the most intensively used in the country and has been shaped by over 190 years[4] of development. Much of the existing network was established in the 19th century by competing private companies focused on providing radial links between London and coastal towns. As a result, many of the region's key corridors remain geared towards commuting into London, with relatively limited provision for orbital, coastal, and cross-country movements.

3.1.2. While major modernisation programmes have taken place in recent years – including the delivery of Crossrail/Elizabeth Line, expansion of Thameslink, development of High Speed 1, and introduction of new rolling stock across multiple franchises – the fundamental geography and design of the network continue to constrain capacity, connectivity, and resilience. In particular, historic junction layouts, outdated signalling, and capacity bottlenecks act as barriers to growth and modal shift.

3.1.3. The legacy of this history is especially visible at places like Southampton, where freight volumes have grown steadily in recent decades. As a strategically important deep-water port with a rapidly growing container and automotive trade, its continued growth is constrained by both mainline capacity and first-mile-last-mile access to the port, underlining the need for targeted investment and coordination across passenger and freight networks.

Today's railway

3.1.4. The TfSE area benefits from one of the most extensive and well-used rail networks in the UK. It features:

- **More than 350 stations** across a densely settled geography, with some counties like Kent and Surrey among the best connected in the UK in terms of station accessibility per capita.
- **Extensive electrification**, predominantly via third-rail DC, covering over 80% of the network. However, gaps remain – particularly on key cross-country, rural, and freight corridors.
- **Intensive passenger service patterns**, particularly on radial routes to London, with some corridors seeing over 20 trains per hour per direction in peak periods.
- **Strong rail mode share for travel into London**, but much weaker inter-urban and orbital links elsewhere in the region, where services are slower and less frequent.

[4] The Crab and Winkle Line – the South East's first railway – opened in 1830

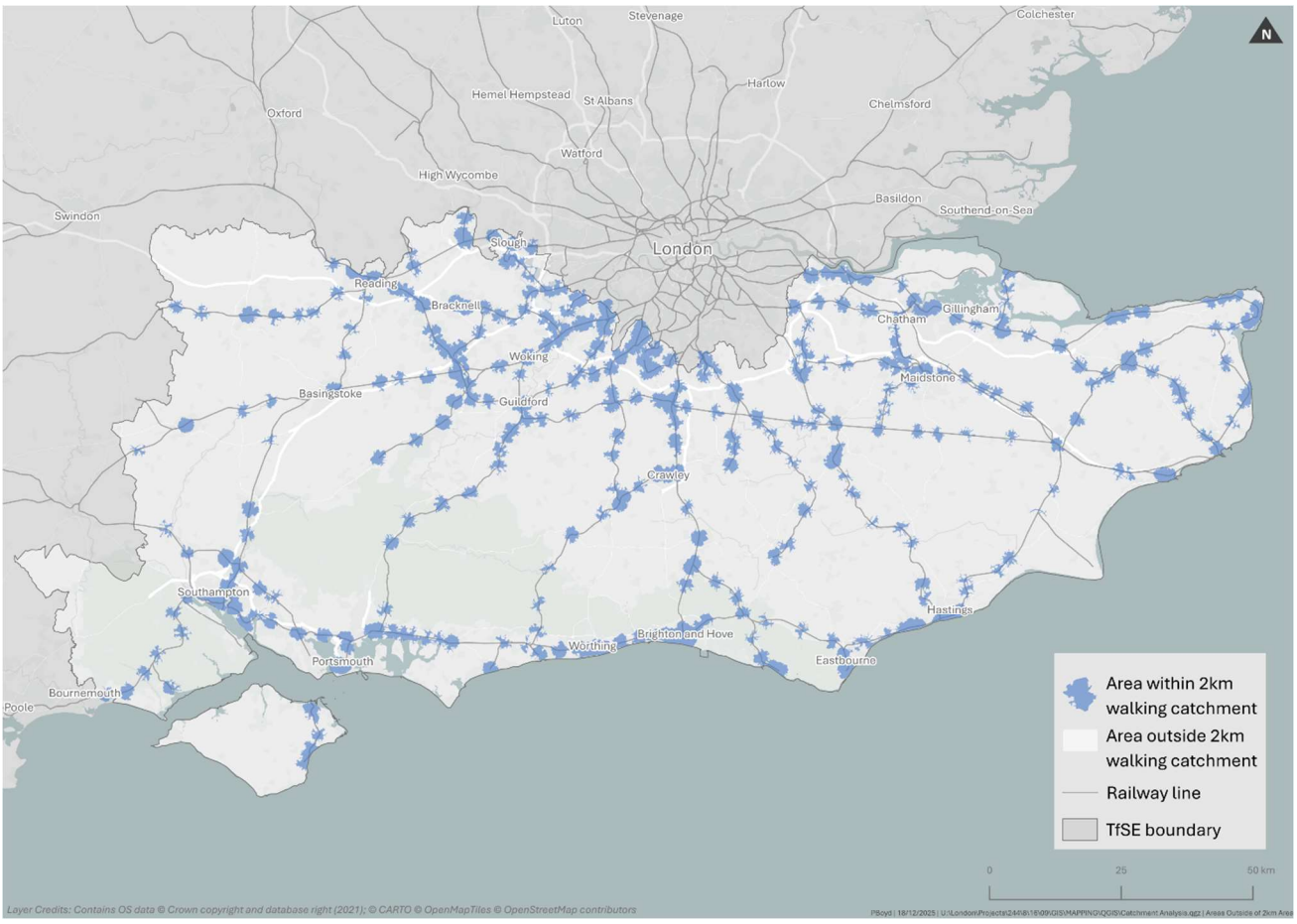
- **Rolling stock that is increasingly ageing**, with some fleets over 35 years old and lacking features aligned with accessibility, sustainability, or passenger comfort expectations.

3.1.5. More detail on the evidence and data behind the strategy is provided in **Appendix B.**

3.2. Infrastructure

3.2.1. There are 351 stations in the TfSE area, and the density of that railway network is evidenced by the proportion of the population living within walking and cycling distance of stations. Around 5.5 million people live within a two-kilometre distance of a station, or 70.6% of the TfSE population. The density of the network, as shown in the map in Figure 2, **Figure 4** below reflects the focus on London-centric commuting, with significant station catchments in centres closer to London.

Figure 4: Areas within a 2km walking catchment of a railway station

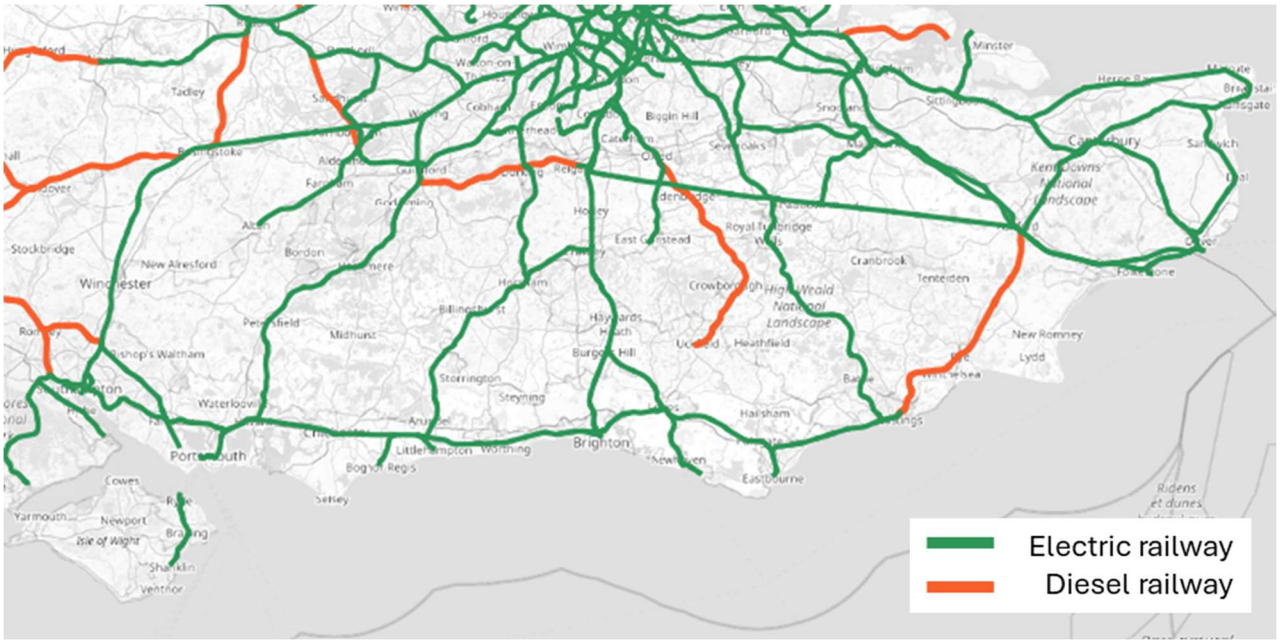


3.2.2. Over 80% of the region's rail network is electrified, the majority with third-rail DC systems. However, as shown in **Figure 5Error! Reference source not found.** below, there are a number of gaps. Some of these are used primarily for freight, particularly to the west of the region and the Isle of Grain, but this also includes the Marsh Link from Hastings to Ashford, the North Downs line and the Wealden line from Hurst Green to Uckfield. These diesel 'islands' within an electrified railway limit the services which can be offered with existing rolling stock and need a route to decarbonisation. The government has an ambition to remove all diesel-only rolling stock from the network by 2040; to achieve this, it will require either multi-mode (potentially battery electric)

rolling stock or electrification. Plans have been developed by Network Rail, but these require funding to progress.

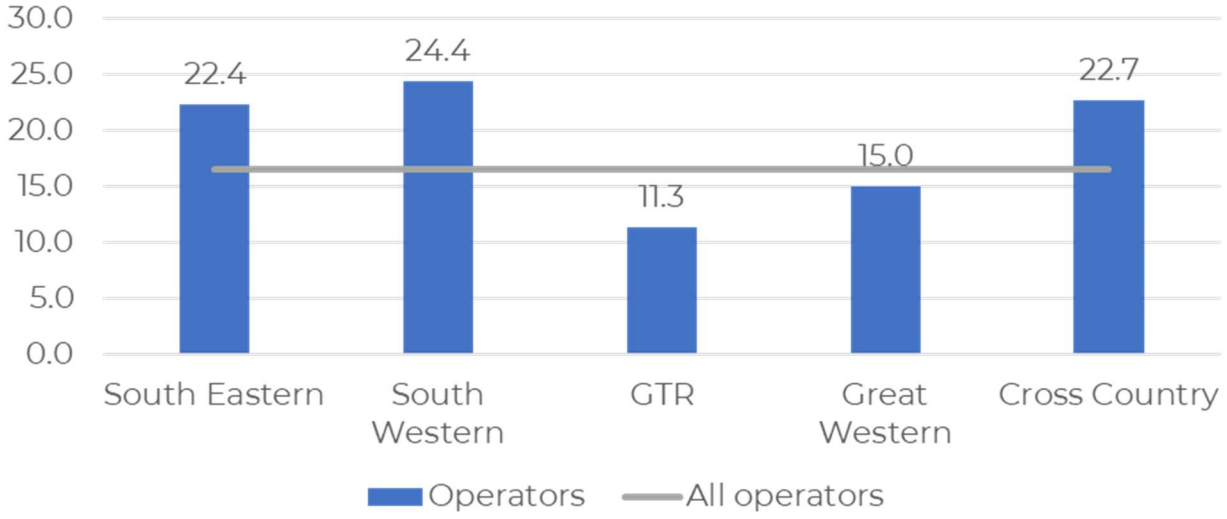
3.2.3. Onward routes to the west, towards Bristol and Salisbury, and north of the region towards Oxford are also unelectrified: this particularly limits the opportunities to decarbonise freight.

Figure 5: Electrified rail routes in the TfSE area



3.2.4. Rolling stock in the TfSE area is generally modern, but some fleets need urgent replacement. The average age of rolling stock for all operators in the country is 16.6 years old, as shown in **Figure 6**, with only GTR (Thameslink, Southern and Great Northern) having significantly newer (on average) rolling stock than this, but this hides substantial variation. Many of the region's fleets are significantly older.

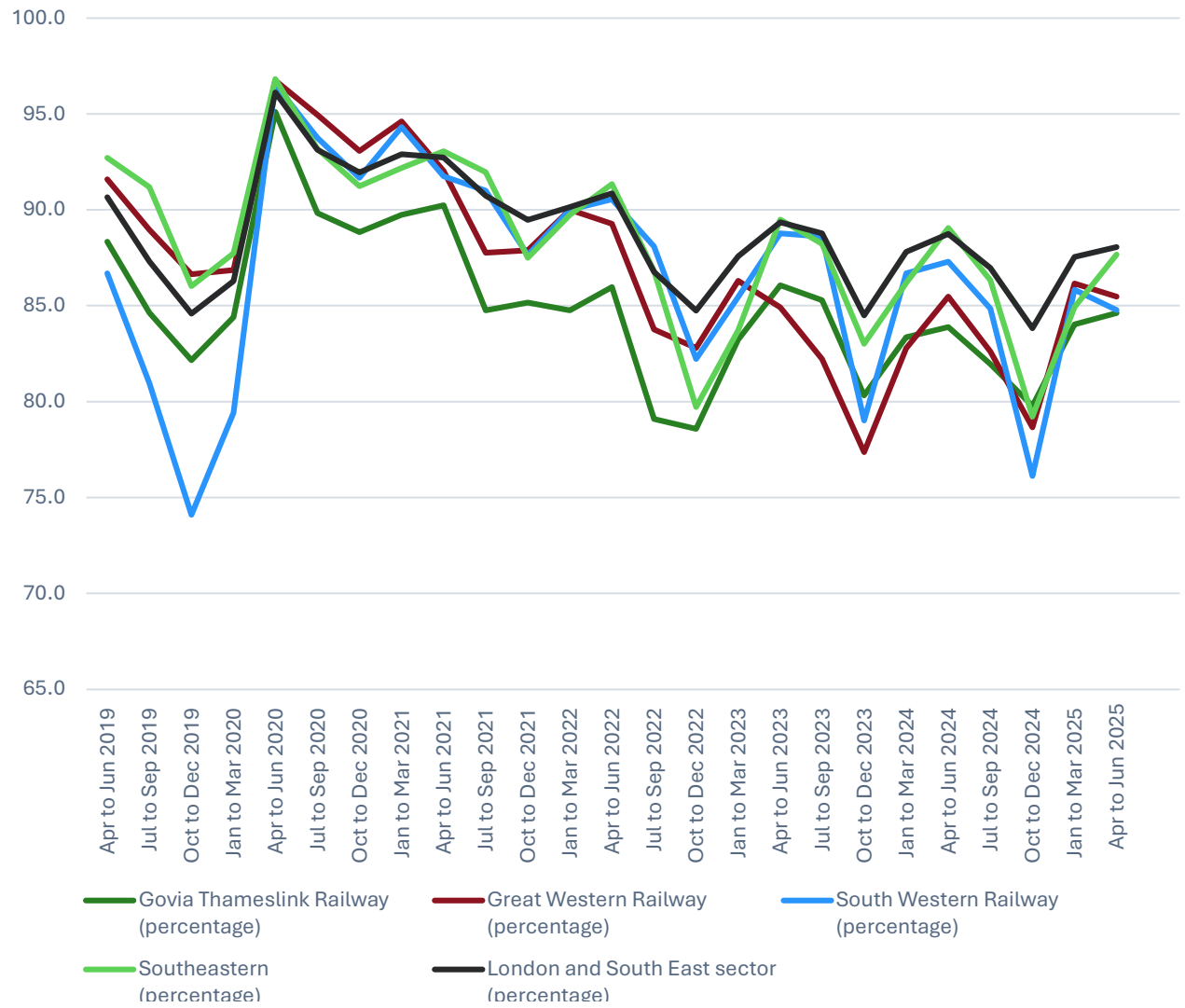
Figure 6: Average age of rolling stock by operator



3.3. Performance

3.3.1. Performance on the network declined post-Covid. **Figure 7** shows quarterly data for the public performance measure – the percentage of trains arriving at their final destination within 5 minutes of schedule. Performance in 2020-2021 was high because fewer trains were run and fewer people were on them; nevertheless, the continuing downward trend is concerning. The intensively used network in the TfSE area worsens the impact of delays and means huge numbers of passengers can be affected.

Figure 7: Public Performance Measure by operator (quarterly data)



Source: ORR Rail performance data, table 3113

3.4. Services and demand

3.4.1. Rail infrastructure in the region is intensively used, with an estimated total of 255 million rail trips between April 2023 and March 2024 across the South East statistical region.

3.4.2. 165 million of these trips were to or from London, 73 million were within the South East, and the remaining 17 million were journeys to or from other regions. This shows the extent of rail's role supporting access to London, but also the importance of many other corridors across the region. Our busiest stations serve major routes for commuting and leisure, supporting millions of journeys a year.

Table 1: 10 busiest stations within the region

Station	Annual entries/exits (2023-2024)
Gatwick Airport	19,489,656
Brighton	14,547,650
Reading	13,490,220
Woking	6,013,940
Guildford	5,883,734
Southampton Central	5,795,080
Slough	5,383,958
Dartford	4,497,840
Maidenhead	4,391,702
Basingstoke	4,239,778

Source: ORR Estimates of station usage, 2023-24

3.4.3. Demand into London remains high and capacity issues are highlighted by the stations over capacity at peak time in ***Table 2***. The number of passengers in excess of capacity (PiXC) at Waterloo is notable, with increasing passenger demand at peak times, resulting in significant increases in PiXC levels from 2022.

Table 2: Passengers in excess of capacity at selected London terminals

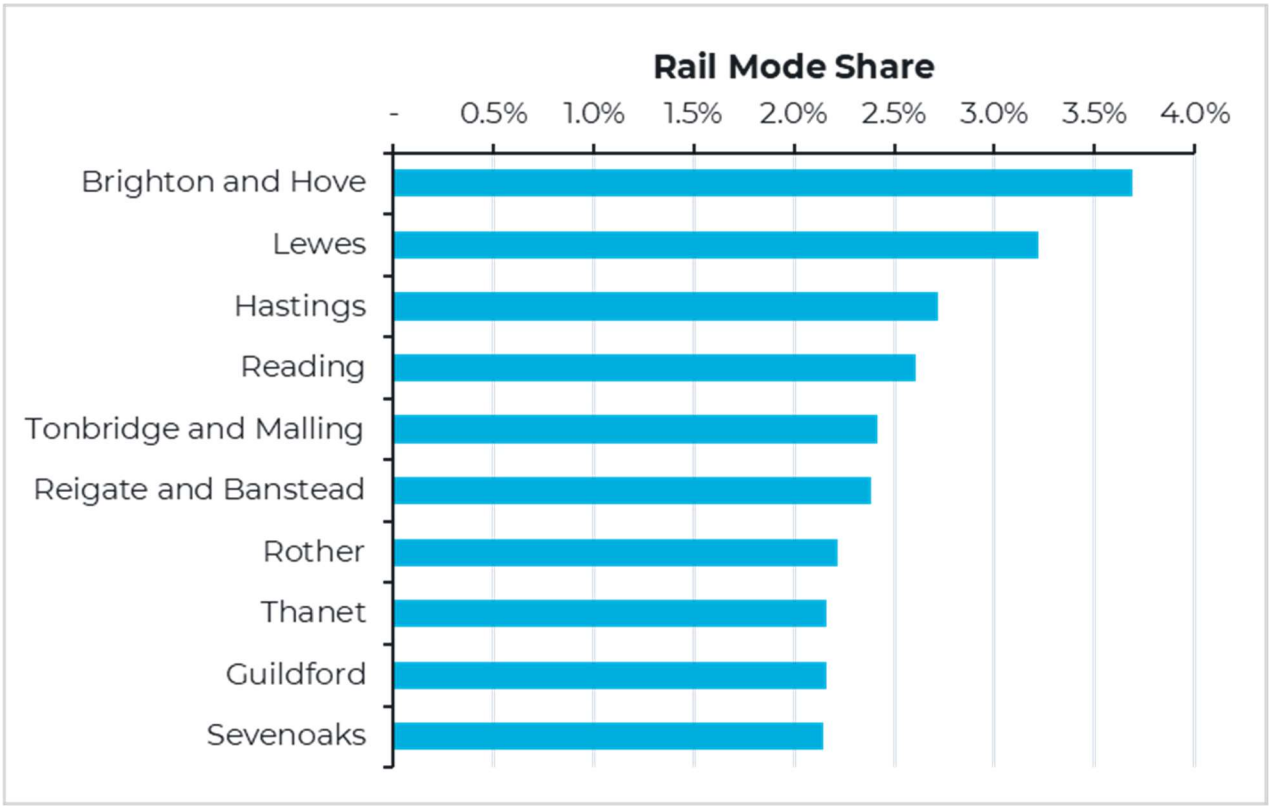
Station	Total Passengers in Excess of Capacity (PiXC) 2023	Percent PiXC	Change from 2022 (pp)
London Bridge	1,236	0.60%	-0.2 pp
Vauxhall (for Waterloo)	5,172	3.40%	+2.1 pp
Victoria	311	0.30%	+0.3 pp

Source: DfT Rail passenger numbers and crowding, 2023

3.4.4. Rail has a low overall market share on orbital routes and coastal routes, and for leisure journeys. Even in some of the area's larger conurbations (e.g. Reading), rail struggles to achieve a total mode share above 2-3%, as seen below in **Figure 8** below. Freight flows remain significant on some corridors and show promise, but growth needs to be supported through dedicated interchange and rail path capacity and modernisation.

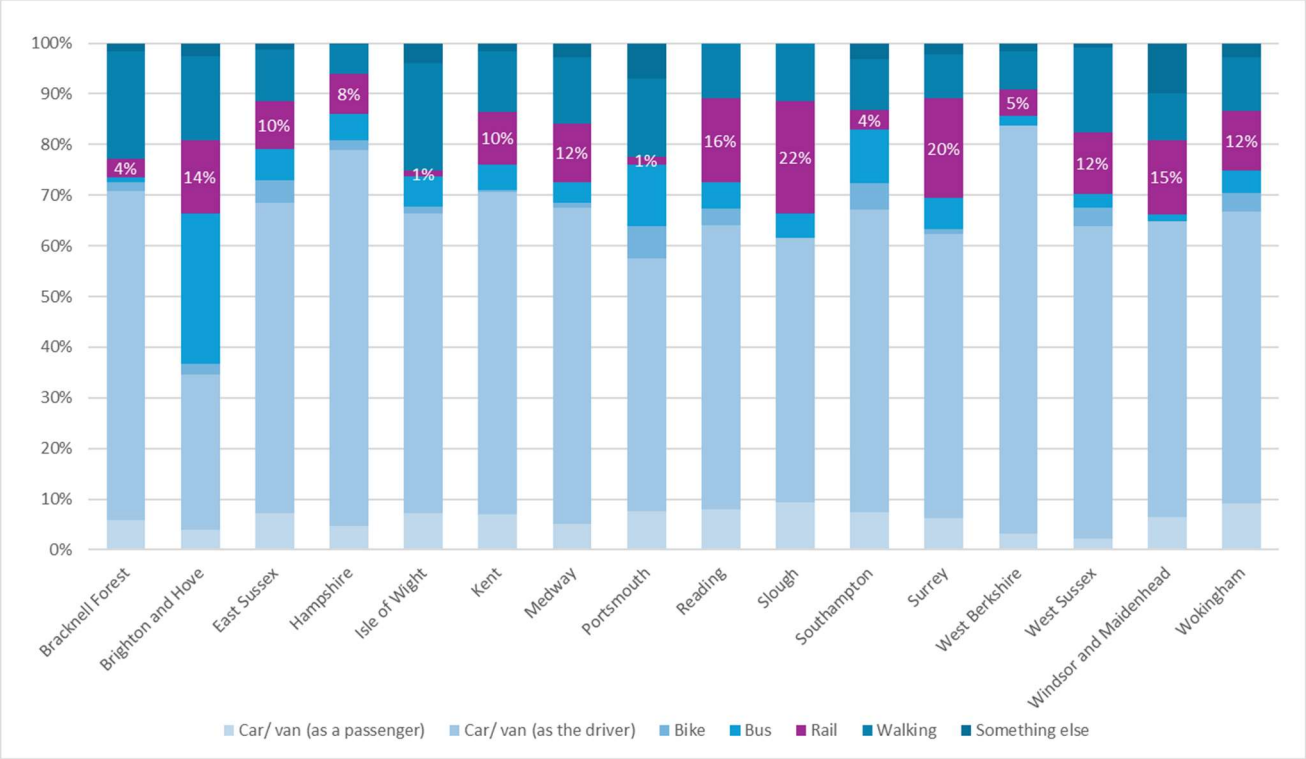
3.4.5. However, as **Figure 9** shows on the following page, the region has a very high rail mode share for commuting, particularly into London, highlighting the current strengths of the network. This**Error! Reference source not found.** shows that many authorities within TfSE have greater than 10% rail mode share for commuting.

Figure 8: Rail mode share in the region's best-performing local authority areas



Source: Network Rail Mobile Network Data, May 2025

Figure 9: Mode Share for Commuting



Source: TfSE Regional Travel Survey

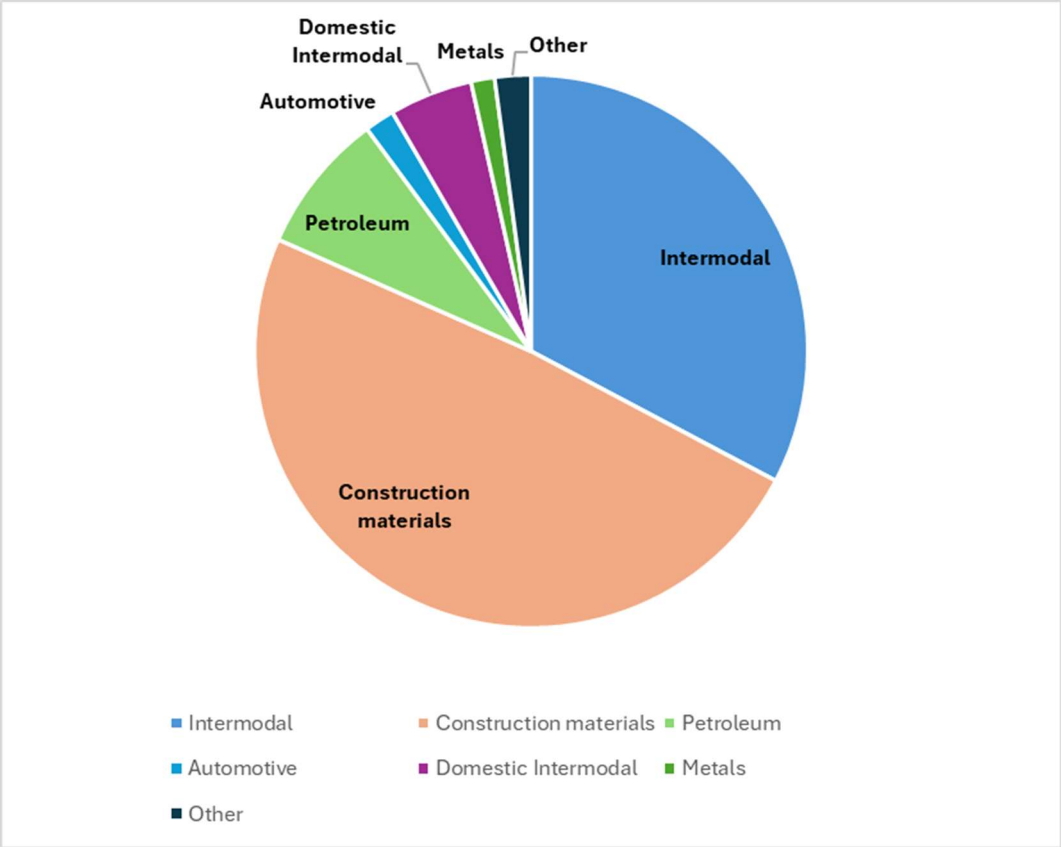
3.5. Freight

3.5.1. The region's core rail freight markets are intermodal container traffic, largely from the Port of Southampton, and construction materials from a number of different terminals. **Figure 10** shows the breakdown of total volumes for 2023/24.

3.5.2. Particularly in the case of smaller routes, some freight services may not be frequently operated but still serve a valuable role. Some railheads and infrastructure may not be currently used but should be protected for future needs, as once infrastructure or land has been redeveloped, it is much more challenging to reinstate freight services.

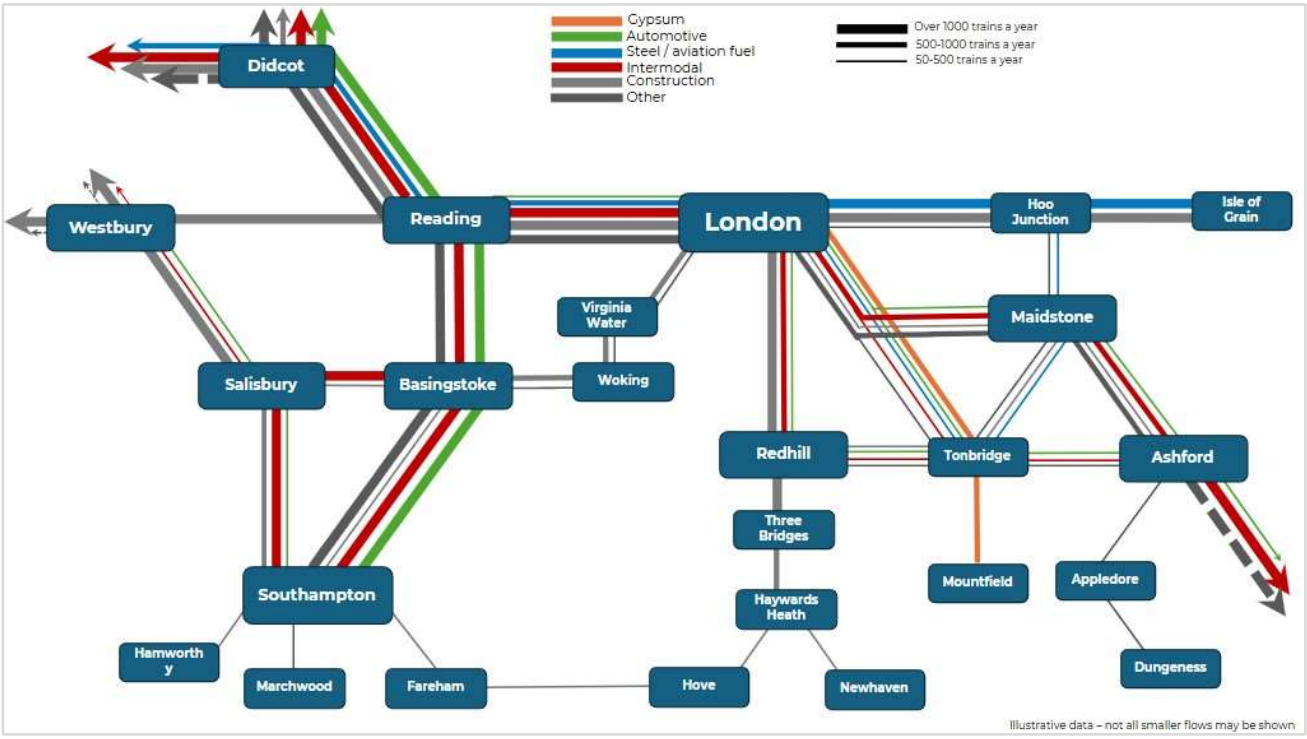
3.5.3. As shown in **Figure 11**Error! Reference source not found.**,** construction traffic including aggregates makes up a substantial part of the region's freight network – this includes both traffic from the Mendip quarries to the West and sea-dredged aggregates. The latter are increasingly crucial in construction as domestic quarries are depleted, and Newhaven and the Isle of Grain are important terminals for the sector. Rail transport of these construction materials is particularly important for major developments in and around London, where bringing in heavy materials by road is challenging and disruptive.

Figure 10: Freight tonne kilometres by commodity, 2023/24



Source: ORR rail freight usage – table 1311

Figure 11: Rail freight routes



Source: Network Rail summary of current freight traffic, January 2026

3.6. Financial

3.6.1. One of the key challenges facing today's railway is its financial sustainability. Post-pandemic, overall ridership has not fully returned to pre-Covid levels, but leisure and interurban travel has grown significantly. On some corridors, such as east-west inter-regional links, leisure demand is now substantially higher than before Covid, showing the evolving nature of the travel market.

3.6.2. However, there is an increasing gap between demand growth and revenue, with passengers increasingly using discounted and off-peak fares, particularly for business and leisure travel.

3.6.3. **Figure 12** below shows the net subsidy for each rail operator in the TfSE area, normalised by total passenger kilometres. Before the pandemic, many of the region's operators returned a premium to the government, providing a cross-subsidy to less profitable services across the country. However, this has been reducing gradually over time as operating costs have increased and hybrid working has become more common.

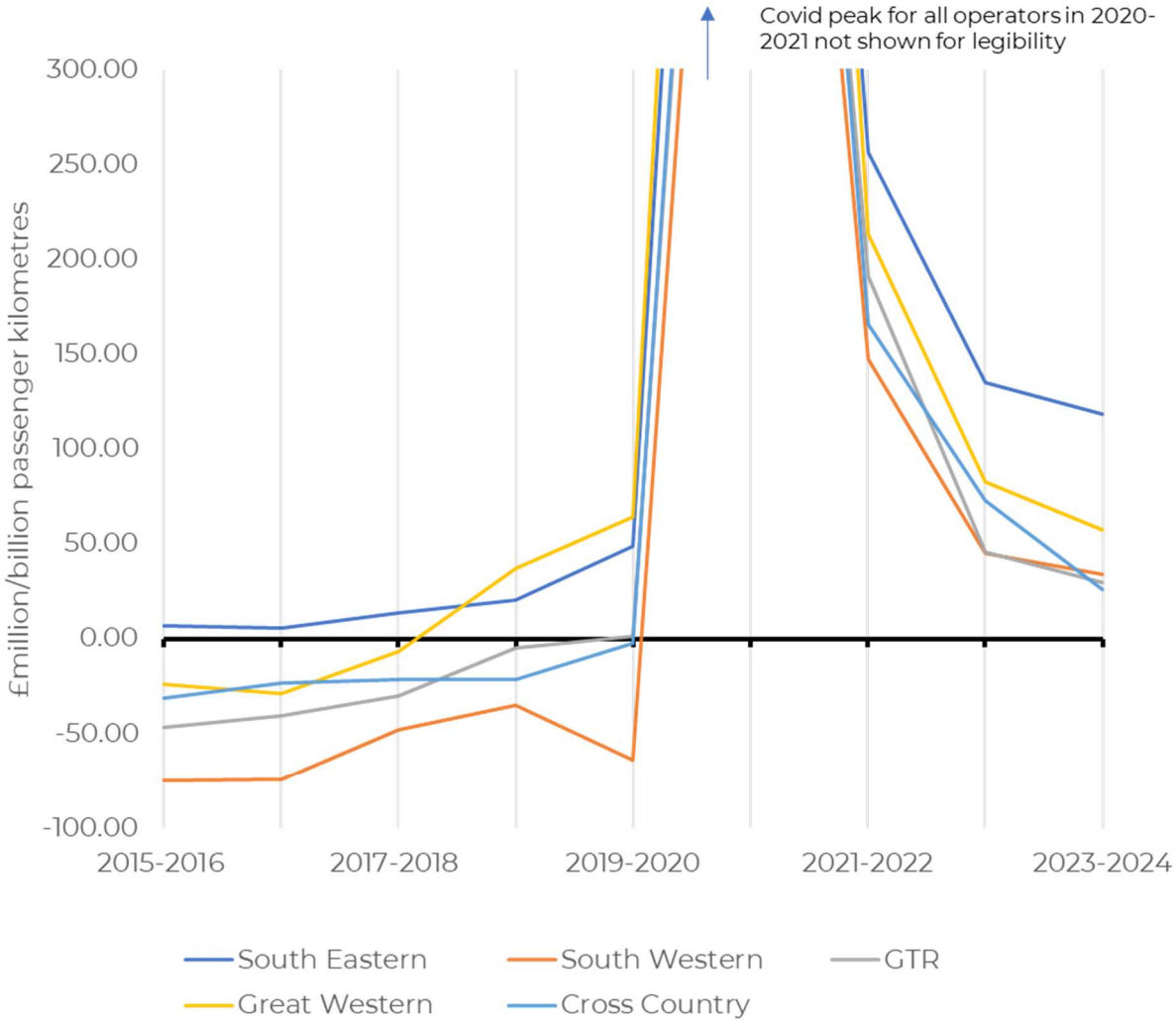
3.6.4. Post Covid-19, all operators require a subsidy, although commuter demand is still growing quickly across much of the region, and this could quickly change.

3.6.5. The rail industry is currently highly focused on improving its financial sustainability and growing revenue: new services or infrastructure need to demonstrate their impact on subsidy levels in order to be attractive to funders. Services in the TfSE area still deliver a huge proportion of the industry's total revenue: the potential benefits of growth are higher than they are elsewhere in the country.

3.6.6. The region is also home to major gateways such as Heathrow, Gatwick, and Southampton airports, as well as ports at Southampton, Portsmouth, Shoreham, Newhaven, Dover, and Medway. The TfSE area is also home to the Channel Tunnel, which relies on motorway and high-speed rail links in Kent to access the rest of the country. These assets make the area vital not only to regional prosperity but also to national connectivity and global competitiveness.

3.6.7. Fares can be a barrier to the use of rail, particularly in more economically deprived parts of the region. In recent years, the gap between rail fares and car costs has grown, as rail fares have increased above inflation. Within the region, fares can vary substantially between routes and for similar stations. This will often still reflect historic decisions before privatisation – rather than the best option for each route today.

Figure 12: Net subsidy by operator (£million/billion passenger kilometres)



Source: ORR franchised passenger train operator finances – table 7226

3.7. The need for action

Key problems, challenges, and opportunities

3.7.1. Several converging pressures demand urgent action to modernise and reposition the rail network in the TfSE area:

- **Population growth**: The TfSE area continues to experience rapid population growth, with over 250,000 new homes planned by the early 2030s. Without high-capacity public transport, this growth risks worsening road congestion and carbon emissions from all forms of road transport.
- **Misalignment between housing and transport locations**: New housing is not always well-aligned with existing rail infrastructure. Transit-Oriented Development offers a way to align housing, employment, and sustainable travel. The government has recently recognised this and announced a presumption in favour of development around well-connected stations.
- **Station accessibility**: Many of the region's stations lack comprehensive step-free access: only 22% of stations in the region are fully step-free, and 8% have no step-free access at all. Others are poorly served by local buses: both make it harder for people to use rail, and limit demand growth.
- **Ageing infrastructure and fleets**: While some routes have benefitted from recent upgrades, others – such as the North Downs Line – continue to be held back by low line speeds, non-electrified sections, or ageing rolling stock. In many places, the solution is clear, but funding constraints impact the further development of these schemes.
- **Resilience**: Climate change and increased extreme weather events make it more challenging to maintain the network. Coastal routes are at risk of flooding, and embankments and cuttings are increasingly affected by storms and hot weather.
- **Freight growth**: Rail freight has pivoted from bulk goods (e.g. coal) to intermodal (container) and construction-related traffic. The South East's ports generate significant freight traffic that could be better served by rail. However, pinch points, lack of electrification, and limited terminal capacity restrict this potential.
- **Airport and port expansion**: Growth plans at Gatwick, Heathrow, and ports like Southampton and Dover require step changes in public transport provision. With ambitious mode share targets for sustainable access, failure to upgrade rail links will constrain wider economic growth in the TfSE area and the UK.
- **Decarbonisation**: While the region's electrification levels are high, there are critical gaps on corridors such as the Oxted and Marsh Link lines. Delivering modal shift to rail is essential to achieving the decarbonisation of the transport system in the TfSE area.
- **Cost and affordability**: There is a persistent perception that rail is too expensive, both for passengers and for public authorities looking to deliver enhancements. Addressing value for money, ticketing integration, and first- and last-mile connectivity will be key to overcoming these barriers.

Policy context and strategic alignment

3.7.2. The need to reform and invest is reinforced by a strong policy framework, including:

- **TfSE's Transport Strategy and Strategic Investment Plan**: These set out a vision and investment priorities for a better-connected, more resilient, inclusive, decarbonised, and growth-enabling transport system.
- **National policies**: These include changes in investment priorities, decarbonisation and rail freight targets, and rail reform, including the bringing of passenger rail franchises into public ownership and the creation of GBR.
- **Local plans and devolution deals**: Spatial development strategies emerging from combined authorities and unitary authorities provide new levers for spatial planning, land value capture, and integrated transport delivery. The creation of combined authorities and unitary authorities, and the roll-out of local government reorganisation, present further opportunities to strengthen transport planning and delivery – although this may take time as the region transitions to new local government and funding arrangements.

What happens if we do not act?

- **The rail system in the TfSE area is at a pivotal moment**. Without concerted investment and reform, the region risks a gradual erosion of connectivity, competitiveness, and environmental performance. Inaction would not simply maintain the status quo – it would lead to a decline in our region's economy, with large parts of the region dependent on rail connectivity for employment.
- **A barrier to housing and economic growth**: Rail has the potential to unlock development by making high-density, low-carbon housing viable and by connecting people to jobs and services. Without a modern, reliable rail system, local authorities and developers will find it increasingly difficult to deliver sustainable growth. This could result in more dispersed, car-dependent housing development; increased congestion and air pollution in towns and cities; and lost inward investment. The TfSE area's role as a global gateway would be weakened, with airports struggling to meet passenger mode-share targets they need for expansion, and ports losing competitiveness against European hubs for freight. Stretched capacity limits the potential for rail to supply aggregates and other construction materials for development, and to service new housing and employment hubs subsequently.
- **A network that fails to meet future demand**: Population and housing growth are outpacing infrastructure investment. Without new capacity and service improvements, existing corridors will become increasingly congested, particularly on routes into London, across the South Coast, and through key bottlenecks. This risks constraining labour mobility and suppressing productivity in some of the UK's most economically dynamic areas. For freight, the lack of available train paths risks creating greater reliance on HGVs, generating additional congestion and worsening air quality and resilience on the Strategic Road Network, Major Road Network, and local roads.

Growing profitable services: While operators require subsidy at present, the area's high volume and intensively used core routes drive a huge proportion of UK rail revenue and, in the pre-Covid era, cross-subsidised the network. Ensuring that these routes grow and deliver their full potential once again will have a hugely positive impact on rail revenue at a national level.

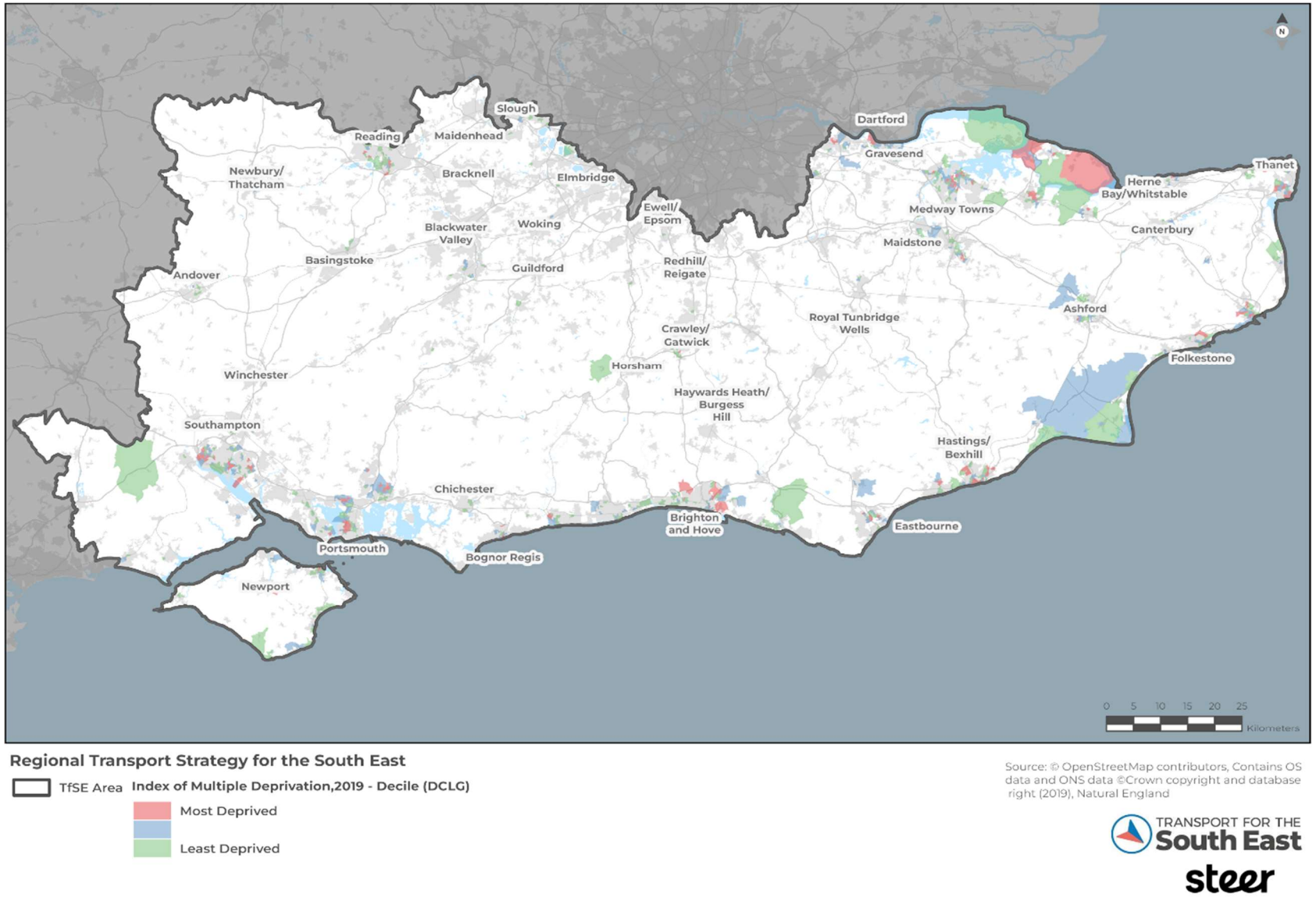
- **A missed opportunity to "catch up" on the UK's decarbonisation goals**: Transport is the largest source of greenhouse gas emissions in the UK[5]. Rail, by contrast, is already the lowest-carbon form of powered transport. If rail fails to grow its mode share, the TfSE area will fall short of its decarbonisation ambitions. Without electrification and infrastructure renewal, diesel operation will persist, locking in higher costs and emissions. Similarly, without greater modal shift to rail freight, HGV mileage will continue to rise, undermining progress on air quality and climate commitments.
- **Widening inequality and isolation[6]**: Many coastal and rural communities in Kent, East Sussex, and Hampshire already experience poor connectivity, high car dependency, and lower incomes. Without action, these disparities will deepen. A rail system focused primarily on London commuting risks excluding communities that depend on regional and cross-country links for access to work, healthcare, and education. The social and economic cost of transport-related exclusion would rise, contradicting TfSE's Inclusion and Integration mission. **Figure 13** below shows the most and least deprived areas in the region, which are concentrated on the coast and the areas furthest from London.
- **Increasing vulnerability and declining resilience**: The TfSE rail network is ageing and highly interdependent. Single points of failure at major junctions mean that disruption in one area can cascade across the region. Without sustained investment in renewal, resilience, and modernisation, reliability will worsen, leading to higher maintenance costs, longer journey times, and reduced public confidence in rail. Extreme weather events, flooding, and coastal erosion will continue to expose vulnerable assets, particularly along the South Coast.
- **Lost strategic advantage for the UK**: Finally, failure to act would undermine not just regional goals but national ones. The TfSE area is the UK's primary gateway for trade, tourism, and talent, and a huge driver of national economic activity. It serves a significant proportion of the UK's port traffic through Southampton and Dover, provides access to some of the country's busiest airports, and hosts direct links to Europe via HS1 and the Channel Tunnel. Without improved rail freight and passenger capacity to and from these gateways, national supply chains will become less efficient, less competitive, and more carbon-intensive – undermining the UK's position in global markets.

3.7.3. The choice is clear: without intervention, the TfSE area faces declining reliability, mounting congestion, widening inequalities, and missed opportunities for clean growth. Acting now – through delivering a coherent programme of investment and

[5] Department for Energy Security and Net Zero, 2023 UK Greenhouse Gas Emissions, Final Figures, 6 February 2025, **https://assets.publishing.service.gov.uk/media/67a30e4f7da1f1ac64e5feb1/2023-final-greenhousegas-emissions-statistical-release.pdf**

reform – will ensure the TfSE area secures its role as the nation's economic engine, global gateway, and low-carbon exemplar.

Figure 13: Index of Multiple Deprivation



Regional Transport Strategy for the South East

TfSE Area **Index of Multiple Deprivation,2019 - Decile (DCLG)**

Most Deprived

Least Deprived

TRANSPORT FOR THE South East

steer

Source: MHCLG Index of Multiple Deprivation 2025

4. Strategic priorities

4.1. Overview

4.1.1. This section sets out the key challenges and opportunities for rail across the TfSE area and how they shape our strategic priorities. To do so, we adopt a corridor-based framework that reflects the way rail services function and how passengers and freight move across the region. These corridors cross administrative boundaries – a list of conditional outputs within each MSA area and county is provided in **Appendix A**.

4.1.2. In this section, we divide the network into two broad categories:

- **Radial corridors**, which connect the TfSE area to London and play a vital role in national and international connectivity.
- **Orbital corridors**, which connect towns, cities, ports, and airports across the South East and beyond without necessarily passing through London.

4.1.3. These corridor types face common challenges – including capacity constraints, ageing infrastructure, resilience challenges, and changing patterns of demand – but also offer distinct opportunities to unlock sustainable growth, reduce car dependency, and improve regional productivity.

4.1.4. Within each category, we focus on key corridors that underpin the region's transport and economic systems. We highlight selected routes and lines of strategic importance, without attempting to cover every part of the network in detail.

4.1.5. The region has a dense and highly linked rail network. This means that across large areas of the region, there are a number of different rail routes which could be used to deliver services, and different approaches which could be taken to deliver improvements to speeds or frequency, or reductions in carbon emissions.

4.1.6. 'Conditional outputs', as used in this strategy, define the level of service and outputs which are needed to achieve TfSE's objectives and meet the opportunities in each corridor. It is then for the rail industry to propose solutions and schemes which can deliver these outputs most efficiently.

4.1.7. The intensive utilisation of the network in the TfSE area means that there are few options to substantially improve services without making trade-offs between different potential markets, without major infrastructure investment. We expect that these considerations would be reviewed and consulted on in detail as schemes are developed to deliver the conditional outputs. For each corridor, we apply a consistent structure to outline:

- The **role and function** of the corridor.
- **Current challenges** affecting performance and reliability.
- **Opportunities** to enhance services, unlock growth, and support strategic objectives.

- **Conditional outputs** – the outcomes we want to achieve, subject to appropriate investment and partnerships.
- **Dependencies and risks**, recognising that delivery relies on coordination across delivery agencies, funding sources, and policy frameworks.

4.1.8. Together, these corridors represent the backbone of the rail network in the wider South East – one that needs to be resilient, integrated, decarbonised, and better aligned to the region's evolving needs. In the following pages, we set out our priorities for each corridor, beginning with the radial routes to and from London.

4.2. TfSE-wide Priorities

4.2.1. Across the network, there are a number of areas where performance and customer experience are currently inconsistent and could be improved. Alongside the specific conditional outputs in each corridor section, there are a number of broader themes where TfSE is keen to see action.

Rail integration

4.2.2. Access to rail stations via bus is often harder than it needs to be: connection times are poor, or services are not available directly outside the station. Walking and cycling can also be a challenge, particularly where stations were historically built some distance from town and village centres. This leaves people reliant on driving to stations, causing congestion, carbon emissions and creating car parking challenges.

4.2.3. In best practice examples, stations serve as multimodal hubs in their local area: joined-up information on bus times and potential active travel routes, and high-quality facilities, support access to stations via a range of modes and reduce dependence on cars.

Passenger experience

4.2.4. The quality of service passengers receive can be inconsistent, with some rolling stock fleets very old or inappropriate for the routes they serve, such as high density commuter trains serving longer distance routes. Wi-fi provision is variable, and the quality of mobile phone reception is poor on some routes, particularly those with frequent tunnels and cuttings. Consistent data availability, particularly on longer distance routes, is increasingly important to passengers and particularly so for business and leisure travel.

4.2.5. Many of the stations in the TfSE area lack comprehensive step-free access: only 22% of stations in the region are fully step-free, and 8% have no step-free access at all. Rail should be accessible to everyone, and with an ageing population, this is only going to become more important. Existing funding through Access for All[7] supports the rollout of step-free access, but this should be accelerated.

Performance

4.2.6. The intensively used network in the TfSE area worsens the potential impacts of delays, and the number of people affected by major incidents can be huge. Across the network, as Network Rail and train operators work more closely together in the lead-up

[7] https://www.gov.uk/government/collections/access-for-all-programme

to GBR, action is needed to improve and maintain network performance, including through timetabling improvements and future plans for rolling stock and train crew.

Fares and ticketing

4.2.7. In the current financial climate for the rail industry, with intense pressure to reduce subsidy levels, general reductions in fares are unlikely. However, affordability is a key barrier to the use of rail by many, and options should be considered to introduce targeted discounts where possible, particularly where this may drive revenue growth. In many parts of the region, the focus has been on London fares, and there may be room to optimise fares on orbital and regional flows, with positive impacts on both revenue growth and local economies.

4.2.8. Integrated ticketing between bus and local rail can also support improved multimodal integration, better linking rail into local transport networks. Trials of Pay-as-you-go (PAYG) ticketing currently being carried out in Yorkshire and the East Midlands provide new and more flexible options for passengers. The South East shouldn't be left out of this.

Conditional outputs

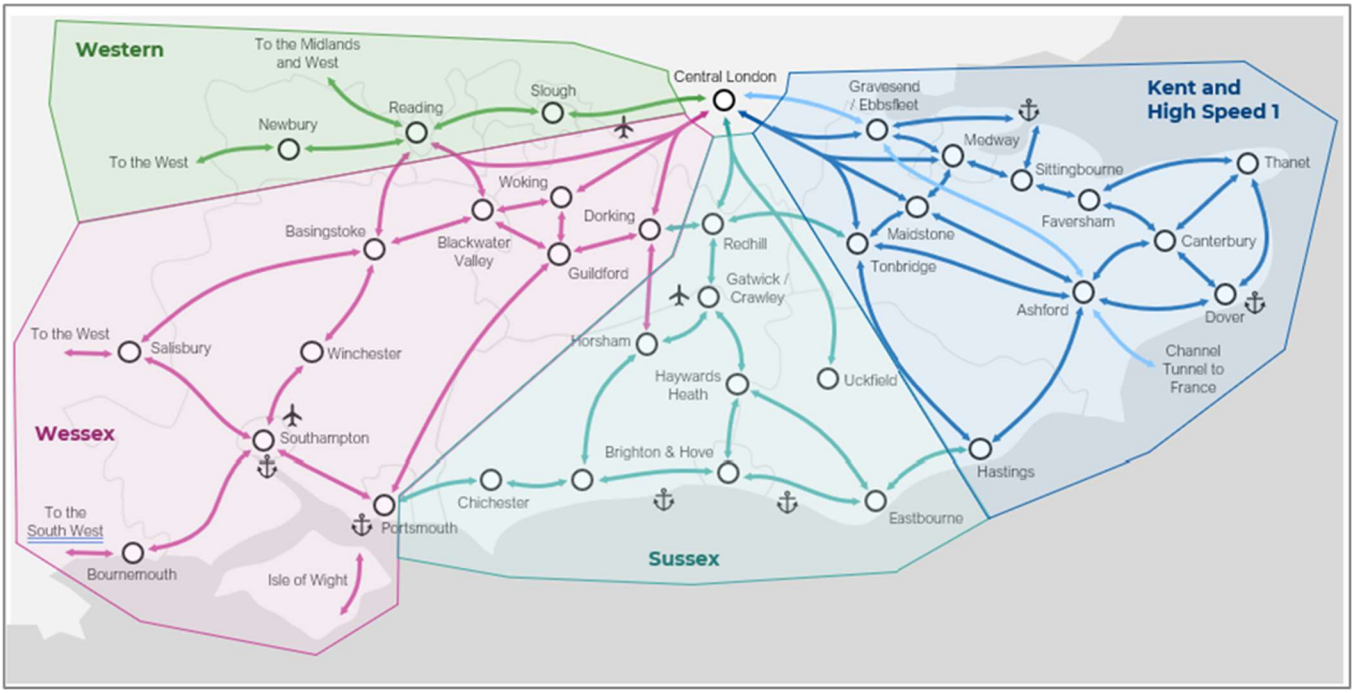
Conditional outputs to address these challenges

- **Improved integration of rail with local public transport networks** and active travel routes, including integrated ticketing.
- Provision of **high-quality rolling stock for each route**, including Wi-Fi provision.
- **Targeted fares** to support local markets and economies.
- **High reliability**, with punctuality equal to the best operators in the sector (above 90% of trains arriving within three minutes of schedule).
- **High customer satisfaction**, maintaining and improving scores in the industry Rail Customer Experience Survey, with overall journey satisfaction above 80%.

4.3. Radial corridors

4.3.1. Radial corridors provide frequent and often fast rail services connecting towns and cities across the TfSE Area with central London. These routes enjoy high market share, particularly for commuting and business travel to and from Central London destinations and have historically been the engine of the area's rail network.

Figure 14: Radial rail corridors in the Transport for the South East area



4.3.2. However, this success brings challenges. Many radial routes are now operating at or beyond capacity, resulting in overcrowding, congestion, and reduced performance and reliability. In several cases, the very popularity of these services has made them a victim of their own success.

4.3.3. While the radial network is extensive and well-used, some notable connectivity gaps remain. For example, many east–west movements rely on radial lines that are often circuitous or require multiple interchanges. Some towns are less well connected than their neighbours, a disadvantage that can hinder growth, investment, and economic opportunity. A direct train from London to Hastings, for example, takes 95 minutes: as long as getting from London to Doncaster (which is more than twice the distance). Many stations, particularly in rural areas, are poorly integrated into local transport networks, with passengers dependent on car access. This limits the scope for driving new demand, particularly in the off-peak.

4.3.4. London remains the dominant economic hub for the region. Towns and cities across the TfSE area continue to rely heavily on London for both employment and connections to the wider UK and international destinations. As a result, high-quality, reliable, and inclusive rail access to the capital is not simply desirable – it is fundamental to the region's future success and to the city's economy. Where places fall behind their neighbours in terms of rail provision, they must work disproportionately harder to attract investment, support housing delivery, and grow their local economies.

4.3.5. Additionally, while the radial routes enjoy significant modal share for journeys to and from Central London, there are opportunities to significantly grow rail's contribution

to serving destinations to and from outer London.

4.3.6. We have structured our analysis of radial routes in line with the established Network Rail routes for the region:

- **Kent** (which includes parts of East Sussex)
- **Sussex** (including East Surrey)
- **Wessex** (West Surrey, Hampshire, and parts of Berkshire)
- **Western** (Berkshire)

4.3.7. Each of the following sub-sections sets out the corridor's role, challenges, opportunities, desired outputs, and delivery considerations.

4.3.8. While the sections below focus on corridor-specific outputs, as a general rule, TfSE and its stakeholders would like to see each Major Economic Hub (defined as a major town, city, port, airport, and/or growth hotspot, and shown in **Figure 15** below) well-connected to London (and to each other, as described in the orbital section).

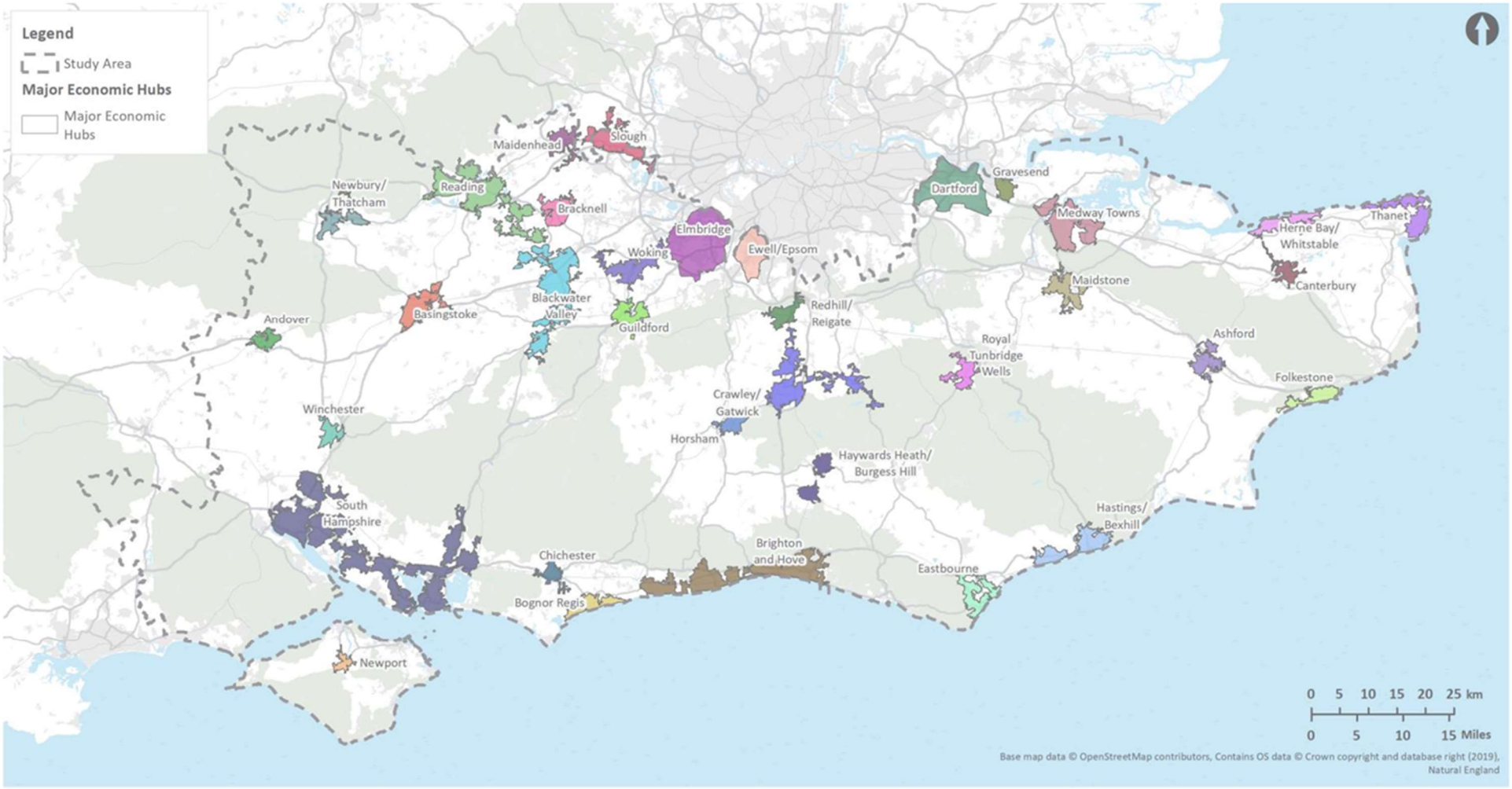
We define "well-connected" for these hubs to mean:

- **At least four direct services per hour to/from London during peak hours** for stations within one hour of the capital.
- **At least two direct services per hour to/from London off-peak** for all hubs, including peak hours for hubs that are more than one hour from London.
- **50mph average speed** between London and each hub.

4.3.9. These outputs are achieved in most – but not all – places in the TfSE area. In the sections below, we outline corridor-specific outputs we want to see realised.

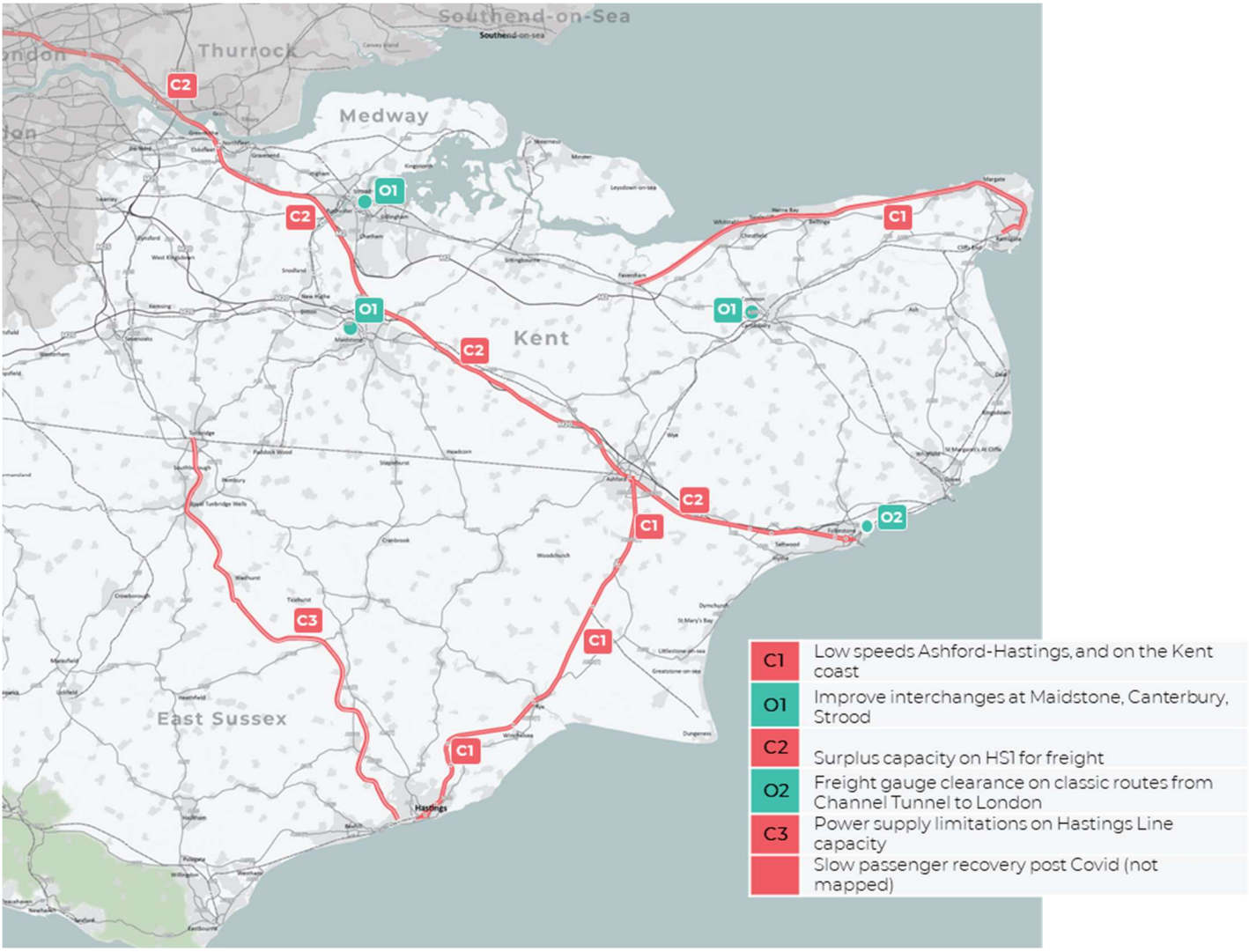
4.3.10. Across both hubs and smaller stations, rail should be well integrated into local transport networks. Step-free access is crucial for many people to access the network, and the rollout of accessibility upgrades across the network should be accelerated.

Figure 15: TfSE Major Economic Hubs



Kent Route and High Speed 1

Figure 16: Challenges and Opportunities for Kent



Corridor profile

4.3.11. In contrast to many other radial corridors, Kent is served by a diverse and extensive network of lines connecting to the capital. Six London termini serve routes into Kent, supported by four principal main lines – High Speed 1, the South Eastern Main Line, the North Kent Line, and the Chatham Main Line. These each expand into branches that intersect and diverge across the county to create a complex, interwoven network. In several locations, such as Maidstone, Canterbury, and Strood, lines cross without convenient interchanges, limiting connectivity across the network.

4.3.12. This complexity reflects Kent's historical importance in the development of the railway. The county hosted one of the first railways to be built in Britain, and it is home to the UK's only high-speed railway, High Speed 1 (HS1), which provides access to the Channel Tunnel. Despite this international infrastructure, rail freight has a relatively modest presence in the area. Most freight services in Kent are a combination of Channel Tunnel traffic and aggregate trains (sand and stone) for the construction industry. Key features of construction traffic in the Kent Area are sea-dredged aggregates from the North Kent area into London distribution terminals and a series of terminals in Kent receiving aggregates traffic from suppliers across the UK. Sea-dredged aggregates will

become increasingly important as domestic aggregate quarries are exhausted.

Current challenges

4.3.13. The rail network in Kent has faced significant headwinds in recent years. The pandemic accelerated a downturn in commuting, and recovery in both passenger demand and revenue has been slower than in other parts of the TfSE area. The region's lower average incomes – particularly in East Kent – may be contributing to affordability challenges and reduced rail use. While HS1 has dramatically improved journey times and delivered associated benefits to some areas (for example, Ashford has seen substantial growth in population and employment[8]), many locations in the north and east of the county still suffer from slow journey times and indirect services.

4.3.14. Power supply limitations on the Hastings Line constrain performance and capacity, limiting the number of 12-car services that can operate each day.

4.3.15. For freight, the gauge clearance of key routes used to reach the Channel Tunnel to allow larger containers would allow rail to become more attractive to end users. The Maidstone East Line is the key route used by freight trains to access the Channel Tunnel and is currently cleared only to W9 gauge. W12 is the aspirational standard.

Opportunities

4.3.16. One of the most exciting opportunities for Kent lies in the revival of international connectivity. Recent decisions by the ORR – including enforcement of open access to HS1 depot facilities and reductions in access charges – mark a turning point. These changes open the door to new international high-speed services and create the potential for greater competition on cross-Channel routes. Virgin Trains has had its application for services as an open access operator approved, while the incumbent operator – Eurostar – has also announced expansion plans. Reopening Ashford and Ebbsfleet to international services is a clear strategic priority for Kent County Council, Medway Council, and TfSE, and in principle, one supported by Virgin. Delivering this would bring significant economic and social benefits to the region, restoring Kent's global gateway status and reconnecting communities with European markets.

4.3.17. There is also substantial potential to increase the volume of freight transported on High Speed 1: while technical barriers remain, capacity is available and reduced access charges make this more viable. Proposals to reopen the international freight terminal in Barking would support this growth.

Conditional outputs

Conditional outputs to address these challenges

While service frequencies have largely recovered to pre-pandemic levels, **speed and direct connectivity remain key challenges for Kent**. TfSE supports a range of conditional outputs to address this, including:

- **Faster services to areas on the high-speed and mainline networks**, including Maidstone, Hastings (on the edge of this corridor), and Thanet – targeting journey times of towns that are comparable distances from London.
- **Improved connections within and between stations**, including at Strood and Canterbury, as well as Maidstone West and Maidstone Barracks.

[8] DfT HS1 evaluation

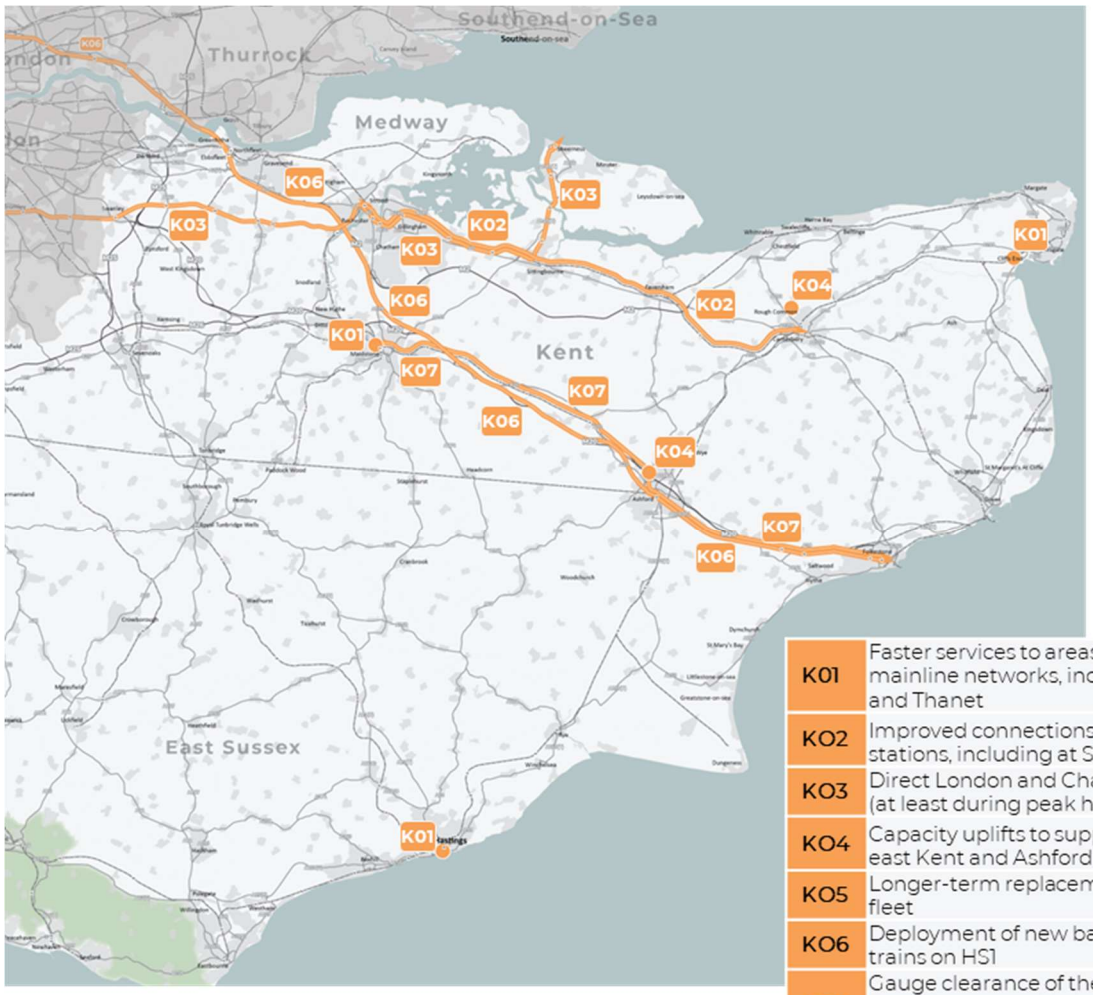
- **Direct London and Chatham services to Sheppey** (at least during peak hours), which is currently disconnected from the capital.
- **Medium-term capacity uplifts** to support growth areas in north-east Kent and Ashford, including additional rolling stock and potential timetable enhancements.
- **Longer-term replacement of the ageing Networker fleet**, which is approaching the end of its operational life.
- **Deployment of new battery-electric or bi-mode trains on HS1**, which could potentially unlock direct services to new destinations without reliance on diesel traction.
- **Gauge clearance of the Folkestone and Maidstone East Lines** to enable larger containers to access the Channel Tunnel, and broader work to support growth in rail freight on HS1.
- **A new rail freight interchange** at Northfleet.

Dependencies and risks

4.3.18. Many of the improvements sought in Kent are dependent on future rolling stock investment, and decisions that may be taken at a national or system level following the establishment of GBR. There is also a degree of uncertainty around the Mayor of London's proposals to take on responsibility for inner suburban rail services. While this could deliver benefits within London, any transfer must be carefully managed to ensure it does not negatively impact operations further into Kent and Medway. With capacity highly constrained, additional services and stops within Greater London could affect connectivity for longer-distance passengers, increasing journey times or reducing service frequencies.

4.3.19. TfSE supports TfL's ambition to extend the Bakerloo Line, which could release capacity on the national rail network in inner south-east London, a change that could, in turn, support faster services from Kent into the capital.

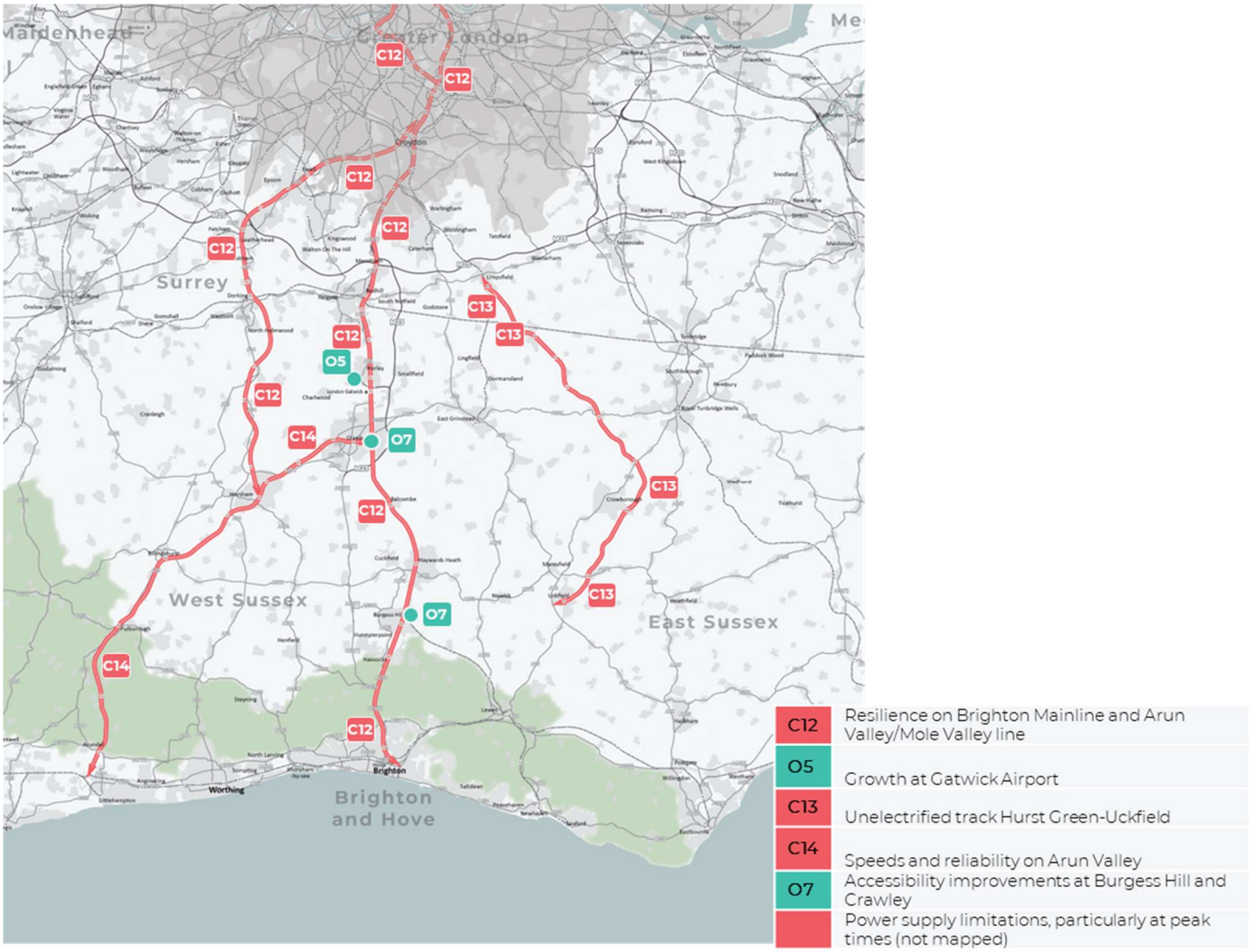
Figure 17: Conditional Outputs for Kent route



K01	Faster services to areas on the high-speed and mainline networks, including Maidstone, Hastings and Thanet
KO2	Improved connections within and between stations, including at Strood and Canterbury
KO3	Direct London and Chatham services to Sheppey (at least during peak hours)
KO4	Capacity uplifts to support growth areas in north-east Kent and Ashford
KO5	Longer-term replacement of the ageing Networker fleet
KO6	Deployment of new battery-electric or bi-mode trains on HS1
KO7	Gauge clearance of the Folkestone and Maidstone East Lines to enable larger containers to access the Channel Tunnel.

Sussex Route

Figure 18: Challenges and Opportunities for the Sussex route



Corridor profile

4.3.20. The Brighton Main Line corridor operates as a major trunk route into London for much of East Surrey and Sussex, with multiple branches at both ends. Services are primarily split between two London termini – Victoria and London Bridge – while south of Gatwick, the line fans out into the East and West Coastway routes and the Arun Valley Line. This corridor is home to Gatwick Airport, Britain's second busiest, which has recently secured development consent to expand its operations – a change that is expected to generate significant additional demand for rail. At the southern end of the corridor lies Brighton and Hove, a vibrant and growing city that faces acute housing affordability challenges. These growth pressures are increasingly spilling over into neighbouring towns, intensifying demand for reliable rail connections across the wider Sussex coast and into the capital.

4.3.21. This corridor is also served by Thameslink – delivering metro-level frequencies across the heart of London and enabling direct connections between Sussex and

destinations as far afield as Cambridge and Peterborough, as well as connecting Gatwick and Luton airports.

4.3.22. Thameslink's core high-capacity route through central London also interchanges with the Elizabeth Line at Farringdon, and therefore, for many, it forms an increasingly attractive way of accessing many destinations, including Heathrow. In many respects, this corridor is well served – but that should not obscure the pressing issues it faces, particularly around resilience and capacity.

4.3.23. Freight is confined primarily to the East Coast Line, Brighton Main Line and the Tonbridge-Redhill Line. The Brighton Main Line carries aggregates traffic between Newhaven, Ardingly, Crawley, and Purley, and the Mendips. The Tonbridge-Redhill Line is one of the alternative routes used by traffic to access the Channel Tunnel. Pathing of freight on the Brighton Main Line is challenging, even in the off-peak.

Current challenges

4.3.24. The trunk-like structure of this corridor creates a major vulnerability: disruption at a single point can have widespread knock-on effects. The most critical of these is at Croydon, where two four-track main lines (Brighton Main Line and Quarry Lines) converge into just six platform faces, before funnelling into five tracks south of East Croydon. The Croydon Area Remodelling Scheme, which was intended to address these long-standing bottlenecks, was deferred due to affordability constraints post-pandemic. Although the pandemic delayed the need for additional capacity and bought time before the enhancement is required, the underlying issue remains, and solutions are unfunded.

4.3.25. Power supply limitations also constrain performance, particularly during peak periods. Despite reasonable journey times (e.g. around one hour from London to Brighton and Hove), services remain relatively slow compared to equivalent cities such as Milton Keynes or Cambridge. TfSE is also concerned about the pace and reliability of services via the Arun Valley Line.

4.3.26. A further operational challenge is the short unelectrified section of railway between Hurst Green and Uckfield. This limits flexibility, increases operating costs, and undermines ambitions for a fully decarbonised railway.

4.3.27. There is also some fragmentation in the customer offer – particularly for airport passengers – with multiple operators, brands, and fare structures serving Gatwick.

Opportunities

4.3.28. Gatwick's planned expansion will generate a step-change in demand for high-quality public transport, particularly rail. Alongside broader growth in the corridor, this presents an opportunity to re-energise investment cases for longstanding infrastructure needs, including Croydon. With the right interventions, there is potential to deliver meaningful performance, capacity, and sustainability benefits across the entire corridor.

4.3.29. The corridor also offers scope to revisit long-term aspirations such as reinstating the Uckfield – Lewes line to create a secondary Brighton – London route. While Croydon would remain a constraint, this would improve resilience, support growth in Mid Sussex and East Sussex, and potentially relieve pressure on the Brighton Main Line.

4.3.30. Crawley and Burgess Hill have been identified as particular targets for station accessibility and broader improvements, which could support local sustainable development and the attractiveness of rail.

Conditional outputs

Conditional outputs to address these challenges

TfSE supports the following conditional outputs for the Sussex corridor:

- Achieving the **public transport mode share** targets set out in Gatwick Airport's expansion plans. New services from Kent to Gatwick should contribute to this.
- Improving journey times on the **Arun Valley** route.
- Delivering a **more resilient and reliable railway** through the following options:
  - Long-term resolution of capacity constraints at Croydon.
  - Longer-term decarbonisation of the Hurst Green – Uckfield line to support fleet standardisation and reduce emissions.
  - Longer-term reinstatement of the Uckfield – Lewes line to provide a second north–south spine between Brighton and Hove and London.
- Exploring **enhanced inter-regional connectivity**, including the potential reinstatement of Brighton – Reading/Oxford services. (Though it is noted that Thameslink and the Elizabeth Line together already provide comprehensive connections.).
- Maintaining capability for current and anticipated **future freight requirements**, including potential rail freight interchanges at Salfords, Crawley Goods Yard and South Godstone.
- Ensuring the **rolling stock fleet is sufficient** to meet future demands on capacity and services and provides a high-quality passenger experience.

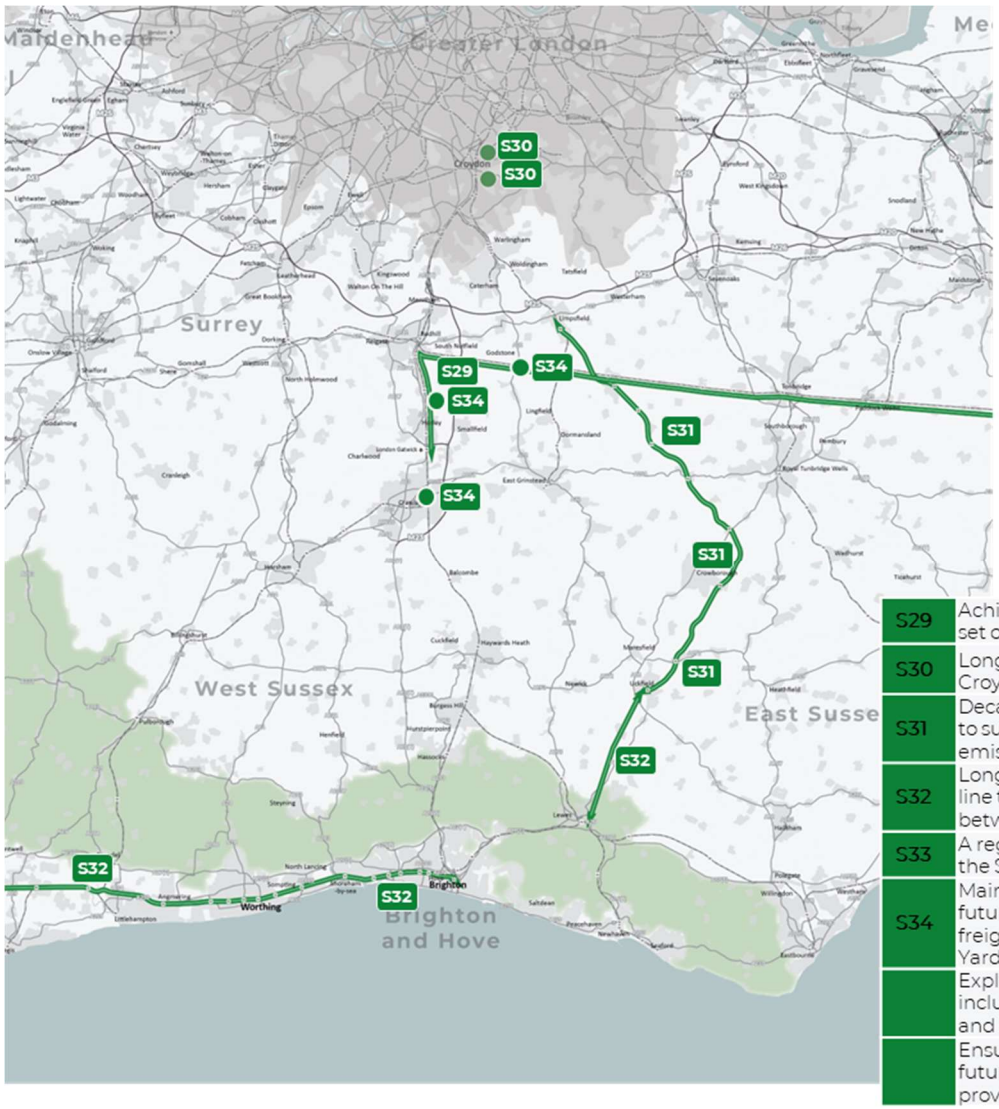
Dependencies and risks

4.3.31. Thameslink's operational structure presents challenges as well as benefits. While it offers excellent north-south connectivity, the integration of services from north of the Thames introduces performance risk to the Sussex corridor. Any disruption upstream can cascade through the network.

4.3.32. Demand pressures at both ends of the route are likely to intensify with the opening of the Universal Studios theme park in Bedford, as well as growth at Gatwick and Luton Airports. Meeting this demand with the existing infrastructure will be challenging, as there is very limited scope to increase service frequencies and none to lengthen trains. Some Thameslink trains run as 8-car sets which could be converted to the full 12-car sets to accommodate growth associated with airport expansion, but this would require additional rolling stock.

4.3.33. Investment in the Croydon area remains critical for this corridor, but securing funding for such a complex and expensive scheme will be difficult. A clear link to national resilience objectives and to the level of growth on the corridor may help to build the case.

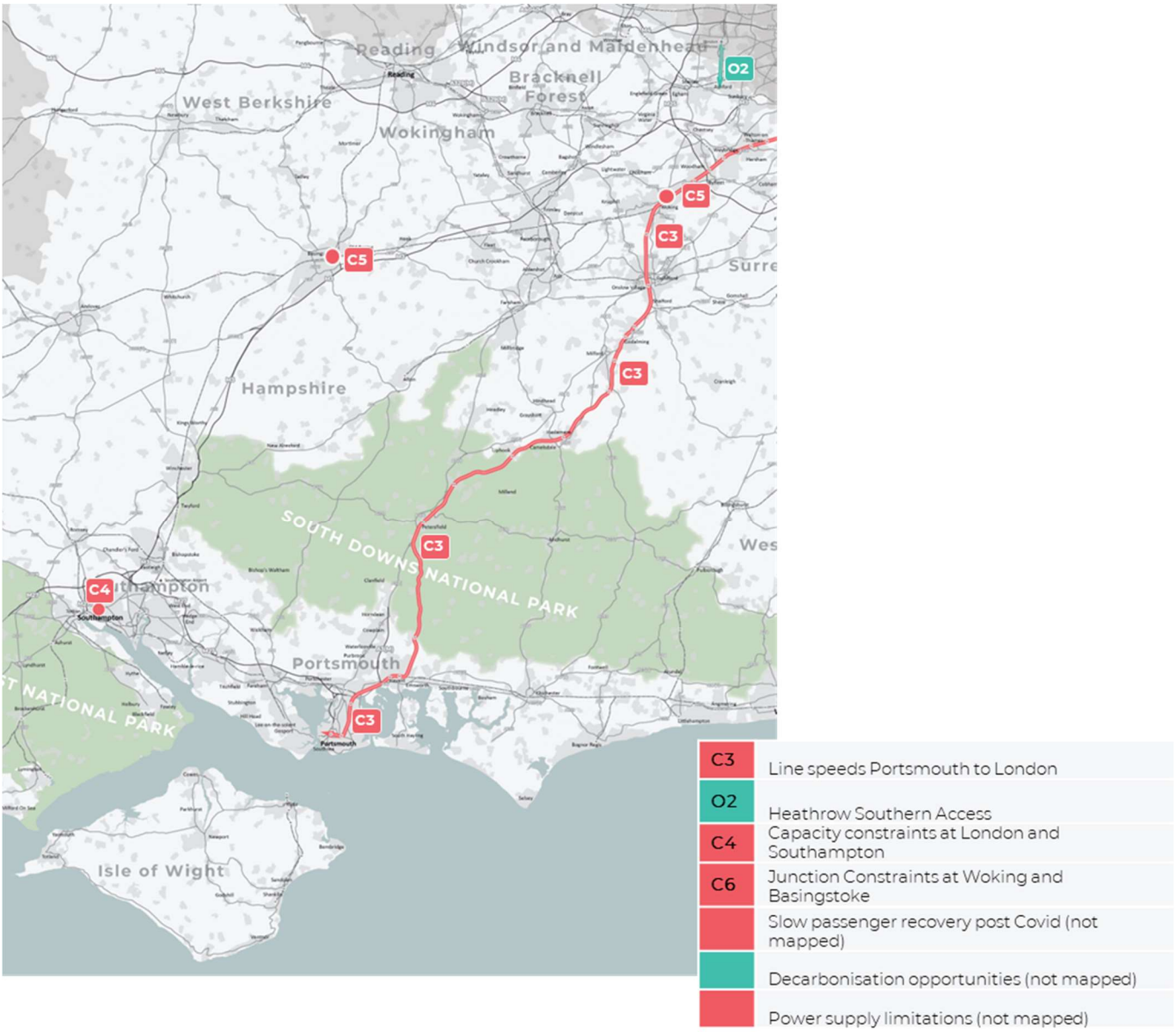
Figure 19: Conditional outputs for Sussex route



S29	Achieving the public transport mode share targets set out in Gatwick Airport's expansion plans
S30	Long-term resolution of capacity constraints at Croydon.
S31	Decarbonisation of the Hurst Green – Uckfield line to support fleet standardisation and reduce emissions.
S32	Longer-term reinstatement of the Uckfield – Lewes line to provide a second north–south spine between Brighton and Hove and London.
S33	A regular 4 tph suburban services across the day in the Sussex Coast conurbation
S34	Maintain capability for current and anticipated future freight requirements., including potential rail freight interchanges at Salfords, Crawley Goods Yard and South Godstone
	Exploring enhanced inter-regional connectivity, including the potential reinstatement of Brighton and Hove–Reading/Oxford services
	Ensure the rolling stock fleet is sufficient to meet future demands on capacity and services and provides a high-quality passenger experience.

Wessex Route

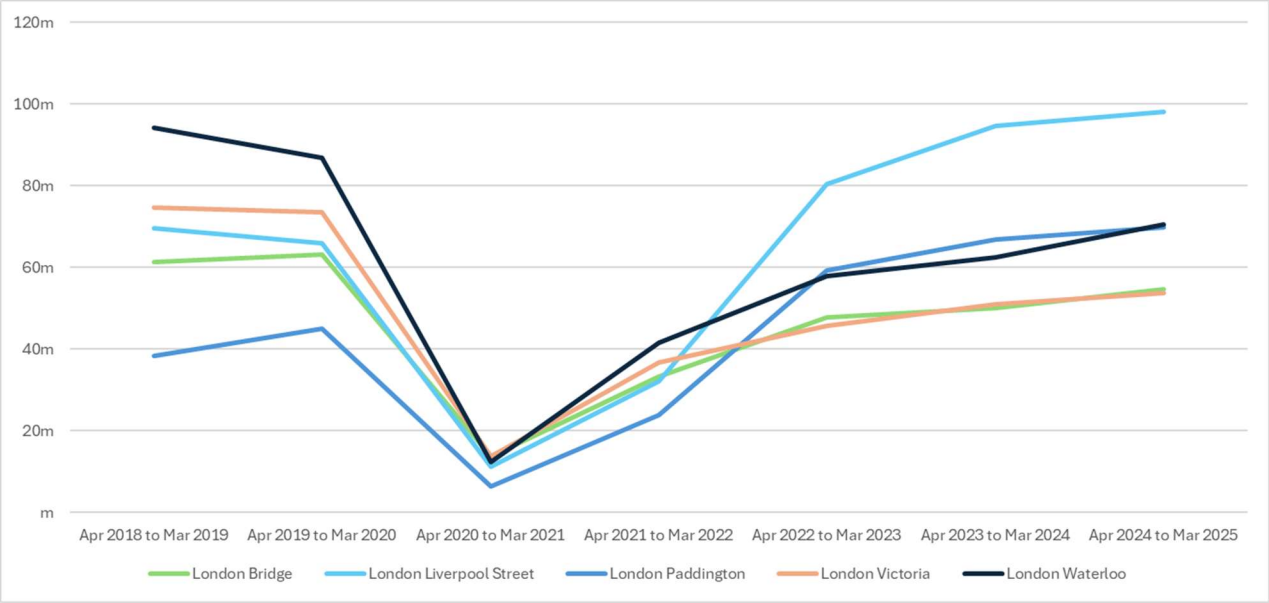
Figure 20: Challenges and Opportunities for the Wessex route



Corridor profile

4.3.34. The Wessex corridor is structured in the opposite way to Kent, with all services funnelling into a single London terminus: Waterloo. Once Britain's busiest station, handling over 100 million passengers per year pre-pandemic, usage has fallen sharply; by 2025, Waterloo had dropped to 70 million entries and exits, overtaken by Liverpool Street, as shown in **Figure 21**. While growth at other stations is linked to the Elizabeth Line, this decline highlights the transformation in commuting patterns on this corridor. Demand has not recovered, likely due to a demographic skew toward higher-income, home-based workers.

Figure 21: London terminal demand from 2019-2025



Source: ORR estimates of station usage, 2025

4.3.35. Nevertheless, the corridor remains one of the most important in the TfSE area. It delivers a very high frequency service into London and connects three of the five largest conurbations – South Hampshire, the Blackwater Valley, and Reading – to the capital and, to a degree, to each other. While the top end of the corridor is heavily commuter-oriented, the southern end becomes more mixed, with freight, regional, and cross-country services joining the flow. Connections to the North Downs line provide access to Gatwick Airport, as well as Reading and Guildford.

4.3.36. The corridor forms part of the principal rail corridor to the Port of Southampton and serves Portsmouth International Port. This forms the most significant freight flow in the TfSE geography, principally domestic intermodal traffic between Southampton and terminals in the Midlands, North West and Yorkshire. A smaller flow of construction traffic follows the South West Main Line from Basingstoke towards London, operating outside of the peak passenger period.

4.3.37. In future, this corridor may have an interface with Heathrow, depending on the outcome of airport surface access work. To the west, this corridor also provides a vital link for communities in South Wiltshire, North Dorset, East Devon, and Bournemouth, Christchurch & Poole.

Current challenges

4.3.38. The corridor's sharp decline in ridership poses a challenge for new investment as it is difficult to argue for major funding when usage remains below two-thirds of pre-pandemic levels. But many pre-Covid constraints remain. At the London end, crowding is still a problem, and DfT data identifies one of the UK's most overcrowded services operating on this corridor. The railway infrastructure approaching London is well designed, with grade-separated junctions in many places. But pinch points emerge at Woking and, to a lesser extent, Basingstoke, where flat junctions introduce conflict. Power supply constraints limit the scope for service enhancements.

4.3.39. South of Basingstoke, the railway reduces to two tracks in several places, creating capacity bottlenecks. The most critical is at Southampton Central, where all traffic –

including significant freight volumes – is funnelled through a restrictive tunnel approach (Southampton Tunnel). Despite freight having two routes into the city (via Winchester and via Salisbury), many freight trains converge on this bottleneck due to the layout of the port approaches. Limited capacity arising from the interaction with passenger services is a key constraint for freight on this corridor, along with the lack of a diversionary route cleared for longer trains when sections of the Southampton-Basingstoke-Reading route are closed. The lack of Direct Current (DC) freight locomotives is also a challenge.

4.3.40. Although some mainline sections operate at 100mph, journey times are inconsistent in places. The Portsmouth Direct Line (joining at Woking) is noticeably slower than equivalent routes to Southampton or Andover, placing Portsmouth (and by extension, the Isle of Wight) at a relative disadvantage. The Windsor Lines are also slow, largely due to frequent stopping patterns and limited overtaking opportunities.

4.3.41. Some long-distance services on the Portsmouth route are operated by high-capacity suburban rolling stock, offering a poor passenger experience which combined with slow journey times, further reduces the attractiveness of Portsmouth rail services.

Opportunities

4.3.42. The most transformative opportunity for this corridor lies in surface access to Heathrow. While the primary driver is improved airport connectivity, there is the potential for a new 'Southern Access' link from Surrey or Hampshire to Heathrow, potentially continuing through to the Great Western Main Line at Old Oak Common. This could unlock transformational regional benefits, offering new direct services to the airport from Basingstoke, Guildford, Winchester, and even Southampton. There may also be scope to improve east–west connectivity in towns along the Windsor Line, such as Bracknell and Wokingham.

4.3.43. Decarbonisation presents another opportunity. The West of England Line and Test Valley Line are still unelectrified, and the diesel fleet that serves them is approaching the end of its operational life. This provides a natural decision point for decarbonisation. Meanwhile, although most of the main Wessex corridor is already electrified, the use of third-rail DC limits freight performance, particularly on steep gradients.

Conditional outputs

Conditional outputs to address these challenges

TfSE supports the following conditional outputs for the Wessex corridor, shown in Figure 21 below:

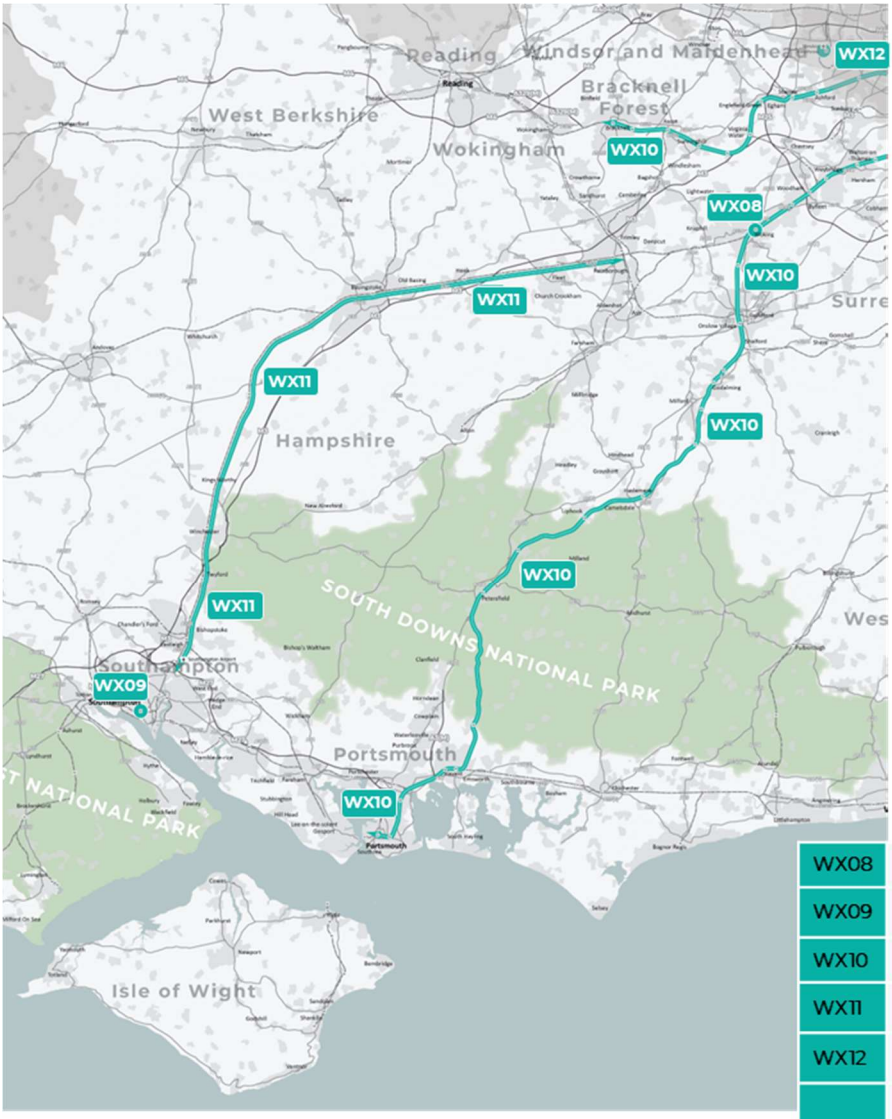
- **Capacity relief at Woking** to address congestion and passenger crowding. We support longstanding proposals for grade separation (e.g. flyovers) but leave the design solution to the industry.
- **A long-term solution at Southampton**, including the resolution of capacity constraints at Southampton Tunnel and Central Station. While there are differing views within the industry and local authorities, the need to address this bottleneck is clear and urgent.
- **Faster journey times to London for Portsmouth and Bracknell** to improve competitiveness relative to neighbouring centres.
- **Improved connectivity in the Blackwater Valley**. There may be scope to better integrate east–west and north–south rail services through investing in a new hub

station in the Farnborough area, and to improve integration with local bus services.
- **Maximising the benefits of future Heathrow rail links**, particularly the Southern Access scheme, ensuring Wessex corridor services benefit from new connections as and when airport infrastructure is progressed.
- Ensure a suitable **diversionary route is available for freight** between Basingstoke and Reading – this could be via Kew or Salisbury.

Dependencies and risks

4.3.44. Many of the outputs listed above are intertwined with TfSE's orbital priorities, particularly around freight, electrification, and access to Heathrow. Resolving these constraints has the ability to improve connectivity not just within the corridor, but much more broadly across the region. It will be important to ensure strategic alignment between these programmes to maximise return on investment and avoid fragmented planning.

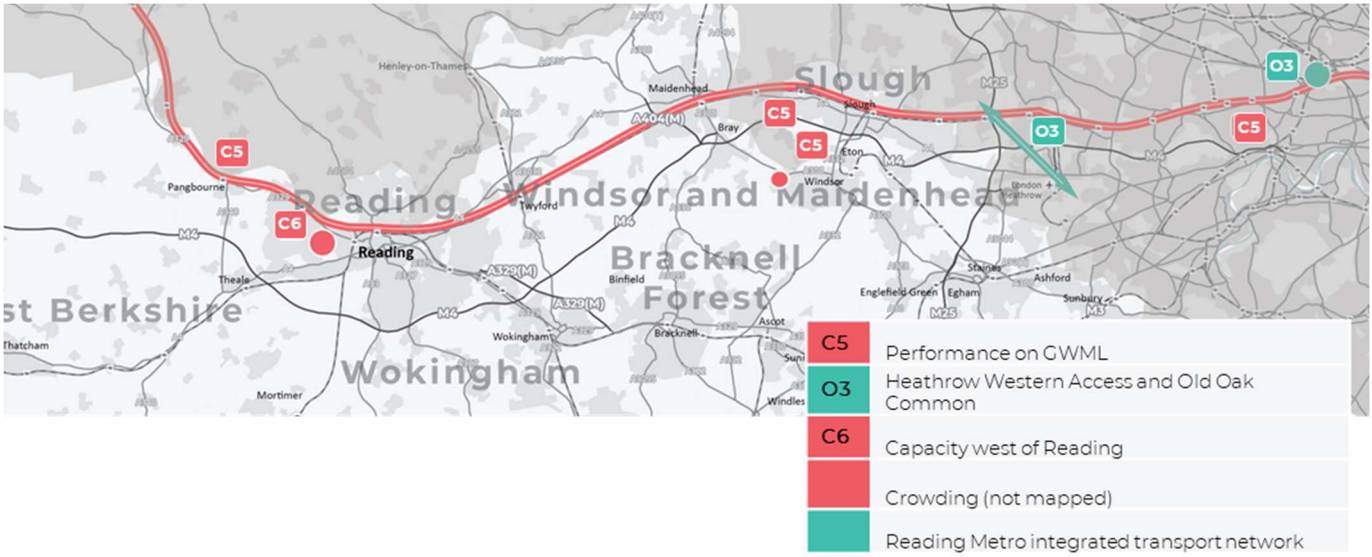
Figure 22: Conditional Outputs for Wessex route



WX08	Capacity relief at Woking to address congestion and passenger crowding.
WX09	A long term solution at Southampton
WX10	Faster journey times to London for Portsmouth and Bracknell
WX11	Improved connectivity in the Blackwater Valley
WX12	Maximising the benefits of future Heathrow rail links including Southern Access
	Ensure a suitable diversionary route is available for freight between Basingstoke and Reading(not mapped)

Western Route

Figure 23: Challenges and Opportunities for the Western route



Corridor profile

4.3.45. The Great Western Main Line (GWML) is quite distinct in character from its Southern Region counterparts. Though only around 30 miles of the core route fall within the TfSE geography, the strategic importance of this corridor extends far beyond our region. It links London to key centres in the Thames Valley, the South Midlands, the West of England, South Wales, and the South West and does so with impressive journey times (at least on core London routes).

4.3.46. This route has recently seen significant investment through electrification, the rollout of Intercity Express Programme trains, and the introduction of the Elizabeth Line. It is also home to major economic hubs including Slough, Reading and Maidenhead.

4.3.47. The route carries a significant volume of freight, particularly between Reading and London, Didcot and Basingstoke. The Didcot – Reading – Basingstoke section forms a key part of the Solent to West Midlands intermodal corridor, and the GWML from Reading into London mainly carries construction traffic between the Mendip quarries and terminals in the London area. The route is gauge cleared to W12 between London and Reading, and to W10 between Reading and Basingstoke.

Current challenges

4.3.48. While the Western corridor generally performs well and offers good connectivity across a range of geographies and travel needs, even good infrastructure has its limits. This is a busy railway and one that is running close to capacity. With intercity, airport, freight, local and metro services all competing for capacity, it is increasingly difficult to find new train paths without compromising reliability. Overcrowding can be an issue at times, particularly where long-distance travellers compete for seats with airport passengers boarding in central London. Oxford Road and Southcote Junctions to the west of Reading are constraints on the mix of passenger and freight services that operate across them.

4.3.49. It is important to acknowledge that some of the most pressing capacity and

performance issues on this corridor lie just beyond TfSE's northern boundary. Oxford is a major bottleneck and will likely become busier when the East West Rail project starts operations towards Milton Keynes and Cambridge. The line west of Newbury remains unelectrified, which is a missed opportunity for freight services accessing the quarrying industry in Somerset. STBs outside the TfSE area, including England's Economic Heartland, have a variety of aspirations for new services, including direct Oxford – Bristol services, enhanced Cotswolds – London connectivity, and improved freight and cross-country flows between Reading and Didcot. Performance is always a challenge on busy corridors and is often raised as a concern here, in part due to the added complexity of introducing cross-London Elizabeth Line services on the slow lines in recent years.

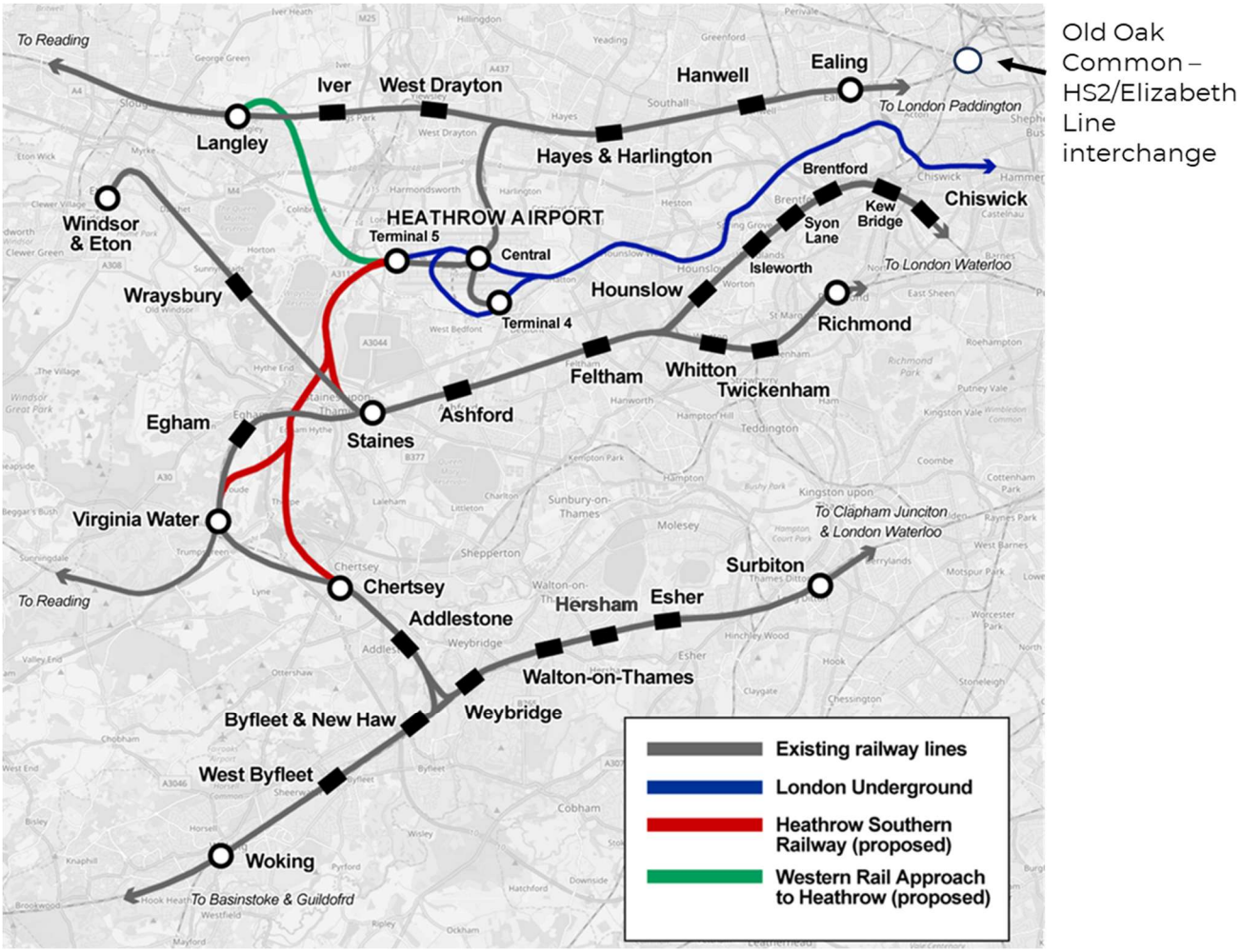
Opportunities

4.3.50. The biggest single opportunity for the Western corridor is the emergence of Old Oak Common as a major national interchange. Once complete, it will connect HS2, the GWML, the Elizabeth Line, Heathrow Express and potentially other services - placing the Thames Valley within minutes of the UK's newest superhub. For commuters, business travellers and interchanging passengers alike, this represents a step-change in accessibility.

4.3.51. Coupled with this is the long-awaited Western Rail Link to Heathrow, which would provide a direct connection between the GWML and the airport. This opens up opportunities for through-running services from Reading, Maidenhead and Slough directly into Heathrow, delivering major time savings and mode shift potential. In conjunction with the Southern Access scheme this has the potential to transform rail connectivity substantially. Taken together, Old Oak Common and Western Rail Access to Heathrow could transform the national rail map and unlock benefits across the TfSE area and beyond, as shown in **Figure 24**.

4.3.52. There are strong aspirations to deliver a 'Reading Metro' integrated transport network, with better alignment of service timings at key locations and integrated ticketing options, as well as branding and promotion. This could support the broader use of rail in the corridor.

Figure 24: Heathrow/Old Oak Common scheme map



Illustrative map of previous proposals – may not reflect current route options

Conditional outputs

4.3.53. TfSE recognises the GWML's role as nationally strategic infrastructure, even if only a short stretch of track lies within our geography. TfSE remains committed to working closely with neighbouring STBs, Network Rail's Western Route and Region, and national government to ensure this corridor continues to deliver for the country as a whole.

Conditional outputs to address these challenges

While the Western corridor already delivers high levels of connectivity, TfSE supports the following conditional outputs:

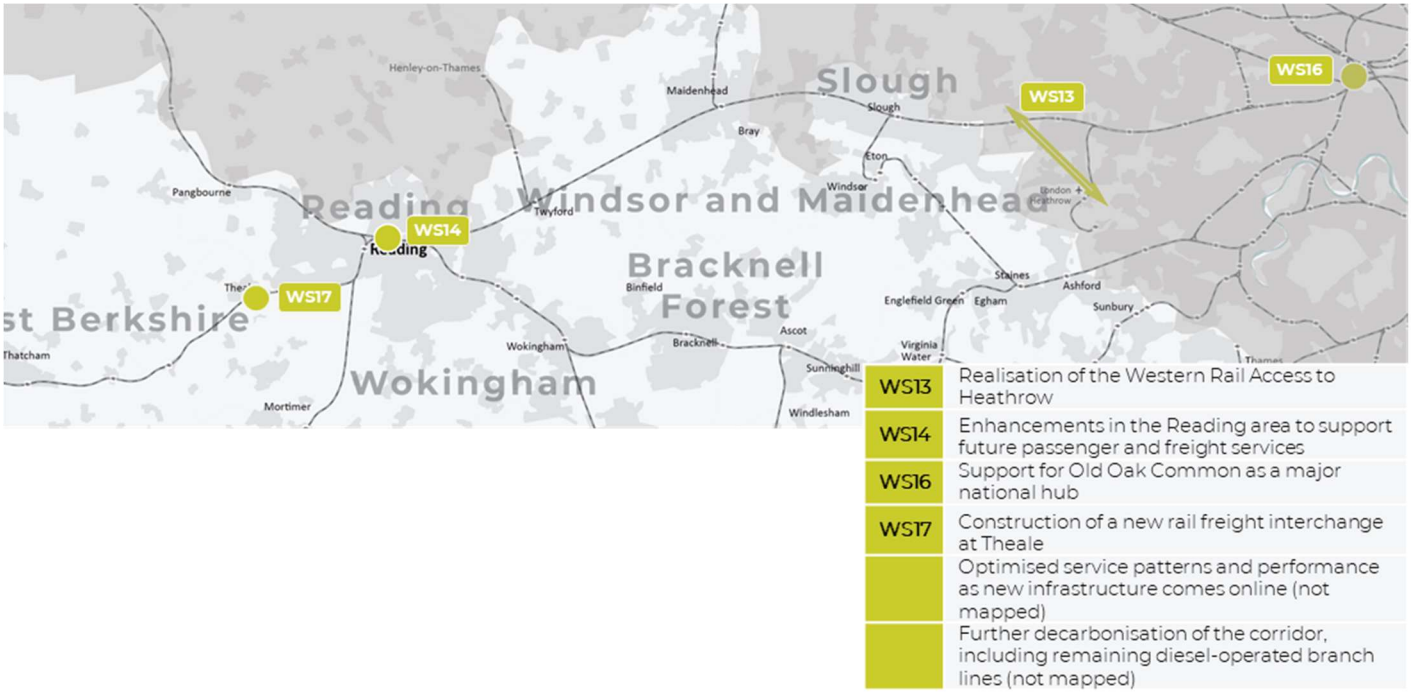
- **Realisation of the Southern and Western Rail Access to Heathrow**, maximising regional benefits across Berkshire, Hampshire and Surrey.
- **Enhancements in the Reading area** to support future passenger and freight services, potentially including additional tracks and junction improvements.
- **Optimised service patterns and performance as new infrastructure comes online** - ensuring that growing demands for freight, airport access and long-distance travel do not erode reliability.

- **Support for Old Oak Common as a major national hub**, maintaining good access from key stations in the TfSE area and introducing new services from the South and West.
- **Further decarbonisation of the corridor**, including remaining diesel-operated branch lines - where emerging battery-electric technologies may provide a cost-effective solution. This could also facilitate better-performing freight services.
- **Construction of a new rail freight interchange at Theale**

Dependencies and risks

4.3.54. The Western corridor sits at the intersection of several nationally significant rail-related delivery projects, and the risks are accordingly high. Construction at Old Oak Common will be complex and disruptive. The Heathrow rail schemes will need to be delivered with care to avoid knock-on effects on the wider network. The corridor is also sensitive to performance pressures and operational changes on other parts of the national network.

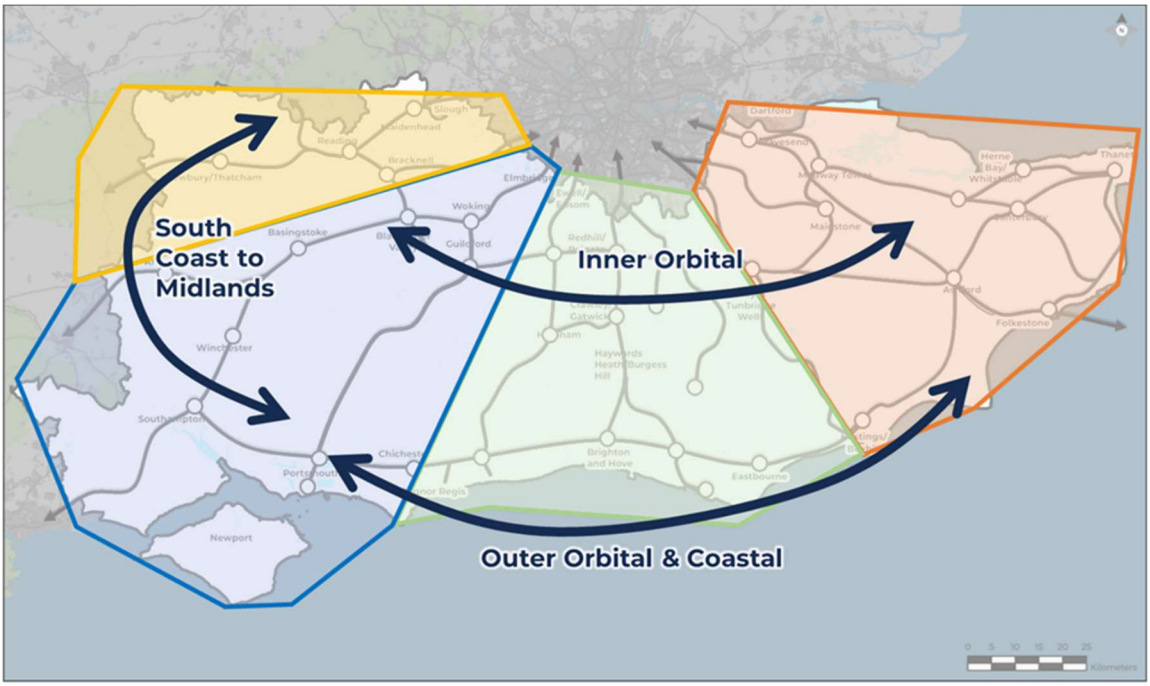
Figure 25: Conditional Outputs for Western route



4.4. Orbital routes

4.4.1. Orbital corridors describe the key regional rail routes that connect TfSE's major economic hubs without passing through London. They also link the TfSE area and the wider South East to the West of England, the Thames Valley, and regions beyond.

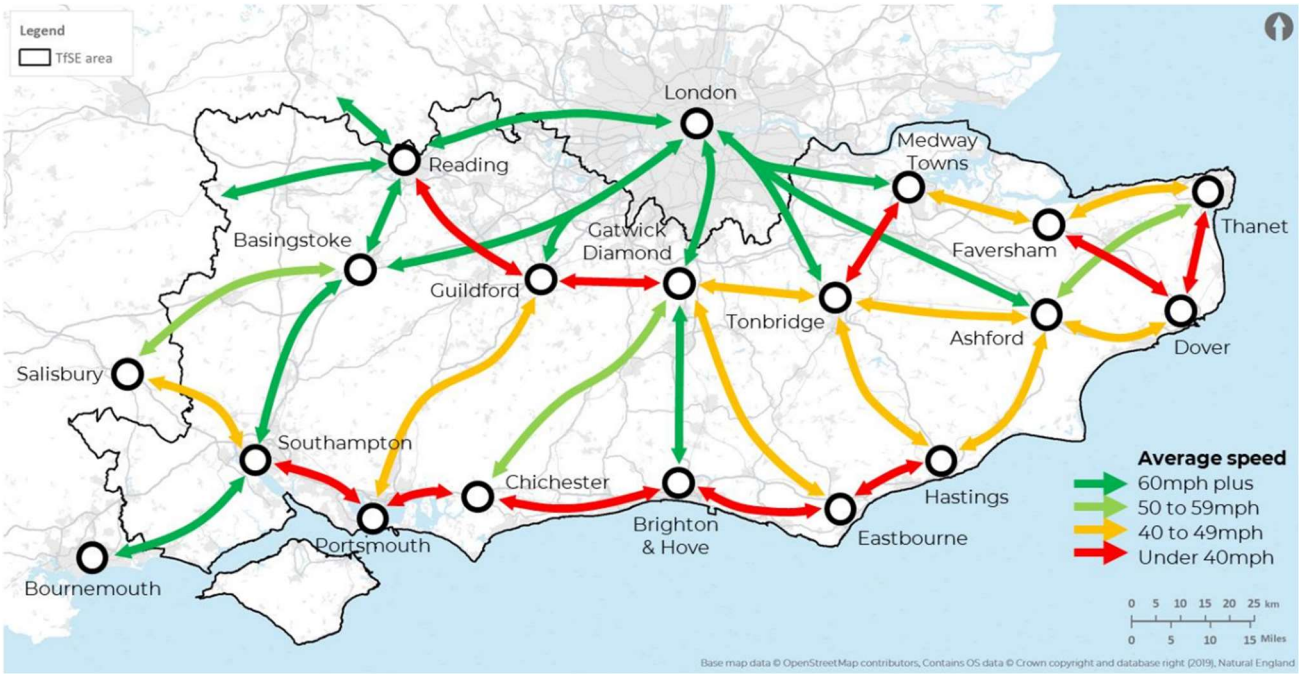
Figure 26: Orbital rail corridors in the TfSE area



4.4.2. Many stakeholders believe these corridors have been neglected for many years. Yet they play a vital role. They serve diverse markets – local (e.g. urban trips along the South Coast), regional (e.g. Southampton to Bristol), international gateways (e.g. access to Gatwick and Heathrow airports), seaports and multiple major economic hubs (e.g. Reading, Guildford, Medway). Many of these corridors carry significant freight volumes, and some also serve as relief routes for radial corridors.

4.4.3. In general, these corridors deliver slower, less frequent, and less electrified passenger rail services compared to radial lines, as seen in **Figure 27** below. This map potentially underplays the difference, as it only looks at in-vehicle rail journey times. Poor interchanges and connection times will further decrease connectivity. These issues will be discussed in more detail for each corridor below.

Figure 27: Average rail speeds across the region



Source: Steer analysis carried out for TfSE Rail Thematic Plan, 2022

4.4.4. We have structured our analysis of orbital routes in line with the strategic corridors originally defined in TfSE's 2017 Economic Connectivity Review:

- **Inner Orbital** (Medway – Maidstone – Tonbridge – Gatwick – Guildford – Reading).
- **Outer Orbital and Coastal** (Southampton – Brighton and Hove – Hastings – Ashford).
- **South Coast to Midlands** (Southampton – Basingstoke via Salisbury and also via Winchester – Reading – Didcot).

4.4.5. As with the radial corridors, each sub-section explores the corridor's role, current challenges, opportunities, conditional outputs, and delivery considerations.

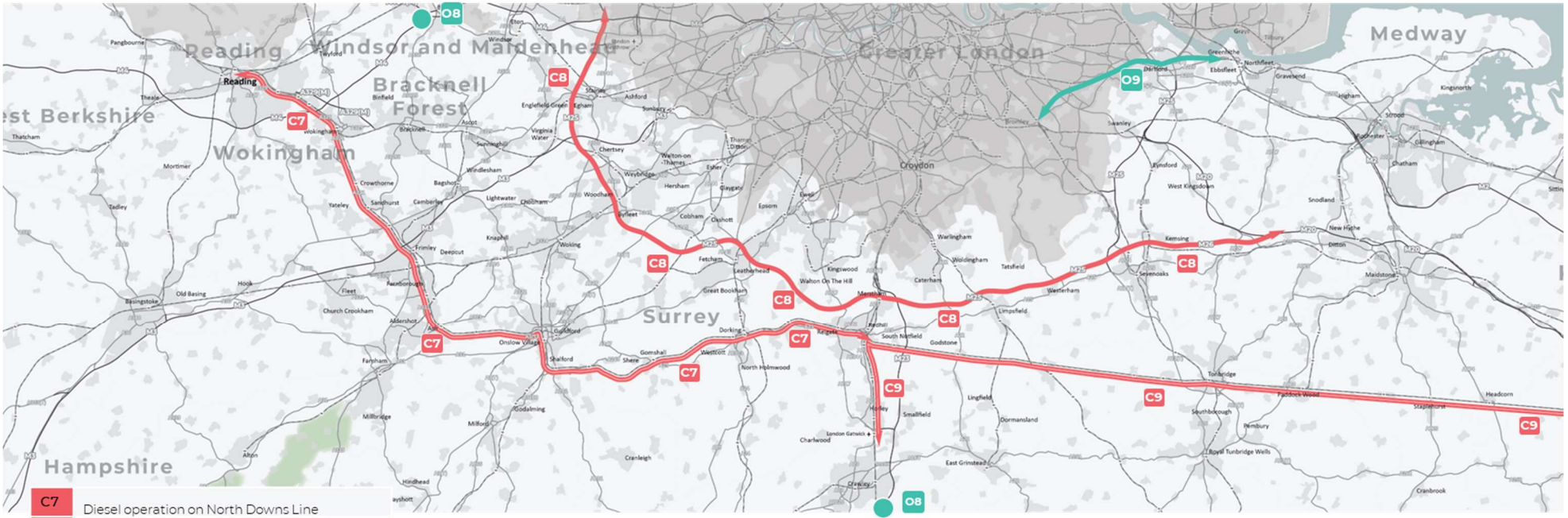
Conditional outputs

Conditional outputs to address these challenges

In terms of potential solutions and conditional outputs, our overarching objective for these corridors is to bring them up to a similar level of service quality closer to the radial routes. This does not necessarily mean matching the same frequencies, but, at a minimum, two trains per hour in each direction operate on key sections. Critically, journey times and comfort must become competitive with car travel.

Additionally, TfSE would like to see the following output between Major Economic Hubs on non-radial routes: an **average speed between each hub of greater than 40 mph.**

Figure 28: Challenges and Opportunities for Inner Orbital route



C7	Diesel operation on North Downs Line
C8	Road congestion
C9	Slow connections Kent to North Downs
O8	Gatwick and Heathrow expansion
O9	Ebbsfleet to South East London connectivity

Inner Orbital

Corridor profile

4.4.6. The Inner Orbital corridor is not a single railway line, but rather a network of interconnected routes that broadly mirror the route of the M25 and other key radial motorways. It includes the Medway Valley Line, South Eastern Mainline, Redhill – Tonbridge Line, North Downs Line, and Reading – Waterloo Line. These corridors intersect and complement the radial network, providing a vital (if perhaps currently underperforming) rail alternative to some of the UK's busiest road links.

4.4.7. Historically, the area has experienced strong growth. This is driven in part by the staged opening of the M25 during the 1970s and 80s. Since then, the area has become home to a dense cluster of towns, employment centres, and infrastructure assets, including Britain's two busiest airports: Heathrow and Gatwick. This growth is forecast to continue, particularly around key hubs like Ebbsfleet, Guildford, and the Thames Valley.

4.4.8. There are high numbers of local commuters on the Western end of the route, for both work and education. The North Downs Line is an important mode of access to universities in Reading and Guildford, as well as colleges in other towns along the route.

4.4.9. The geography is also rich in natural beauty, with several national landscapes such as the Kent Downs and Surrey Hills. Yet this scenic and prosperous corridor faces acute transport challenges – not least because of its overreliance on the private car.

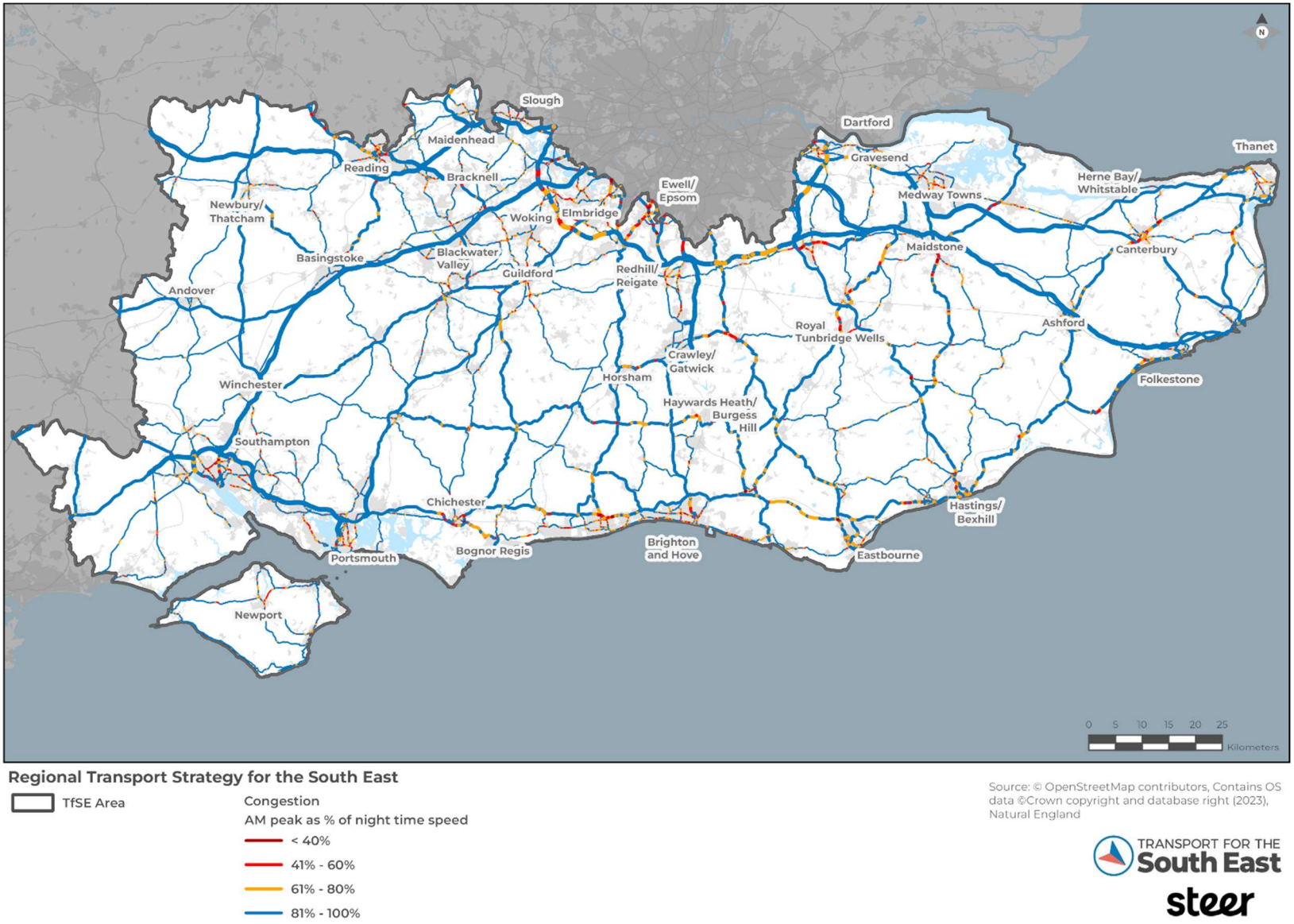
4.4.10. Different sections of the Inner Orbital corridor carry varying volumes and flows of freight. The Medway Valley Line carries aggregates traffic from the Mendips primarily. Between Tonbridge and Paddock Wood, these are joined by traffic using the Channel Tunnel diversionary route, some of which continues beyond Tonbridge to the Redhill route before travelling north. The rest of the route to Reading does not carry significant freight.

Current challenges

4.4.11. This corridor faces mounting challenges, with car use remaining dominant due to high levels of car ownership, dispersed development, and good access to strategic roads.

4.4.12. The M25 is Britain's busiest motorway, but it is no longer capable of absorbing additional demand. As shown in **Figure 29** below, travel speeds on much of the M25 at peak times are substantially affected by congestion, particularly between the M3 and A24. Junction improvements may bring some relief, but there is no realistic prospect of significant widening. The road network, particularly away from the motorway, is characterised by narrow rural lanes, limited capacity, and growing congestion.

Figure 29: Congestion on the strategic and major road networks in the TfSE area



Source: Steer analysis carried out for TfSE Rail Thematic Plan, 2022

4.4.13. Meanwhile, the rail network struggles to present an attractive alternative. Orbital rail links on this corridor are:

- **Slow**, with many services averaging less than 30mph
- **Infrequent**, especially off-peak or for cross-network trips
- **Diesel-operated**, limiting decarbonisation and modernisation potential
- **Disjointed**, with long interchange times between key services (e.g. Redhill–Tonbridge)
- **Misaligned with travel needs**, particularly where existing rail links serve weaker flows (e.g. Maidstone – Paddock Wood rather than strategic destinations like Gatwick.

4.4.14. In short, the orbital rail offer is currently uncompetitive, and the result is increasing road traffic, high congestion, and deteriorating air quality.

Table 3: Journey times on key orbital corridors, and the impact of congestion[9]

Journey	Time by Rail	Time by Road (range)	Difference (range)
Maidstone to Gatwick	90 mins	40-65 mins	25-50 mins
Chatham to Gatwick	80 mins	50-80 mins	0-30 minutes
Woking to Reading	61 mins	45-80 mins	15 minutes slower to 20 minutes faster
Sevenoaks-Guildford	80 mins	55-120 mins	40 minutes slower to 25 minutes faster

Opportunities

4.4.15. Despite these challenges, the Inner Orbital corridor holds enormous potential. The high levels of existing and future demand – particularly to and from airports, employment hubs, and growth locations like Ebbsfleet – create a strong case for investment.

4.4.16. Several connectivity schemes are already under active discussion:

- **Heathrow**: As outlined above for radial corridors, multiple new Heathrow access options are under consideration including access from the South West (via Woking), South East (via Staines), and the West (via Slough).
- **Gatwick**: There are opportunities to strengthen links from Kent, Surrey, Medway, and the Thames Valley — including further restoration of links that have been eroded over time.
- **South East London – Ebbsfleet**: There is potential to create new links from Bromley and Bexley to Ebbsfleet International and the North Kent Line, enabling stronger integration with South East London and the wider orbital network.

[9] Table shows weekday morning peak journey times sourced from Google Maps API in November 2025.

4.4.17. Recent work led by Great Western Railway to improve service levels and rolling stock on the North Downs Line is encouraging and driven by growing demand on the existing services. There is a clear opportunity to build on this and continue to enhance the service. Options have also been developed to replace the existing diesel rolling stock which operates the route, potentially enabling decarbonisation through the use of battery-electric trains.

Conditional outputs

Conditional outputs to address these challenges

TfSE's objectives for this corridor are to ensure that major economic hubs located on this corridor have viable rail alternatives to M25 journeys. This means:

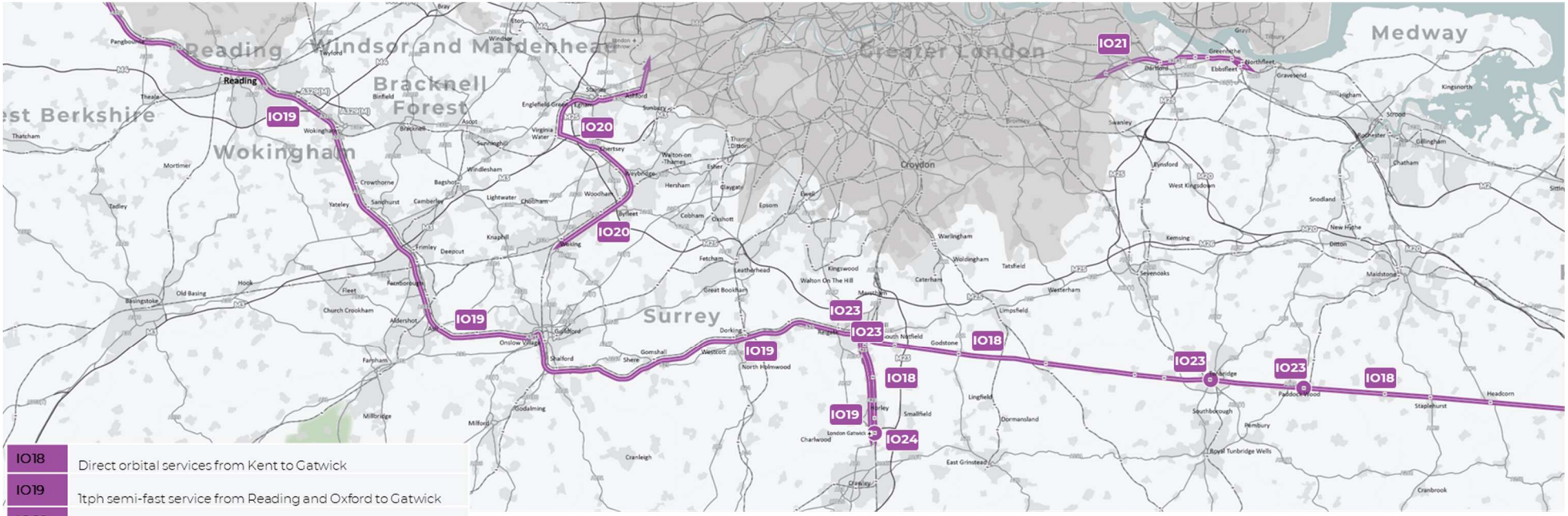
- **Direct orbital services in Kent** between Medway/Ashford, Maidstone, Tonbridge and Gatwick Airport, operating a half-hourly service that targets average speeds of at least 50mph. This should mirror the existing direct orbital services that link Reading, Bracknell, Blackwater Valley, Guildford, Redhill and Gatwick.
- **1 train per hour (tph) semi-fast service** linking Gatwick Airport to Reading and Oxford.
- **Direct services between Heathrow and key TfSE hubs**, including Woking and Staines, and potentially extended to Guildford, Bracknell, Basingstoke, and Southampton.
- **Improved connections between Bromley/Bexley and Ebbsfleet**, potentially using rail or Bus Rapid Transit – to enable viable rail alternatives for M25 South East quadrant movements.
- **Improved frequencies on orbital services** across Surrey, supporting modal shift.
- **Full decarbonisation of the corridor**, through electrification or zero-emission rolling stock.
- **Targeted infrastructure enhancements** – for example, new chords or junction improvements at Redhill, Tonbridge, or Paddock Wood to improve pathing and speed. Use of underutilised assets such as the Longfield HS1 spur could also be explored as an option for improving access to Ebbsfleet.
- **Extended early morning and overnight services to Gatwick Airport,** supporting public transport accessibility for both staff and passengers.
- **Maintain capability for current and anticipated freight traffic** – no specific interventions are required as capacity exists for the low volume of services which run outside of peak periods.

Dependencies and risks

4.4.18. This is a complex corridor. Four or five TOCs operate, multiple service groups and rolling stock types are involved, and the corridor overlaps with key radial lines at multiple points. Timetabling is notoriously difficult, especially at flat junctions where orbital lines must cross radial services.

4.4.19. Coordination will be critical between operators and across sub-national boundaries. Many of the service groups in this corridor span multiple regions and rail industry routes. The challenge of achieving coherent, attractive orbital connectivity should not be underestimated, but it is also one of the most transformational opportunities in the TfSE area.

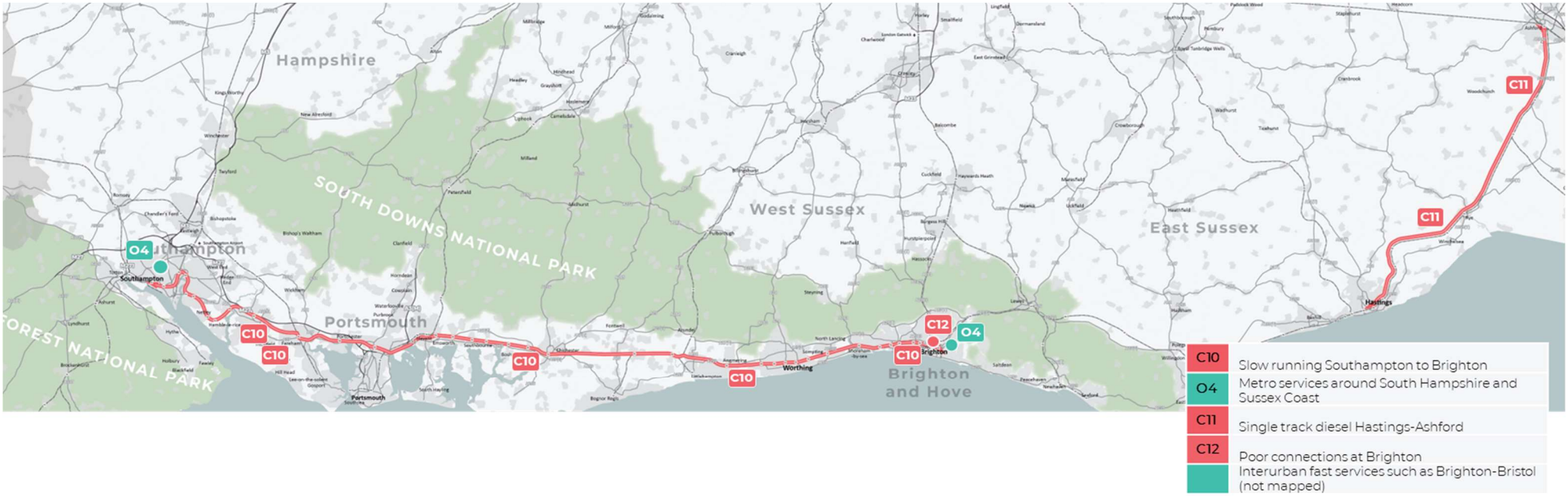
Figure 30: Conditional Outputs for Inner Orbital Route



1O18	Direct orbital services from Kent to Gatwick
1O19	1tph semi-fast service from Reading and Oxford to Gatwick
1O20	Direct services between Heathrow and key TfSE hubs
1O21	Improved connections between Bromley/Bexley and Ebbsfleet
1O22	Full decarbonisation of the North Downs Line and corridor
1O23	Targeted infrastructure to improve pathing and speed
1O24	Extended early morning and overnight services to Gatwick Airport
	Maintain capability for current and anticipated freight traffic

Outer Orbital & Coastal

Figure 31: Challenges and Opportunities for Outer Orbital route



Outer Orbital & Coastal

Corridor profile

4.4.21. At first glance, this corridor feels far removed from the high-performing radial routes that carry hundreds of thousands of commuters into London at speed. It's a line that winds along the coast, often in areas of great natural beauty, and provides access to key destinations for leisure and tourism.

4.4.22. But this perception is misleading. This is the primary East–West corridor linking two of the South East's largest conurbations – South Hampshire (Southampton and Portsmouth) and the Sussex Coast (centred on Brighton and Hove but includes Eastbourne and Hastings / Bexhill). Both are growing rapidly or already play vital economic roles.

This corridor hosts three distinct rail markets:

- **London commuting**: Radial services that travel along the coast to capture demand for the capital
- **Local and urban trips**: Connecting town centres with universities, retail areas, health services, and job clusters
- **Longer-distance regional movements**: Especially between Brighton and Hove, Portsmouth and Southampton, which have been significantly reduced in recent years.

4.4.23. There are 35 stations between Southampton Central and Brighton across a distance of around 60 miles (one station every 2.75 km). While this density provides wide access, it also creates operational and capacity challenges, particularly given the two-track configuration and numerous flat junctions. There are very few opportunities for faster services to overtake slower ones, limiting opportunities to increase capacity and improve journey times.

4.4.24. TfSE and its partners recognise the importance of improving east–west connectivity to support sustainable growth and agglomeration across this region. Without a step change in rail performance, this growth will default to the road network - driving up congestion, emissions, and travel times. Improved rail services are essential to delivering housing growth sustainably, ensuring that the growing population does not just increase pressure on the road network.

4.4.25. The corridor is less significant for freight than the Inner Orbital, although the west section between Southampton and Hove does carry a small volume of primarily construction traffic to/from the Mendips. Further east, the Marshlink Line carries a small flow to/from Dungeness.

Current challenges

4.4.26. This corridor is shaped by persistent structural constraints which limit speeds and frequency:

- From **Southampton to Fareham**, the route is meandering, and average speeds fall below 30mph. This segment includes single-track sections, notably the Botley line, further reducing flexibility and resilience.
- Between **Fareham and Littlehampton,** there is a high number of flat junctions, including at Cosham, Farlington, Havant, Barnham, Ford (especially complex), Hove and Brighton.

- **There are dozens of level crossings on the corridor**, many of them on main roads, severely limiting opportunities to increase train frequencies and negatively impacting journey reliability.
- **Platform capacity at Southampton and Portsmouth** limits service expansion.
- **The East Coastway Line** (Brighton–Lewes–Eastbourne–Hastings) performs relatively well, though Lewes remains a bottleneck, and Eastbourne's configuration (a terminus for both directions) adds journey time.
- **Brighton is a key interchange,** but connections are often poor. Services are not well aligned, and interchange sometimes involves leaving the station and re-entering, extending journey times further in peak periods.
- **Between Hastings and Ashford (the Marshlink)**, the infrastructure is particularly weak: single-track, unelectrified, speed-restricted due to local ground and track conditions, and vulnerable to flooding and erosion. Despite serving two strategic growth locations, this line has some of the poorest connectivity in the region. This is also a key limitation on longer-distance connectivity along the coast towards High Speed 1 (HS1) and, potentially, international services if these are restored to Ashford.

Opportunities

4.4.27. Several strategic opportunities exist to reshape the role of rail on this corridor:

- **Extending HS1 services** to Hastings and Eastbourne has long been a local and regional aspiration. The use of bi-mode or battery-electric trains could enable faster journey times (targeting ~1hr15 from London to Hastings, down from ~1hr45) without the full cost of electrification. Increasing frequency to 2 tph on Marshlink could be considered.
- **Metro-style suburban services** in the Solent and Sussex areas could support mode shift, especially if integrated with bus and ferry networks and delivered on a clockface 4tph basis (and potentially higher during peak hours).
- **Interurban fast services** (e.g. Brighton–Southampton or Brighton–Bristol) could be revived to support longer-distance demand, especially if capacity enhancements enable express services to skip lower-demand stops.
- With significant growth pressures in Solent and Sussex, **improved rail capacity and service frequency** could help shift housing and employment development patterns.

Conditional outputs

Conditional outputs to address these challenges

To address the challenges and unlock this corridor's potential, TfSE is calling for:

- **Faster journey times** between major economic hubs (e.g. Southampton, Portsmouth, Brighton and Hove, Hastings), targeting average speeds of at least 40mph and reduced interchange penalties.
- **A regular pattern of four trains per hour suburban services** across the day in the South Hampshire and Sussex Coast conurbations, integrated with local bus and ferry services and common fares.
- **Decarbonisation of remaining diesel operations** – particularly the Hastings–Ashford line and Portsmouth-Bristol-Cardiff service, where battery-electric solutions may be the most viable.
- **Targeted infrastructure enhancements**, potentially including passing loops or a third track on the Brighton – Worthing section to enable overtaking; junction

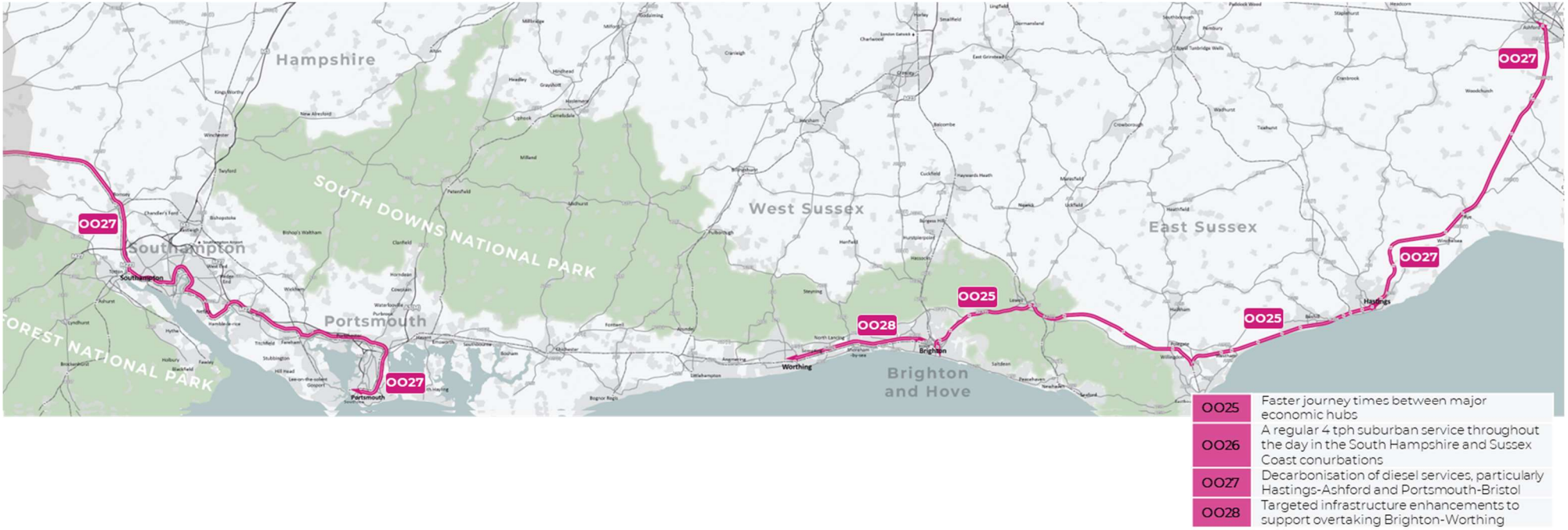
upgrades at key nodes (e.g. Fareham, Ford, Lewes); and/or timetable simplification to reduce service conflicts and splitting/joining movements.

Dependencies and risks

4.4.28. This corridor is also highly complex, with five train operating companies (TOCs), freight, overlapping service groups, and conflicting timetable priorities. Multiple flat junctions limit operational flexibility. The corridor also interfaces with the Kent, Sussex, and Wessex radial corridors, increasing the risk of cross-boundary coordination failure.

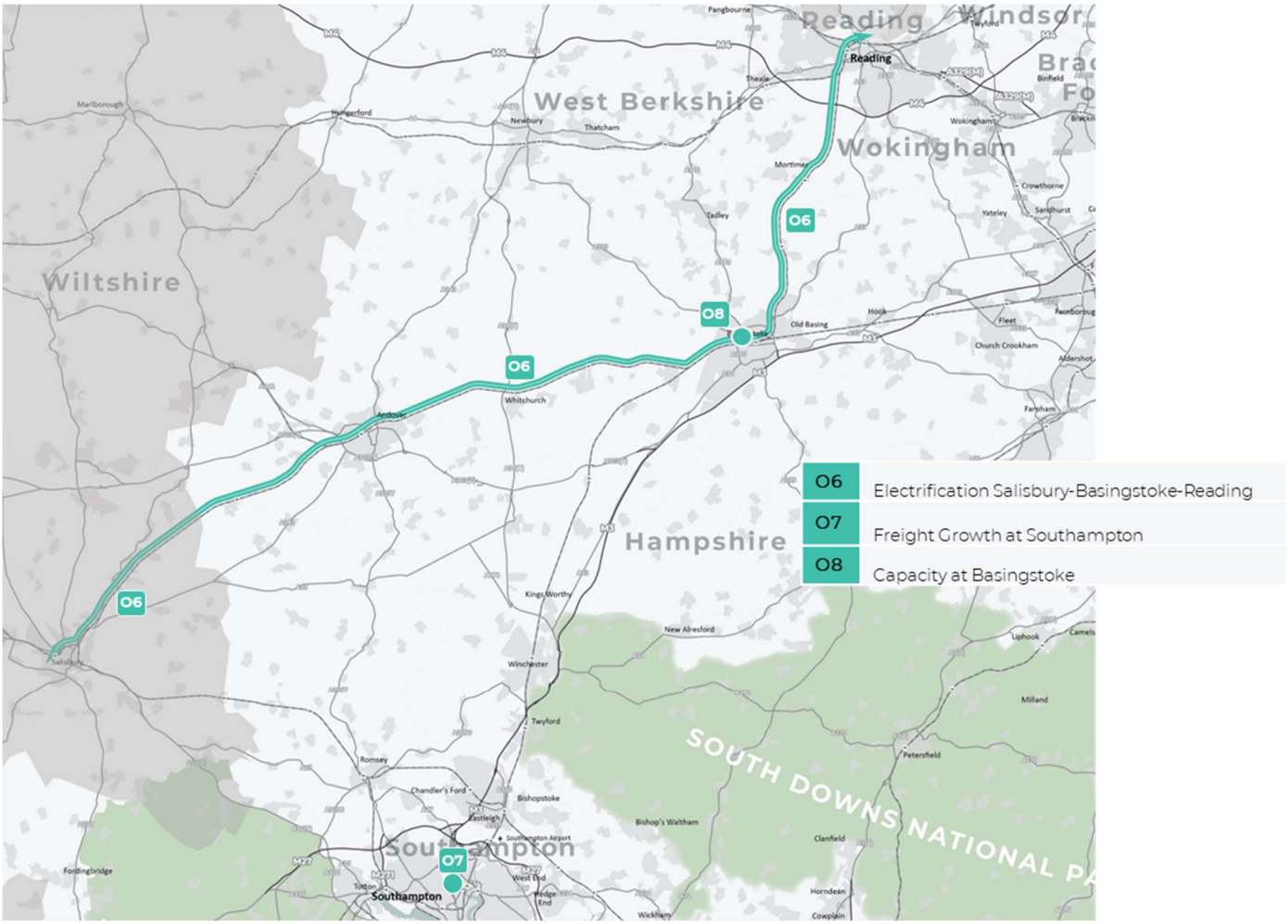
4.4.29. Many stakeholders hold different views about the best way forward, and some trade-offs will be required. Some interventions (e.g. extending HS1 services, additional track capacity, or full electrification) will require national commitment, but there is also scope for incremental, cost-effective upgrades. A GBR-led approach to timetable coordination, fleet deployment, and service planning could significantly improve outcomes here.

Figure 32: Conditional Outputs for Outer Orbital route



South Coast to Midlands

Figure 33: Challenges and Opportunities for the South Coast to Midlands route



Corridor profile

4.4.30. This corridor provides vital north–south connectivity, linking key economic hubs in the Midlands with the Port of Southampton and the South Coast. It supports both cross-country intercity services and nationally significant intermodal freight movements between the Solent, the Midlands and beyond. There is significant overlap with the Wessex radial corridor, particularly around Basingstoke, but the defining feature of this corridor is its strategic role in facilitating inter-regional flows that bypass London. These include the CrossCountry services connecting Southampton with Basingstoke, Reading, Oxford, and Birmingham.

Current challenges

4.4.31. Many stakeholders believe historic investment in this key economic corridor has not reflected its national importance. Inconsistent electrification is a key constraint, particularly for freight. While emerging battery-electric passenger fleets may offer some flexibility for long-distance passenger services, they are not a viable option for heavy freight, especially on sections of the route that have relatively steep inclines (e.g. around Winchester). Capacity bottlenecks, particularly at Basingstoke, also pose challenges, especially where freight and passenger flows must converge or cross paths. In addition, the routes between Romsey and Salisbury remain diesel-operated and constrained by

infrastructure limitations, including single-track sections at Chandler's Ford.

Opportunities

4.4.32. The Port of Southampton has seen encouraging modal shift to rail for freight, and there is clear potential to build on this success. DP World's 'Modal Shift Programme' trial has provided financial incentives to transport freight away from the port by rail through a levy on all containers. Building on this and supporting further growth requires a modernised freight-ready corridor that is electrified to a consistent standard. One promising option would be to pursue overhead line electrification via the Salisbury route, which avoids compatibility issues with the existing third-rail DC network south of Basingstoke and Winchester. This would require a fresh look at existing operational arrangements, including the Salisbury depot, but could unlock a more resilient and decarbonised freight corridor between the Midlands and the South Coast.

Conditional outcomes

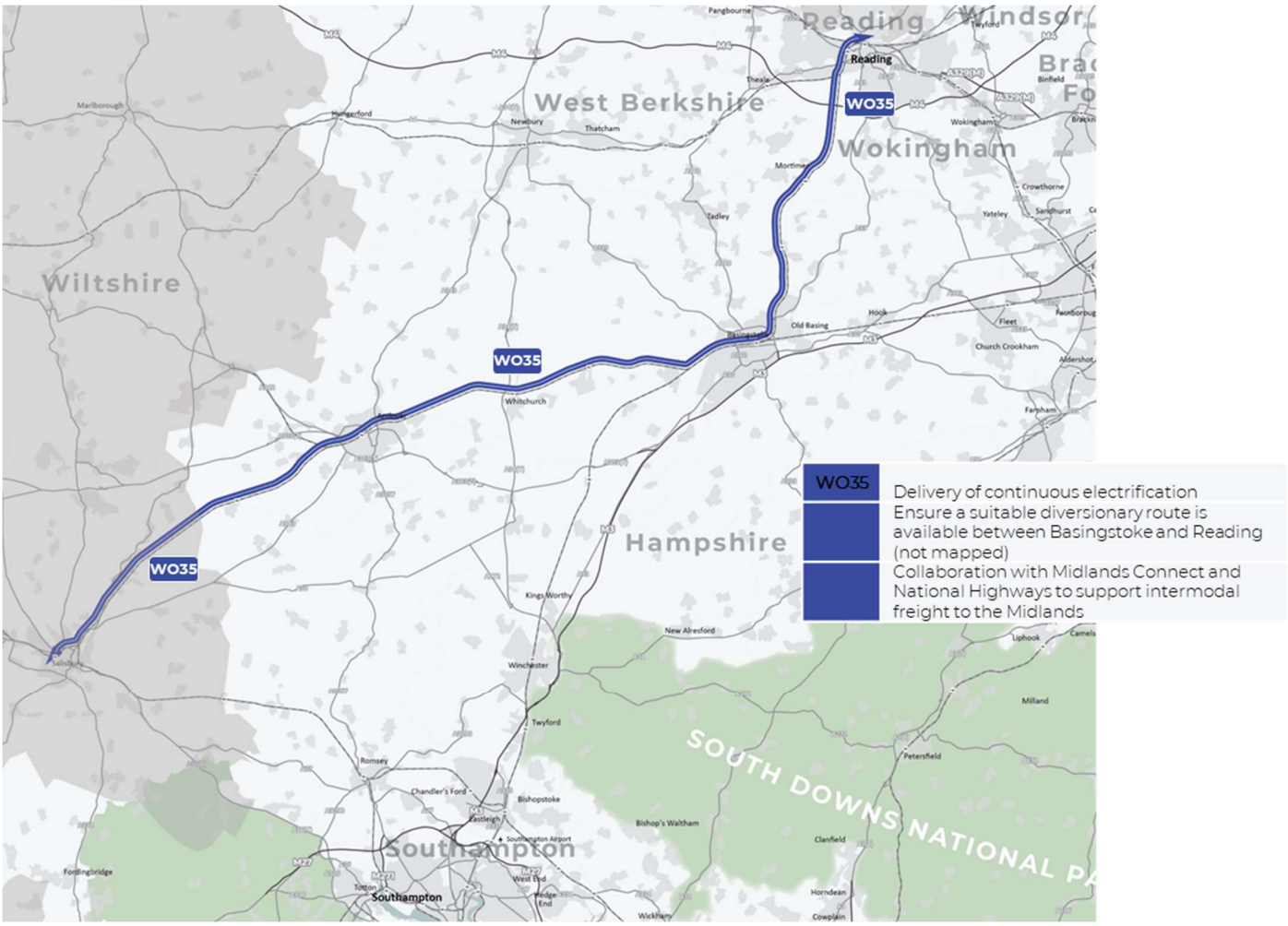
Conditional outputs to address these challenges

- **Delivery of continuous overhead line electrification to support freight** and long-distance passenger movements. This could be delivered via the Salisbury–Basingstoke–Reading route, creating a fully electrified link between Southampton and the Midlands while avoiding complex interface issues associated with third rail.
- **Ensure a suitable diversionary route is available for freight between Basingstoke and Reading –** this could be via Kew or Salisbury.
- **Broader collaboration with Midlands Connect and National Highways** on capacity and intermodal opportunities for freight in the Midlands, which could reduce road traffic.

Dependencies and risks

4.4.33. There is considerable overlap with other strategic flows, especially the Wessex radial corridor and the Western Main Line at Reading and Didcot. Any proposed enhancements will need to be closely coordinated to avoid conflicts and ensure capacity is used efficiently. If Salisbury were to become a more prominent junction on an electrified corridor, this may require a reconfiguration of existing rolling stock and depot arrangements. There may also be merit in rethinking the West of England Line's role in the broader Great Western network if electrification proceeds in this direction.

Figure 34: Conditional Outputs for the South Coast to Midlands route



5. Pathways to delivery

5.1. Enabling actions

5.1.1. Aside from infrastructure and service provision, a number of actions have been identified in the development of this strategy which would support the timely delivery of improved rail outputs for the TfSE area.

Freight

5.1.2. Demand for aggregates from the region is increasing, and major construction projects such as Heathrow expansion could increase this further. A better understanding of the potential demand for aggregates from these major projects could help to ensure capacity is available for more of this to be supplied by rail.

5.1.3. Utilisation of freight paths across the region varies considerably. While we support calls to expand freight capacity, ensuring efficient use is made of existing routes is essential to maximise rail freight's mode share and make the case for enhancements.

Governance

5.1.4. The Railways Bill sets out how GBR will relate to MSAs and details their role in future industry planning processes. With the first Mayoral elections in the South East delayed to 2028, and not all local authorities currently included in these plans, it is crucial that MSAs are not the only route for local and regional engagement with GBR as it sets its initial priorities and ways of working. This strategy is one of the ways in which TfSE will set out priorities for the area and seek to engage with the rail industry, alongside the Transport Strategy and the SIP.

5.2. Planning horizons

5.2.1. Delivering a better rail system in the South East will require bold decisions, long-term planning, and near-term action. To structure this, we consider three planning horizons:

Short term (2025–2030)

5.2.2. In the short term, key outputs for the rail industry have already been decided as part of the Control Period 7 business planning period, which runs from 2024-2029, and the 2025 Spending Review. Infrastructure planning takes time, and without existing schemes in the delivery pipeline, it's not realistic for plans to reach delivery in the next few years.

5.2.3. As a result, actions deliverable in the short term are largely focused on "maintain" and "optimise": targeting rolling stock renewal and enabling service uplift through timetabling and power supply improvements, building on existing plans from operators.

5.2.4. This time should also be used for scheme development, business case preparation, and ensuring that schemes can be taken forward into the investment pipeline as funding becomes available.

5.2.5. Over this period of time, all of the region's operators will come into public ownership, and GBR will be formally established by the end of 2027. While limited structural change is likely beforehand, this should not block the development of new ways of working, and close collaboration between Network Rail, DfT, TfSE, our partner local authorities and other STBs.

5.2.6. This will be essential to align priorities and ensure that new structures and approaches meet the needs of the TfSE area and the wider South East.

Medium term (2030–2040)

5.2.7. More infrastructure schemes could be delivered in this window, particularly smaller interventions to unlock new services and freight routes and some pieces of privately financed "new" infrastructure, such as rail access to Heathrow. This is where TfSE would like to see major decarbonisation gaps filled, high-value service enhancements delivered (e.g. East-West links), and reforms to fares, governance, and fleet strategy as GBR establishes itself.

5.2.8. Some interventions are likely to be multimodal and cross-boundary, with delivery roles shared between TfSE, MSAs, GBR, and others such as TfL or other STBs.

Long term (2040–)

5.2.9. In the longer term, there is more focus on "new" infrastructure, including encompassing large-scale transformational interventions.

5.2.10. By 2050, rail must have helped deliver net zero, more housing, improved access to jobs and services, and be in a position to compete much better with road and air alternatives. This means that larger-scale interventions, including schemes to unlock greater capacity on key bottlenecks into London, such as Croydon and Woking, will need to be delivered in order to achieve these goals.

5.2.11. The table below summarises the conditional outputs in the strategy, which we believe are deliverable within each of these windows.

Table 3: Conditional Outputs likely to be deliverable in the short, medium and long term

Short Term (2025-2035)	Medium Term (2035-2045)	Long Term (2045-)
High reliability, with punctuality equal to the best operators in the sector (above 90% of trains arriving within three minutes of schedule).	Faster services to areas on the high-speed and mainline networks, including Maidstone, Hastings and Thanet	Capacity relief at Woking to address congestion and passenger crowding.
High customer satisfaction, maintaining and improving scores in the industry Rail Customer Experience Survey, with overall journey satisfaction above 80%.	Improved connections within and between stations, including at Strood and Canterbury	A long-term solution at Southampton, including resolution of capacity constraints at Southampton Tunnel and Central station.
Direct London and Chatham services to Sheppey (at least during peak hours)	Capacity uplifts to support growth areas in north-east Kent and Ashford, including additional rolling stock and potential timetable enhancements.	Delivery of continuous overhead line electrification to support freight and long-distance passenger movements along the Western Orbital corridor
Gauge clearance of the Folkestone and Maidstone East Lines to enable larger containers to access the Channel Tunnel.	Replacement of the ageing Networker fleet, which is approaching the end of its operational life.	Long-term resolution of capacity constraints at Croydon.
Achieve the public transport mode share targets set out in Gatwick Airport's expansion plans, and deliver new services from Kent to Gatwick.	Faster journey times to London for Portsmouth and Bracknell to improve competitiveness relative to neighbouring centres.	Decarbonisation of the Hurst Green-Uckfield line, and reinstatement of the Uckfield-Lewes line
Improved frequencies on orbital services across Surrey	Improve journey times on the Arun Valley Route	Further decarbonisation of the South Coast to Midlands corridor, including diesel branch lines
Maximising the benefits of future Heathrow rail links	Improved connectivity in the Blackwater Valley	Full decarbonisation of the Inner Orbital corridor
Exploring enhanced inter-regional connectivity, including the potential reinstatement of Brighton –Reading/Oxford services.	Direct orbital services in Kent between Medway/Ashford, Maidstone, Tonbridge and Gatwick Airport, operating a half-hourly service that targets average speeds of at least 50mph.	Faster journey times between major economic hubs (e.g. Southampton, Portsmouth, Brighton and Hove, Hastings), targeting average speeds of at least 40mph and reduced interchange penalties.

Short Term (2025-2035)	Medium Term (2035-2045)	Long Term (2045-)
1 train per hour semi-fast service linking Gatwick Airport to Reading and Oxford.	Enhancements in the Reading area to support future passenger and freight services	Targeted infrastructure enhancements to improve pathing and speed on the Outer Orbital corridor.
Extended early morning and overnight services to Gatwick Airport	Support for Old Oak Common as a major national hub	Deployment of new battery-electric or bi-mode trains on HS1
Maintain capability for current and anticipated freight traffic	Ensure a diversionary route is available for freight between Basingstoke and Reading	
Improved integration of rail with local public transport networks and active travel routes, including integrated ticketing	Direct services between Heathrow and key TfSE hubs, including Woking and Staines	
Targeted fares to support local markets and economies	Realisation of the Western and Southern Rail Access to Heathrow	
Support development of new rail freight interchanges, including Northfleet, Theal, Salfords, Crawley Goods Yard and South Godstone.	Improved connections between Bromley/Bexley and Ebbsfleet, potentially using rail or Bus Rapid Transit	
	Targeted infrastructure enhancements to improve pathing and speed on the Inner Orbital corridor.	
	A regular pattern of four trains per hour suburban services across the day in the South Hampshire and Sussex Coast conurbations	
	Decarbonisation of the Hastings-Ashford line and Portsmouth-Bristol-Cardiff service	

5.3. Roles and responsibilities

5.3.1. There are several crucial delivery partners in delivering rail improvements for the region:

- **Network Rail and Great British Railways** will continue to own and operate rail infrastructure, but with new strategic planning responsibilities once GBR is established. This strategy aims to support them in their roles by clearly conveying regional priorities and informing their delivery plans.
- **Mayoral Combined Authorities and Local Transport Authorities** will increasingly lead on service planning, station delivery, and integration. This strategy aims to support them in developing their own plans for rail, particularly the emerging MCAs, by providing a clear sense of priorities across the wider region and an understanding of the key constraints and challenges.
- **Department for Transport and HM Treasury** will remain key to major funding decisions. This strategy sets out the urgency of unlocking funding to deliver some of the key constraints in the region.
- **Private sector** including freight, ports, airports, rolling stock owners and developers must be engaged throughout the development of schemes.

5.3.2. While TfSE is not a delivery body, it plays a critical role as a strategic convenor, champion, and technical resource. In delivering the Rail Strategy, TfSE will:

- **Provide strategic evidence, data and analysis to inform local, regional and national decisions** through the TfSE Analytical Framework, State of the Region Report, technical studies and more.
- **Support early-stage scheme development** via funding and technical expertise.
- **Align regional and local voices** especially where emerging Mayoral Combined Authorities and local authorities lack cross-boundary coordination.
- **Champion the region** ensuring the TFSE area's needs are reflected in national programmes and GBR priorities.
- **Promote wider priorities** e.g. decarbonisation, social inclusion and freight growth in scheme appraisal and pipeline development, ensuring these are recognised by scheme promoters, including Network Rail and GBR.

5.3.3. As devolution progresses, careful coordination will be required to ensure that transport authority boundaries do not limit rail's regional network benefits. TfSE and the WSERP have important roles to play in cross-boundary integration. The strategy will feed into the WSERP Rail Plan, which covers a broader geography.

5.4. Funding and financing

5.4.1. Public funding will remain essential to funding enhancements to the rail network – especially schemes that enable modal shift and decarbonisation but do not offer direct commercial returns. Expecting rail to cover its costs with farebox revenue is unrealistic and risks curtailing beneficial schemes.

5.4.2. However, we must also diversify funding streams. This includes:

- **Third-party and co-investment**: Airports, ports, developers and private operators all benefit from rail and should contribute to enhancements - especially where profits are driven by improved access (e.g. Heathrow expansion).
- **Beneficiary-pays models**: Where benefits accrue to a defined geography or business base, mechanisms such as land value capture or levies may be appropriate, although they can be difficult to implement without strong evidence and predictable returns.
- **Pipeline certainty**: Investors (public or private) need predictable, staged pipelines. TfSE's Strategic Investment Plan provides this for specific schemes but requires refresh and alignment with funding cycles (e.g. Network Rail Control Periods and the new Funding Period, Transport for City Regions funding and when these become accessible to MSAs in the region).

5.5. Tools for delivery

5.5.1. TfSE is committed to enabling delivery through practical, targeted tools:

- **Analytical Framework**: A robust, data-driven decision support system underpinning scheme appraisal, prioritisation, and monitoring.
- **Centre of Excellence**: A growing resource hub to support officers across the region with training, technical assistance, best practice, and peer learning.
- **Scheme Development Fund**: To unlock business case development and reduce delivery risk.
- **Prioritisation Framework**: Providing a consistent basis for scheme ranking based on benefit, readiness, and cost.

5.5.2. These tools are not static and will evolve over time to reflect lessons learned.

Risk, uncertainty, and futureproofing

5.5.3. The last five years have shown that transport planning cannot rely on static forecasts. Pandemics, economic shocks, infrastructure re-scoping (e.g. HS2), and changing work and travel patterns have all shaken the old assumptions.

5.5.4. TfSE's approach to futureproofing includes:

- **Scenario planning** baked into TfSE's Strategic Investment Plan and wider strategy development process.
- **Incremental, modular delivery** favouring scalable solutions that can flex with demand.
- **Passive provision** ensuring today's decisions don't limit tomorrow's choices (e.g. providing passive junctions for future station links or electrification).
- **Integrated planning** aligning transport, energy and digital infrastructure.

Monitoring and evaluation

5.5.5. This strategy is defined by its outputs and outcomes, not just inputs. Monitoring will need to track:

- **Operational outputs** e.g. services per hour, journey times, electrification coverage, as well as performance metrics.
- **Strategic outcomes** e.g. wider economic impacts, modal shift, access to opportunity.
- **Delivery confidence** e.g. scheme readiness, alignment with funding.

5.5.6. TfSE's State of the Region report will be a primary tool for tracking delivery and identifying where course corrections are needed. This feedback loop is vital to ensuring the Rail Strategy remains relevant, resilient, and responsive to changing conditions.

5.5.7. The report monitors both operational and strategic outputs through key statistics on rail performance, including reliability and customer satisfaction, as well as tracking carbon emissions, economic growth and rail fare inflation.

5.5.8. Monitoring the progress of scheme development and progress can be carried out through Local Transport Plans and business cases, which will identify the next steps for key schemes which are progressing within the region.

Appendices

A. **Conditional output summary tables**
B. **Stakeholder Engagement**

Appendix A

The corridors used for this study broadly align to the new MSA geographies, but the orbital corridors cross between several. Table **B1** below presents, for reference, the conditional outputs included within each of the MSA areas, as well as for the upper-tier areas where future devolution proposals have not yet been proposed.

Conditional outputs across the network, such as fares and reliability, are not included in this table.

Table **B2** summarises the conditional outputs as they align to the Transport Strategy missions.

B 1: Conditional outputs by MSA and county

Kent	Sussex	Hampshire and Solent	Berkshire	Surrey
Direct London and Chatham services to Sheppey (at least during peak hours).	A regular pattern of four trains per hour suburban services across the day in the Sussex Coast conurbation	Faster journey times to London for Portsmouth and Bracknell to improve competitiveness relative to neighbouring centres.	Support for Old Oak Common as a major national hub.	Improved frequencies on orbital services across Surrey.
Gauge clearance of the Folkestone and Maidstone East Lines to enable larger containers to access the Channel Tunnel.	Long-term resolution of capacity constraints at Croydon.	Capacity relief at Woking to address congestion and passenger crowding.	Further decarbonisation of the Western corridor, including diesel branch lines.	Extended early morning and overnight services to Gatwick Airport.
Deliver new services from Kent to Gatwick	Decarbonisation of the Hurst Green – Uckfield line, and reinstatement of the Uckfield-Lewes line.	A long-term solution at Southampton, including resolution of capacity constraints at Southampton Tunnel and Central station.	Realisation of the Western Rail Access to Heathrow.	Improved connectivity in the Blackwater Valley.
Faster services to areas on the high-speed and mainline networks, including Maidstone, Hastings and Thanet.	Exploring enhanced inter-regional connectivity, including the potential reinstatement of Brighton–Reading/Oxford services.	Direct services between Heathrow and key South East hubs, including Woking and Staines.	Direct services between Heathrow and key South East hubs, including Woking and Staines.	Direct services between Heathrow and key South East hubs, including Woking and Staines.
Improved connections within and between stations, including at Strood and Canterbury.	Extended early morning and overnight services to Gatwick Airport.	Decarbonisation of the Portsmouth-Bristol-Cardiff service.	Delivery of continuous overhead line electrification to support freight and long-distance passenger movements along the South Coast to Midlands corridor.	Targeted infrastructure enhancements to improve pathing and speed on the Inner Orbital corridor.
Capacity uplifts to support growth areas in north-east Kent and Ashford, including additional rolling stock and potential timetable enhancements.	Targeted infrastructure enhancements to improve pathing and speed on the Outer Orbital corridor.	Delivery of continuous overhead line electrification to support freight and long-distance passenger movements along the South Coast to Midlands corridor.	1 train per hour semi-fast service linking Gatwick Airport to Reading and Oxford.	Delivery of continuous overhead line electrification to support freight and long-distance passenger movements along the South Coast to Midlands corridor.

Kent	Sussex	Hampshire and Solent	Berkshire	Surrey
Replacement of the ageing Networker fleet, which is approaching the end of its operational life.	Direct orbital services in Kent between Medway/Ashford, Maidstone, Tonbridge and Gatwick Airport, operating a half-hourly service that targets average speeds of at least 50mph.	Targeted infrastructure enhancements to improve pathing and speed on the Outer Orbital corridor.	Exploring enhanced inter-regional connectivity, including the potential reinstatement of Brighton-Reading/Oxford services.	Full decarbonisation of the Inner Orbital corridor.
Improved connections between Bromley/Bexley and Ebbsfleet, potentially using rail or Bus Rapid Transit	Achieve the public transport mode share targets set out in Gatwick Airport's expansion plans	A regular pattern of four trains per hour suburban services across the day in the South Hampshire conurbation	Targeted infrastructure enhancements to improve pathing and speed on the Inner Orbital corridor.	
Deployment of new battery-electric or bi-mode trains on HS1.			Full decarbonisation of the Inner Orbital corridor.	
Direct orbital services in Kent between Medway/Ashford, Maidstone, Tonbridge and Gatwick Airport, operating a half-hourly service that targets average speeds of at least 50mph.			Ensure a diversionary route is available for freight between Basingstoke and Reading	
Decarbonisation of the Hastings–Ashford line				
Targeted infrastructure enhancements to improve pathing and speed on the Inner Orbital corridor.				
Full decarbonisation of the Inner Orbital corridor.				

B 2: Conditional Outputs by Transport Strategy missions

Strategic Connectivity	Sustainable Growth	Resilience	Inclusion and Integration	Decarbonisation
Improved connections within and between stations, including at Strood and Canterbury	Direct London and Chatham services to Sheppey (at least during peak hours)	Capacity relief at Woking to address congestion and passenger crowding.	High customer satisfaction, with overall journey satisfaction above 80%.	Decarbonisation of the Hurst Green-Uckfield line, and reinstatement of the Uckfield-Lewes line
Faster services to areas on the high-speed and mainline networks, including Maidstone, Hastings and Thanet	Capacity uplifts to support growth areas in north-east Kent and Ashford, including additional rolling stock and potential timetable enhancements.	High reliability, with punctuality equal to the best operators in the sector (above 90% of trains arriving within three minutes of schedule).	Replacement of the ageing Networker fleet, which is approaching the end of its operational life.	Achieve the public transport mode share targets set out in Gatwick Airport's expansion plans, and deliver new services from Kent to Gatwick.
Faster journey times to London for Portsmouth and Bracknell to improve competitiveness relative to neighbouring centres.	Gauge clearance of the Folkestone and Maidstone East Lines to enable larger containers to access the Channel Tunnel.	A long-term solution at Southampton, including resolution of capacity constraints at Southampton Tunnel and Central station.	Improved integration of rail with local public transport networks and active travel routes, including integrated ticketing	
Improve journey times on the Arun Valley Route	Improved frequencies on orbital services across Surrey	Long-term resolution of capacity constraints at Croydon.	Ensure fares are targeted to support local markets and economies	Further decarbonisation of the South Coast to Midlands corridor, including diesel branch lines
Exploring enhanced inter-regional connectivity, including the potential reinstatement of Brighton–Reading/Oxford services.	Direct services between Heathrow and key TfSE hubs, including Woking and Staines	Enhancements in the Reading area to support future passenger and freight services	Maximising the benefits of future Heathrow rail links for the wider region	Full decarbonisation of the Inner Orbital corridor
Direct orbital services in Kent between Medway/Ashford, Maidstone, Tonbridge and Gatwick Airport, operating a half-hourly service that targets average speeds of at least 50mph.	Realisation of the Western and Southern Rail Access to Heathrow	Maintain capability for current and anticipated freight traffic		Delivery of continuous overhead line electrification to support freight and long-distance passenger movements along the Western Orbital corridor

Strategic Connectivity	Sustainable Growth	Resilience	Inclusion and Integration	Decarbonisation
1 train per hour semi-fast service linking Gatwick Airport to Reading and Oxford.	Faster journey times between major economic hubs (e.g. Southampton, Portsmouth, Brighton and Hove, Hastings), targeting average speeds of at least 40mph and reduced interchange penalties.	Ensure a diversionary route is available for freight between Basingstoke and Reading.		Support development of new rail freight interchanges, including Northfleet, Theale, Salfords, Crawley Goods Yard and South Godstone.
Targeted infrastructure enhancements to improve pathing and speed on the Outer Orbital corridor.	Extended early morning and overnight services to Gatwick Airport			Decarbonisation of the Hastings–Ashford line and Portsmouth-Bristol-Cardiff service
Support for Old Oak Common as a major national hub	Improved connectivity in the Blackwater Valley			Deployment of new battery-electric or bi-mode trains on HS1
Targeted infrastructure enhancements to improve pathing and speed on the Inner Orbital corridor.	Improved connections between Bromley/Bexley and Ebbsfleet, potentially using rail or Bus Rapid Transit			
	A regular pattern of four trains per hour suburban services across the day in the South Hampshire and Sussex Coast conurbations			

Appendix B

A broad group of stakeholders from the following organisations were consulted during the preparation of the strategy, including:

- Transport officers from all TfSE's local authority partners
- Department of Transport – Rail Freight
- Network Rail
- National Highways
- Transport for London
- Rail Delivery Group
- Rail freight operators
- Passenger train operators – Great Western Railway, Southeastern and Govia Thameslink Rail.
- Rail Freight Group
- STBs – Western Gateway, England's Economic Heartland and Transport East
- Gatwick and Heathrow Airports
- Southampton and Portsmouth ports.

Regular meetings were held with the local transport authorities throughout the strategy's development, which were combined with the TfSE Strategic Investment Plan engagement meetings to ensure transparency and consistency between the two pieces of work.

A draft copy of the report was circulated for comment to all the stakeholders above, and their comments have been incorporated into the final draft.

Control Information

Prepared by

Steer
14-21 Rushworth Street
London SE1 0RB
+44 20 7910 5000
www.steergroup.com

Prepared for

Transport for the South East
County Hall, St. Anne's Crescent,
Lewes BN7 1UE

Steer project number

24481609

Client contract/project number

Author/originator

Sarah Rae

Reviewer/approver

SB

Other contributors

MH, PB, GR

Distribution

Client:

Steer
:

Version control/issue number

Date