

# **Integrated Sustainability Appraisal**

Transport Strategy for the South East

July 2025

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## Non Technical Summary

Transport for the South-East (TfSE) is undertaking a refresh of its Transport Strategy first adopted in 2020. This report sets out the Integrated Sustainability Appraisal (ISA) undertaken for the Transport Strategy. The ISA aims to identify and mitigate environmental and social impacts at a strategic level. It is subject to public consultation alongside the Transport Strategy.

In terms of sustainability policy in England, the last five years since the Strategy was developed, has seen a growing emphasis on both environmental net gain and the need to decarbonise. Transport is the largest single contributor to greenhouse gas emissions in the UK. Development and operation of transport infrastructure and traffic have impacts on biodiversity and environmental quality (including air, water and soils).

The South East of England is Britain's gateway to the world. Its dynamic economy, scenic landscapes, rich cultural heritage, and proximity to London and mainland Europe make it one of the most prosperous and desirable regions for living, working, and visiting in Britain. While parts of the TfSE Region are densely populated, large areas are highly designated for the biodiversity, heritage and landscape value and important for the sustainable growth of the Region.

The Strategy has five 'missions' which set a route map for improving strategic connectivity, strengthening resilience, enhancing integration, decarbonising the transport system, and unlocking sustainable growth. They aim to deliver beneficial outcomes by reducing congestion and air pollution; providing affordable and accessible public transport; reducing the impacts of climate change; enabling better physical and mental health through active travel; and providing users with better access to jobs, education, leisure and other opportunities.

In order to deliver these missions, a number of interventions have been identified. The majority of these were previously assessed as part of work undertaken for the Region's Strategic Investment Plan. Interventions that require new transport infrastructure can have significant negative effects on natural capital, biodiversity, historic environment, landscape, water, soils, air quality, noise and greenhouse gases. However, they can also deliver positive effects, including on the same sustainability aspects. Positive effects include air quality, greenhouse gases, safety, health, equalities and the economy.

New interventions and measures proposed in the updated Strategy do not substantially change previous assessments undertaken. For many of the interventions, a precautionary approach is taken to the assessment. This takes into account the presence of sensitive environmental features and potential for construction and operational effects of different types of transport. Potential negative impacts predicted at this stage can be avoided or reduced through further project-level design and assessment. For larger projects with predicted significant effects in the Strategy, this will involve environmental impact assessment as part of consenting.

Health and equalities considerations, as well as information from a Habitats Regulations 'screening' of likely effects on protected sites for nature conservation have informed the overall assessment.

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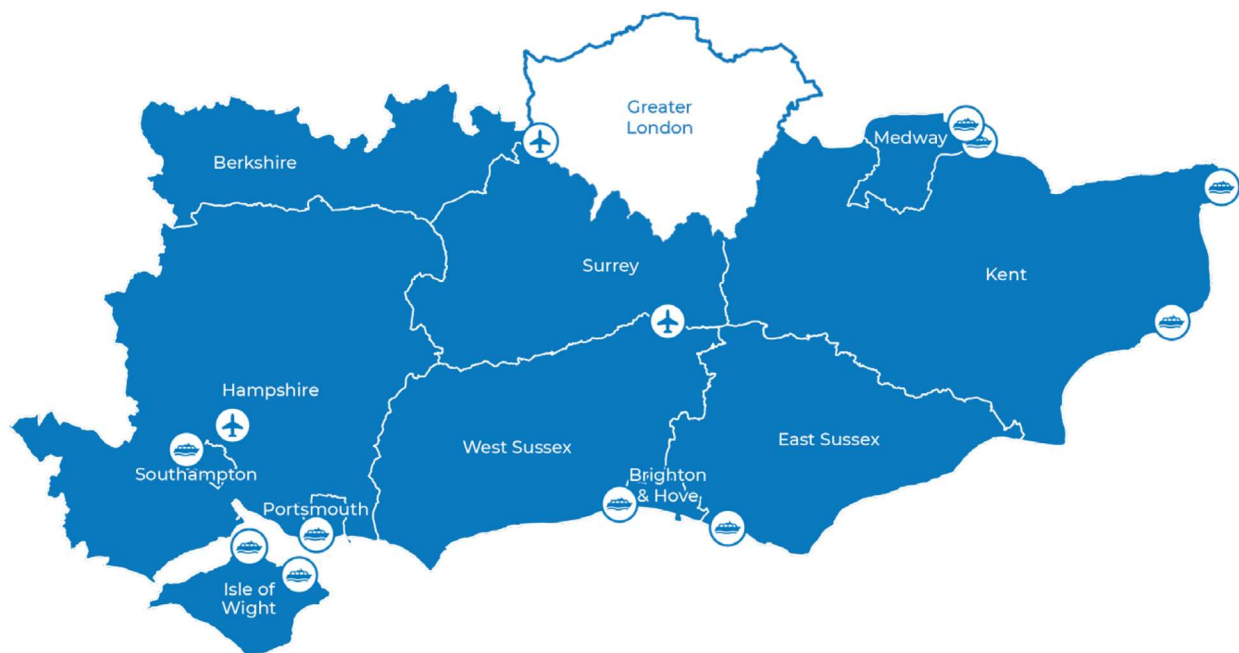
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## 1. Introduction

Transport for the South East (TfSE) is undertaking a refresh of its thirty-year Transport Strategy published in 2020<sup>1</sup>. The ambitious Vision for the Transport Strategy was to deliver a high-quality, reliable, safe and accessible transport network that offers seamless door-to-door journeys enabling our businesses to compete and trade more effectively in the global marketplace and give residents and visitors the highest quality of life. After five years, the Transport Strategy is being refreshed to ensure strategic priorities are still being met in the changing policy, demographic, socio-economic and environmental context of the area.

The TfSE area is shown in **Error! Reference source not found.** and encompasses the entirety of Kent, Medway, Hampshire, the Isle of Wight, Surrey, East Sussex, West Sussex, Brighton & Hove, and the six Berkshire authorities (West Berkshire, Bracknell Forest, Reading, Slough, Royal Borough of Windsor & Maidenhead, and Wokingham).

Figure 1.1 TfSE Area



A map of the Transport for the South East area

### Integrated Sustainability Appraisal

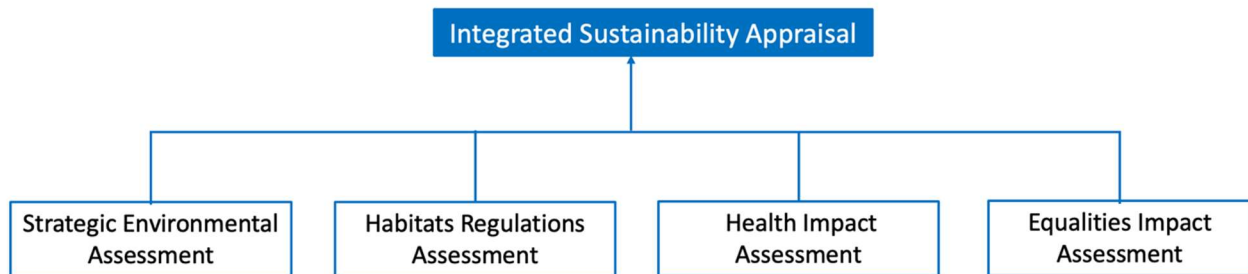
An Integrated Sustainability Appraisal (ISA) is being undertaken as part of the strategy refresh. The ISA combines several sustainability appraisal processes, so that environmental and social impacts are identified and mitigated as part of strategy development. This Scoping Report sets out the first stage of the ISA process.

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<sup>1</sup> <https://transportforthesoutheast.org.uk/our-work/transport-strategy/>

The components of the ISA process are set out in Figure 1.1 below and each process is then briefly described.

Figure 1.2: Processes within Integrated Sustainability Appraisal



A diagram showing component processes of Integrated Sustainability Appraisal

### Strategic Environmental Assessment (SEA)

SEA is used to describe the application of environmental assessment to plans and programmes in accordance with the "Environmental Assessment of Plans and Programmes Regulations" (SI 2004/1633, known as the SEA Regulations). The SEA Regulations place an obligation on authorities to undertake SEA for certain plans and programmes which are likely to have significant effects on the environment.

### Habitats Regulations Assessment (HRA)

HRA is undertaken under the Conservation of Habitats and Species Regulations 2017<sup>2</sup> (SI 2017/1012, known as the Habitats Regulations) for plans or projects which are not directly connected to the management of the site and would be likely to have a significant effect on a European Site designated for nature conservation, either alone or in combination with other plans. These comprise Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites.

### Health Impact Assessment (HIA)

Health Impact Assessment is a process to identify the likely health effects of plans, policies or projects and to implement measures to avoid negative impacts and / or promote opportunities to maximise the benefits. An HIA is not a statutory requirement, however, Planning Practice Guidance<sup>3</sup> states that planning can create environments that support and encourage healthy lifestyles and that a HIA is a useful tool when there are expected to be significant impacts.

### Equalities Impact Assessment (EqIA)

EqIA is undertaken under the Equality Act 2010 to ensure that plans, policies or projects do not discriminate or disadvantage people. It applies to people with the following 'personal protected characteristics': age, disability, gender, gender reassignment,

<sup>2</sup> Updated by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

<sup>3</sup> Ministry of Housing, Communities and Local Government, 2019, Guidance – Healthy and Safe Communities. <https://www.gov.uk/guidance/health-and-wellbeing>

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marriage and civil partnership, pregnancy and maternity, race, religion or belief, and sexual orientation.

## Purpose of Report

This report represents the draft ISA undertaken according to the SEA Regulations and best practice<sup>4</sup>. It documents the SEA process, as well as drawing on the results of the HIA, EqIA and HRA. It is subject to public consultation alongside the Transport Strategy.

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<sup>4</sup> Government guidance on Strategic Environmental Assessment and Sustainability Appraisal available at: <https://www.gov.uk/guidance/strategic-environmental-assessment-and-sustainability-appraisal>



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## 2. TfSE Strategy Refresh

### Background

Transport for the South-East (TfSE) published its thirty-year Transport Strategy in 2020<sup>5</sup>, with a vision and three goals based around Economy, Society and the Environment. An Integrated Sustainability Appraisal<sup>6</sup>, including SEA, HRA, EqIA and HIA was undertaken alongside the Strategy.

To identify the interventions that would be needed to deliver the Transport Strategy, five area studies were undertaken<sup>7</sup>:

- Outer Orbital Study
- Inner Orbital Study
- South Central Radial Study
- South East Radial Study
- South West Radial Study.

Each of the Area Studies investigated the issues, challenges and opportunities that were identified in the Transport Strategy in more detail. An ISA was undertaken for interventions in each Area Study<sup>8</sup>.

The Area Studies identified a shortlist of interventions which have formed the basis for the Strategic Investment Plan.

### Strategic Investment Plan

The Strategic Investment Plan (SIP) was submitted to Government in March 2023<sup>9</sup> and provides a framework for investment in strategic transport infrastructure, services, and regulatory interventions from now to 2050.

Place-based interventions comprise 24 multi-modal packages, including rail, mass transit (buses or ferries), active travel (e.g. walking, wheeling, cycling, horse-riding) and highways. These were previously assessed under the Area Studies ISAs.

The mass transit system supports multi-modal travel and seamless transfer between modes which includes rail and bus services. The SIP is also supportive of first and last mile improvements, to widen the area that benefits from mass transit interventions. To avoid increasing congestion, improve road safety, increase access to affordable transport

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<sup>5</sup> <https://transportforthesoutheast.org.uk/our-work/transport-strategy/>

<sup>6</sup> TfSE, Steer and WSP, April 2020: Integrated Sustainability Appraisal, Post Consultation Draft: <https://transportforthesoutheast.org.uk/useful-documents/transport-strategy/>

<sup>7</sup> <https://transportforthesoutheast.org.uk/our-work/area-studies/>

<sup>8</sup> The ISA for each area study is available on individual area study pages accessed via: <https://transportforthesoutheast.org.uk/our-work/area-studies/>

<sup>9</sup> TfSE, March 2023, A Strategic Investment Plan for the South East: <https://transportforthesoutheast.org.uk/our-work/strategic-investment-plan/>

options, and further support decarbonisation, highways opportunities in the SIP have a particular focus on those facilitating freight and bus movements to make the best use of the roads in the region.

These packages are a step-change away from traditional “predict and provide” capacity enhancements of previous decades. They support not only strategic movement of vehicles but our places and communities. They have been refined to minimise increases in carbon emissions and the impact of these interventions on the wider environment, but all highway packages do result in small increases. A Delivery Action Plan sets out those interventions to be delivered in the next three years<sup>10</sup>.

In addition to specific interventions, the SIP introduced six global policy interventions (also see Figure 2.1 below):

- Decarbonisation
- Public transport fares
- New mobility
- Road user charging
- Virtual access
- Integration

*Figure 2.1 Global Policy Interventions*



<sup>10</sup> TfSE, June 2023, Delivery Action Plan:

[https://transportforthesoutheast.org.uk/app/uploads/2023/10/20231004\\_TfSE\\_AreaStudies\\_DeliveryActionPlan\\_Report\\_1.7-Blue-titles-added-to-maps-003.pdf](https://transportforthesoutheast.org.uk/app/uploads/2023/10/20231004_TfSE_AreaStudies_DeliveryActionPlan_Report_1.7-Blue-titles-added-to-maps-003.pdf)

Some of the interventions from the SIP, in addition to the global policy interventions have been further prioritised in the updated strategy.

## Strategy Update

Since TfSE's first Transport Strategy, the context within which the strategy operates has changed. These changes broadly fall into three groups:

- 1) Changes to national and local policies
- 2) Changes to travel behaviour, resulting from the pandemic
- 3) Progress since the publication of the first strategy including Area Studies and SIP described above.

The vision statement has been developed in partnership with key stakeholders and sets out the overall direction of the Transport Strategy and forms the basis of the three goals and five missions that underpin it:



The Strategy comprises five key missions that TfSE will prioritise to achieve its Vision:

- Strategic Connectivity
- Resilience
- Inclusion and integration
- Decarbonisation
- Sustainable Growth

Each mission is linked to outcomes, in addition to a number of priorities and interventions. Further information can be found in Chapter 5 and Appendix A and B of this Report.

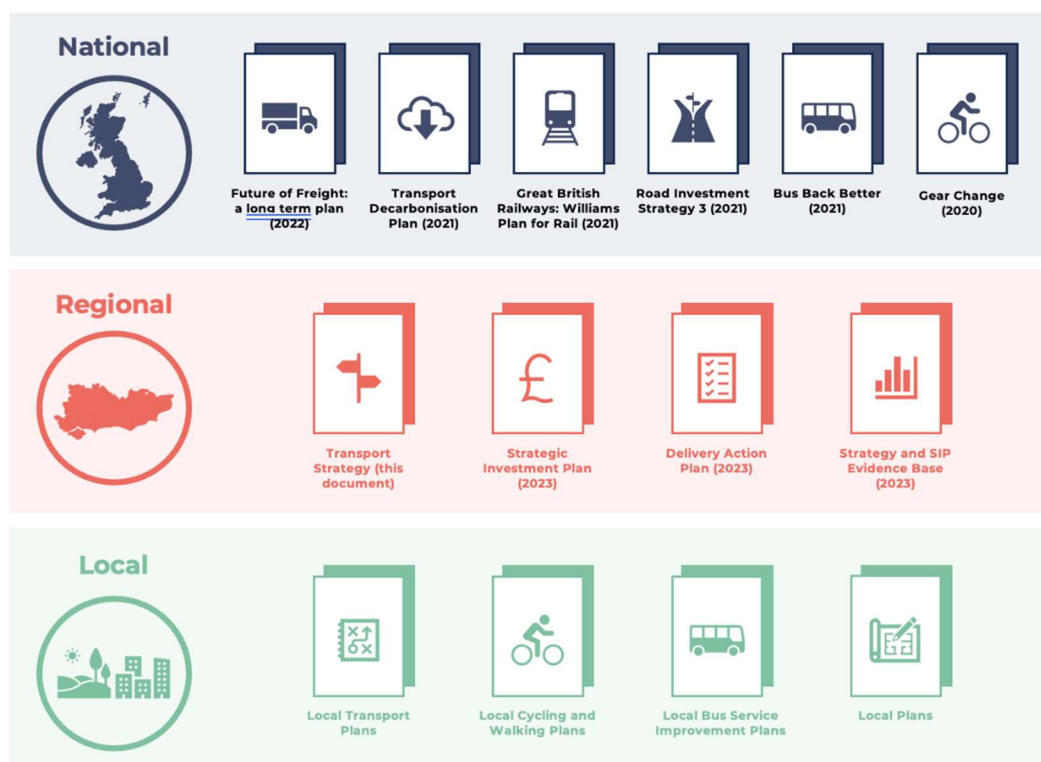
## Relationship to other plans

Figure 2.1 below shows how this document sits at a regional level in relation to national and local plans. There are a number of key transport strategies and plans at the national level which have helped to drive the refresh of the Strategy. Chapter 4 also sets out key sustainability legislation and policy taken into account in the Strategy refresh.

The TfSE constituent local authorities will use the Strategy and associated plans in local planning. This includes the 16 Local Transport Authorities and associated Local Transport Plans.

The specific transport interventions set out in the Transport Strategy are also being delivered by other organisations, including National Highways and Network Rail. The policy framework for the delivery of these major schemes is the National Networks National Policy Statement (NPS)<sup>11</sup> and as such these major schemes have been assessed within the related Appraisal of Sustainability<sup>12</sup>.

Figure 2.2 TfSE Strategy and relationship with other plans



<sup>11</sup> Department for Transport, March 2024

<https://assets.publishing.service.gov.uk/media/65e9c5ac62ff48001a87b373/national-networks-national-policy-statement-web.pdf>

<sup>12</sup> Ramboll/ WSP, February 2024,

<https://assets.publishing.service.gov.uk/media/66279715d29479e036a7e5e1/nnpns-aos.pdf>

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### 3. Methodology

The ISA methodology, tends to be driven by the SEA process and other sustainability assessments are incorporated into this. The stages set out in this section cover:

- Stage A: Setting the context and objectives, establishing the baseline and deciding on scope;
- Stage B: Developing and refining strategic alternatives and assessing their effects;
- Stage C: Preparing the Environmental Report
- Stage D: Consulting on the draft plan or programme alongside the Environmental Report; and
- Stage E: Monitoring the significant effects of implementing the plan or programme on the environment.

#### Stage A Scoping

Consultation on the scope of the ISA was undertaken via a Scoping Report issued in August 2024 to the statutory bodies (Environment Agency, Historic England and Natural England). The Report set the scope and context of the ISA through:

- An overview of the development of the Strategy and reasons for update;
- The relevant updates to legislation and policy, baseline information and future trends, whilst identifying key issues and opportunities for the appraisal of the Strategy; and
- The framework to be used for the sustainability appraisal.

The Scoping Report responds to the requirements of Schedule 2 of the SEA Regulations (Box 1 below) and a brief summary is provided in Chapter 4.

#### **Box 1. SEA Requirements covered in the Scoping Report.**

- a) An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes.*
- b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.*
- c) The environment characteristics of areas likely to be significantly effected.*
- d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 2009/147/EC (Conservation of Wild Birds) and 92/43/EEC (Habitats Directive).*
- e) The environmental protection objectives, established at international, Community or national level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation*

There were no responses to the consultation, the Scoping Report has been published for information alongside the Draft Transport Strategy.

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## Stage B: Assessment

The SEA Regulations require that the likely significant effects on the environment arising from the plan and its alternatives are described and evaluated (regulation 12(2)).

The Strategy has been refreshed from an updated Evidence base and a number of 'challenge statements' set out in the ISA Scoping Report representing issues and opportunities to be addressed. Chapter 2 of this report sets out how the Strategy has evolved. For the purposes of this assessment, the main alternatives are:

- 1) the 2020 Strategy, subsequent Area Studies and SIP; and
- 2) the refreshed Strategy and any new interventions introduced.

The SEA Regulations cover the effects on the environment on issues such as: *biodiversity, population, human health, fauna and flora, soil, water, air, climatic factors, material assets, cultural heritage, including architectural and archaeological heritage and landscape* (Schedule 2, paragraph 6).

While not specifically required by the SEA Regulations, sustainability objectives are a recognised way of considering the environmental, social and economic effects of a plan or programme and comparing the effects of alternatives. The objectives are developed using the sustainability issues identified in Chapter 3. The objectives were used to assess the TfSE Strategy and identify likely sustainability effects. Further information on the methodology used for assessment is provided in Chapter 5.

## Stages C & D: Reporting and Consultation

This report sets out the results of the ISA, incorporating SEA, HIA, EqIA and HRA. It constitutes the "Environmental Report" under the SEA Regulations. The ISA accompanies the draft Strategy for public consultation and will also be sent to the consultation bodies.

A Statement will be prepared following the consultation period to summarise how responses to consultation and the results of the ISA has influenced the development of the Strategy, in addition to other information required under Regulation 16.

## Stage E: Monitoring

Chapter 6 of this report sets out monitoring required under SEA Regulation 17. Key metrics are incorporated into TfSE's State of the Region Report<sup>13</sup>, which is intended to be updated every two years using available data to monitor how the region is changing in relation to economic, social and environmental objectives.

## Limitations and Assumptions

The ISA covers the TfSE Region and level of assessment undertaken is proportionate to the scale of the Strategy. At this level, it is not possible to assess interventions alongside

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<sup>13</sup> Transport for the South East State of the Region 2023 Report:  
<https://transportforthesoutheast.org.uk/state-of-region-report/>

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design information and a precautionary approach which uses sensitivity of the corridor combined with type of intervention is used as set out at Chapter 5.

The interventions assessed are delivered through Local Authority Transport Plans, or national bodies such as National Highways and Network Rail. Further assessment will need to be undertaken, particularly at a project level as part of delivery.

The assessment assumes that construction of any infrastructure follows existing best practice and applicable environmental legislation and guidance (for example legislation for protected species and construction best practise). Therefore, it is assumed that construction of small scale infrastructure including improving footpaths and cycleways, online bus, rail and highway (minor online works) infrastructure would generally not give rise to significant environmental effects, unless adjacent to a sensitive receptor such as a designated site. Larger infrastructure such as new railways, roads and dualling and offline mass transit may have some significant effects, and these are identified in the assessment.



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## 4. Overview of the Environment

This chapter provides an environmental overview of the TfSE Region and a summary of the issues and opportunities associated with change over the plan period. The Scoping Report, also issued for consultation, provides further information, including a full review of the environmental characteristics, evolution of the environment, existing problems and relevant legislation, policies and plans, including any environmental protection objectives (Appendix A of the Scoping Report).

### Policy Context

In terms of sustainability policy in England, the last five years since the Transport Strategy was first developed, has seen a growing emphasis on both environmental net gain and the need to decarbonise.

Goals set out within the national 25 Year Environment Plan<sup>14</sup> are focused on enhancing natural capital and ecosystem services, including enhancing the natural environment, clean air and water, mitigation and adaptation to climate change. This is also reflected in the requirement for environmental targets and biodiversity net gain in the Environment Act 2021. The interaction between green spaces and health is also noted.

Nature Positive 2030<sup>15</sup> was produced in 2021 by the UK's five statutory nature conservation bodies and sets out how pledges to protect 30% of land and seas for nature by 2030 can be achieved. Local Nature Recovery Strategies<sup>16</sup> need to be prepared by authorities to identify priorities for nature recovery and propose associated actions in identified locations by March 2025. Despite these commitments, there are continuing trends of biodiversity decline.

Section 245 of the Levelling-Up and Regeneration Act 2023 states that public bodies, while performing their functions in relation to or so as to affect a National Park or National Landscape, have a duty to 'further the purposes' of these landscapes.

The Department for Transport released its plan to decarbonise transport in 2021<sup>17</sup>. Decarbonising all forms of transport comprised increasing cycling and walking, zero emissions buses and coaches, zero emissions cars, vans, motorcycles and scooters, decarbonising railways, maritime and aviation sectors. It also included multi-modal decarbonisation covering change in fuels, freight and logistics, the role of technology and places.

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<sup>14</sup> HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment

<https://www.gov.uk/government/publications/25-year-environment-plan>

<sup>15</sup> Joint Nature Conservation Committee, Natural England, Natural Resources Wales, NatureScot and the Northern Ireland Environment Agency, 2021, Nature Positive 2030: <https://jncc.gov.uk/our-role/the-uk/nature-positive-2030/>

<sup>16</sup> Defra, 2023, Local Nature Recovery Strategies Policy Paper:

<https://www.gov.uk/government/publications/local-nature-recovery-strategies/local-nature-recovery-strategies>

<sup>17</sup> Department for Transport, 2021, Decarbonising Transport, A Better Greener Britain:

<https://assets.publishing.service.gov.uk/media/610d63ffe90e0706d92fa282/decarbonising-transport-a-better-greener-britain.pdf>



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## Overview of the TfSE Region

The region is densely populated along the northern border surrounding London and its south coast, including conurbations such as Southampton and Brighton. There are also a network of towns along major rail corridors to London, including Ashford, Basingstoke, Burgess Hill/Haywards Heath, and Newbury/Thatcham.

Outside these areas, population density is relatively low and the region is highly designated for its biodiversity, heritage and landscape interests. There are in the region of 300 internationally designated and 1,250 nationally designated sites for nature conservation. Canterbury Cathedral is a World Heritage Site and there are two World Biosphere Reserves (Brighton & Lewes Downs, Isle of Wight), defined by UNESCO as 'learning places for sustainable development', in particular interactions between social and ecological systems. There are approximately 2,200 nationally important Scheduled Monuments, in addition to over 50,000 Listed Buildings, designated for their heritage value. Two National Parks (New Forest and the South Downs) cover approximately 20% of the total TfSE area, in addition there are eight National Landscapes in the region.

There are numerous other environmental designations, in addition to other valuable assets, such as clean air, water resources and high quality agricultural soils. Environmental protection and enhancement is an important part of sustainable growth.

## Sustainability context

From a review of relevant policy and baseline information in the TfSE Region, including trends over time, sustainability issues and opportunities were identified for the Strategy. Sustainability objectives were then formulated to guide the assessment.

Table 4.1 below sets out the sustainability issues, opportunities and objectives used for the assessment of the Strategy.

Table 4.1 Sustainability Appraisal Framework

Topic	Key Sustainability Issues and Opportunities Identified	Sustainability Objective
Natural Capital and Ecosystem Services	<ul style="list-style-type: none"> <li>Transport policy and its implementation can impact or enhance environmental targets, including net gain.</li> <li>There is an opportunity to integrate a natural capital and ecosystem services approach into development of transport policy and its implementation.</li> </ul>	ISA 1: To maintain and enhance the provision of ecosystem services from the region's natural capital and deliver environmental net gain.
Biodiversity	<ul style="list-style-type: none"> <li>There is potential for impacts to designated sites for nature conservation as well as the potential to contribute to wider nature decline, through impacts on habitats and species.</li> <li>Any impact on biodiversity will need to meet requirements for net gain, this may be challenging for delivery of some projects.</li> <li>There is also potential to support nature recovery, for example through changing travel behaviour, or supporting improvements in priority areas.</li> </ul>	ISA 2: To protect and enhance habitats, species, valuable ecological networks and ecosystem functionality in the region, including through nature recovery and biodiversity net gain.
Historic Environment	<ul style="list-style-type: none"> <li>Direct and indirect impacts on the significance of internationally, nationally and locally designated and non-designated heritage assets, including their settings.</li> <li>Opportunities to enhance the historic environment, including engagement through improved access.</li> </ul>	ISA 3: To protect and minimise harm to the historic environment, and to maximise opportunities for enhancement, including setting of assets and provision of access.
Landscape and Townscape	<ul style="list-style-type: none"> <li>There is huge development pressure on designated landscapes in the TfSE area, including their setting, and transport could directly and indirectly affect these.</li> <li>There is also potential for erosion of landscape and townscape quality.</li> <li>Transport infrastructure, particularly active travel, can provide greater opportunities to connect people with the natural environment.</li> </ul>	ISA 4: To protect and enhance the quality of the region's distinctive landscapes/ townscapes and provide opportunities to connect people with them.

Topic	Key Sustainability Issues and Opportunities Identified	Sustainability Objective
Water Environment	<ul style="list-style-type: none"> <li>Increased urban run-off from infrastructure and traffic flows affects quantity and quality of surface water run-off. Design of transport infrastructure can help improve water resources.</li> </ul>	ISA 6: To protect and enhance surface and groundwater quality.
Air Quality	<ul style="list-style-type: none"> <li>Emissions to air affects human health, in addition to biodiversity.</li> <li>Emissions from transport, including highways, ports and airports are sources of key air pollutants, including nitrogen and particulate matter in the TfSE area. Transport policy therefore has a role to play in meeting air quality targets.</li> </ul>	ISA 7: To protect and enhance air quality by reducing transport related emissions.
Climate Change and GHG Emissions	<ul style="list-style-type: none"> <li>Transport is the largest contributor to the UK's greenhouse gas emissions and has a key role to play in mitigating climate change.</li> <li>Climate change (extreme heat, flooding and storms) can impact transport infrastructure and there are opportunities to improve resilience.</li> </ul>	ISA 8: To reduce greenhouse gas emissions and maximise resilience to climate change.
Noise and Vibration	<ul style="list-style-type: none"> <li>There is a concentration of transport hubs and networks in the TfSE area, which can lead to environmental noise exposure affecting both people and wildlife.</li> <li>There are opportunities for reducing road noise, through both technology and reducing road traffic.</li> </ul>	ISA 9: To reduce exposure to transport related noise and vibration.
Soils and Resources	<ul style="list-style-type: none"> <li>There is potential for deterioration in quality of, and loss of soils, including the best and most versatile agricultural land from transport policies and projects.</li> <li>Transport policy has potential to maximise use of existing transport infrastructure, there is also potential use of resources and generation of waste in transport-related construction.</li> </ul>	ISA 5: To promote the use of brownfield land and existing infrastructure, protecting soils and increasing resource efficiency.

Topic	Key Sustainability Issues and Opportunities Identified	Sustainability Objective
Population and Equalities	<ul style="list-style-type: none"> <li>The TfSE area has a growing population and associated increase in use of transport infrastructure.</li> <li>Access to affordable and efficient transport and accessibility of different types of transport is important for different groups of people including the elderly, young people, less able bodies, those on lower incomes, in urban centres or geographically isolated.</li> </ul>	ISA 10: To increase the capacity and efficiency of the transportation network to support demographic changes, including improving access by equalities groups and deprived communities.
Health	<ul style="list-style-type: none"> <li>While regionally, the TfSE area as a whole performs well in terms of health indicators, there are localised issues, including areas of high deprivation, exposure to transport-related air pollution and noise.</li> <li>Transport has a role in improving both physical and mental health. Active travel in particular can promote physical exercise, reduce obesity levels and provide opportunities for access to greenspace.</li> </ul>	ISA 11: To protect and enhance physical and mental health through active travel, access to public transport, and reductions in pollution.
Community Safety	<ul style="list-style-type: none"> <li>High levels of serious injuries and fatalities on the TfSE road network compared to the rest of the UK.</li> <li>There are opportunities to increase active travel through improved safety in design.</li> <li>Crime levels on public transport are a concern and may be a barrier, for example females travelling after dark.</li> </ul>	ISA 12: To promote safe transport through reducing accidents and improving safety of active travel and personal security, particularly on public transport.
Economy	<ul style="list-style-type: none"> <li>Transport is an important factor in productivity in the TfSE area.</li> <li>There are opportunities to provide better links to education and employment, including urban areas and coastal towns.</li> </ul>	ISA 13: To promote a strong economy through the transport network with better access to opportunities.

## 5. Assessment

The assessment identifies likely effects arising from missions, priorities and associated interventions to be delivered under the Strategy. This approach ensures that all significant effects are captured, whereas reliance on missions and priorities alone may under-represent impacts in delivery.

This approach also means that the assessment is relatively high level as it uses previous ISA work for interventions in the SIP. The methodology draws on transport typologies and sensitivity of corridor described below, and project design information is limited. The assessment also identifies where new interventions are proposed to meet priorities.

The assessment of interventions within the SIP is based on:

- 1) A sensitivity assessment - Using the approximate locations provided, each of the interventions was mapped using GIS against the indicators such as environmentally protected sites as well as socio-economic information.
- 2) A typology assessment – based on 15 different types of transport such as new highways, on-line highway improvements, active travel, enhanced bus services etc.

Adjustments were made to align with the ISA Objectives and information from other assessment processes. Considerations for equalities and health assessments are set out in Appendix A. The results of the HRA are reported in a separate document and have been incorporated into this assessment. The HRA screening process has reached a similar conclusion to the previous HRA undertaken for the Transport Strategy. Further detailed assessment is necessary to satisfy the requirements of the Habitats Regulations. Further design information on the interventions and consultation with Natural England would be required.

This means that the assessment of individual interventions may not reflect further detail that may be available at other tiers in the hierarchy (see Figure 2.1), such as Local Transport Plans or project level assessments. However, it does mean that the assessment is based on a worst-case scenario as it hasn't yet applied design evolution anticipated to reduce impacts.

The full assessment is presented in Appendix B. New interventions are identified as alternatives to those previously presented in the SIP. They are considered alternatives under the SEA Regulations as they introduce new aspects as part of the Strategy refresh. Appendix B sets out whether priorities will be implemented in the short-term (ST) or long-term (LT). Interventions such as timetabling and service provision are generally short to medium term and reversible. Effects associated with implementation of infrastructure are considered long-term and permanent.

A summary of the significant positive and significant negative effects for each of the Missions is presented below. This is followed by a summary of effects for each of the sustainability objectives.

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## Strategic Connectivity

**Mission Statement:** *We will boost connectivity in the South East by enhancing strategic regional corridors and ensure all communities can access high-quality transport links and key services.*

**Significant negative effects** are likely for the short-term priority to deliver or initiate well-developed schemes that enhance road and rail connectivity, and longer-term priorities for upgrading the region's key coastal corridors and improving journey times between London and key coastal communities. These arise for environmental objectives (natural capital, biodiversity, historic environment, landscape, water, soils, air quality, noise, greenhouse gases) for some of the major road and some of the major rail schemes in the SIP. This includes the A27 Arundel Bypass, the A27 Lewes to Polegate, and some of the A27 junction improvements, in addition to new rail links to Medway and Heathrow. It should be noted that a precautionary approach has been taken and some effects may be addressed through detailed design. Effects are less likely to be significant for some of the on-line infrastructure modification schemes or those in a less sensitive location. There are also opportunities to improve highway and rail corridors for biodiversity and nature recovery.

**Significant positive effects** are also predicted for air quality, safety and the economy for the short-term priority to deliver or initiate well-developed schemes that enhance road and rail connectivity, particularly where these reduce congestion and remove level crossings. Safety improvements to the A21 are also significant for the long term priority to improve journey times between London/M25 and coastal communities. Disadvantaged groups (equalities) and the economy will benefit from fare incentives to use public transport for long distance transport and isolated groups from improving access to islands and peninsulas (health, equalities). Positive effects on these objectives are also anticipated where highways schemes reduce congestion and intervention move freight from highways to rail, improving air quality, and have safety and economic benefits.

The short-term priority to reinstate international rail services and **new intervention** on the existing Ebbsfleet and/or Ashford line would not require new infrastructure so no effects on the majority of environmental objectives are predicted, although there may be increased rail noise and reduced noise from highway traffic. This would also have positive effects on air quality and greenhouse gas emissions. **Significant positive** effects were anticipated on the economy through increased connectivity for business and tourism.

## Resilience

**Mission:** *We will safeguard the South East's connectivity and work to maintain and enhance the reliability and resilience of our transport systems for future generations.*

While they improve resilience, including during climate change related events, priorities such as developing alternative corridors, tackling pinch points, delivering the Kent Bifurcation Strategy and other resilience measures can lead to **significant negative effects**. This is where significant new highway or rail works are proposed (e.g. Lower Thames Crossing, A29 Realignment, A22 Uckfield Bypass Dualling and Corridor

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Improvements, Kent Lorry Parks, reopening of the Spa Valley Line), such as leading to potential habitat loss/ severance, impacts on species, loss or damage to heritage assets, including their setting, visual intrusion into high quality landscapes, loss of soils and natural resources, and pollution to water or increase in flood risk. For highways schemes in particular, while easing congestion improves air quality, schemes can also induce traffic with significant negative effects on air quality, noise and greenhouse gas emissions.

**Significant positive effects** are also predicted for some of these priorities, particularly in relation to objectives for the economy, safety, health and equalities (South West and Brighton mainline, Lower Thames crossing). Significant positive effects were also predicted for climate resilience (ISA8) for short-term priorities related to highways maintenance and utility works, infrastructure renewal, planning for future risks, in addition to long-term priority related to resilience of Region's power networks. These priorities also had positive effects on objectives for community safety and the economy, no effects on other objectives were predicted.

Environmental effects from the **new** intervention to renew the bridge to Hayling Island are unknown as will depend on the nature of the renewal, for example structural repairs to the existing bridge or an entirely new bridge. The bridge is in a sensitive location crossing the Chichester and Langstone Harbours Ramsar, SAC and SPA and is also adjacent to the Chichester Harbour National Landscape. Other sustainability objectives are likely to remain unchanged as a result of a bridge renewal. Lane rental schemes are likely to have positive effects in relation to minimising road works, reducing congestion and improving air quality, safety and economy.

## Inclusion and Integration

**Mission:** *We will create an inclusive and integrated transport network in the South East that offers affordable, safe, seamless, door-to-door connectivity for all users.*

While the mission aims to improve connectivity for all users, **significant negative effects** on natural capital, biodiversity and the historic environment are predicted for some of the ferry services and highway interventions. This is largely due to sensitivity of location (e.g. Solent and Thames Estuary) and potential for disturbance to wildlife, decrease water quality, and small scale works in the marine environment. For larger-scale infrastructure (A21 dualling or bypasses in East Sussex), while improving safety, there are likely be effects on biodiversity and natural capital from habitat loss and severance, which can be challenging to provide environmental net gain, and loss or impact on setting of designated and non-designated assets.

**Significant positive effects** are predicted for equalities, safety, health, air quality and the economy. Geographically isolated groups in areas such as North and East Kent, islands, coastlines and peninsulas will benefit from better connectivity. Similarly providing affordable transport and integrated ticketing enables more people to use public transport. Mass transit interventions such as those for the Sussex Coast, Eastbourne/ Wealden, Hastings/ Bexhill and South East Hampshire are likely to reduce traffic emissions, improve access to employment and facilities, and provide significant mental health benefits.

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The **new priority for better design of infrastructure and services**, such as providing accessible step-free stations and hubs, for socially excluded groups had significant positive effects on equalities, and also positive effects on health for these groups and the economy as may better enable the workforce. There was no effect on other sustainability objectives.

## Decarbonisation

**Mission:** *We will lead the South East to a net zero future by 2050 by accelerating the shift to zero-emission travel, incentivising sustainable travel choices, and embracing new technologies to reduce emissions and combat climate change.*

**Significant negative effects** were confined to major rail infrastructure in potentially sensitive corridors for natural capital, biodiversity, and/ or historic environment including HSI link to Medway, New Strood Rail Interchange and Waterside Branch Line. At this stage the effects are precautionary and may be reduced by project level design.

There were numerous **significant positive effects** associated with delivery of rail schemes, mass rapid transport and active travel schemes. These were a result of modal shift and benefits for air quality, equalities, health, safety and the economy.

Priorities which promoted low emissions technology had **significant positive** effects on air quality and greenhouse gas emissions, including rolling out EV charging infrastructure, low emissions vehicles, and use of alternative fuels. Priorities which support road user charging were also predicted to have significant positive effects.

**New interventions** involving decarbonisation of the Thames Valley Branch Line and electrification of the line between Newbury and Taunton may involve some small scale habitat loss, with potential minor impacts on heritage and landscape depending on level of intrusion from new infrastructure.

## Sustainable Growth

**Mission:** *We will champion transport interventions that unlock investment opportunities, enable sustainable growth, and create healthy, vibrant, and well-connected communities.*

Like the decarbonisation mission, **significant negative effects** were confined to major rail infrastructure in potentially sensitive corridors for natural capital, biodiversity, and/ or historic environment including HSI link to Medway, New Strood Rail Interchange and Waterside Branch Line. At this stage the effects are precautionary and may be reduced by project level design.

There were numerous **significant positive effects** associated with delivery of rail schemes, mass rapid transport and active travel schemes. These were a result of modal shift and benefits for air quality, equalities, health, safety and the economy.

Priorities to deliver integrate land-use and transport planning, focusing development in areas with existing or planned infrastructure is likely to have **significant positive** effects on health and well-being from active travel, including benefits of walking or cycling to onward travel by public transport. Expanding public transport and concessionary fares



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and subsidy schemes will encourage more people to use public transport with significant positive effects on equalities and the economy.

There were no new interventions under this mission.

## Results of the ISA

Table 5.1 below sets out the results of the ISA for each of the Sustainability objectives.

Table 5.1 Results of the ISA

ISA Topic	Summary of Assessment
<b>Natural capital, ecosystem services</b>	<p><b>ISA 1: To maintain and enhance the provision of ecosystem services from the region's natural capital and deliver environmental net gain.</b></p> <p>The assessment of the Strategy refresh has resulted in mixed effects on natural capital.</p> <p>Potential for <b>significant negative effects</b> were identified where short and long-term priorities for major road and rail infrastructure from the SIP can affect natural capital and ecosystem services. Infrastructure such as a new HSI rail link to Medway, Southern access to Heathrow, A27 Improvements at Arundel, Lewes to Polegate, Lower Thames Crossing and Kent Lorry Park are more likely to affect a range of services such as food production, flood alleviation and water quality. <b>Negative effects</b> are also predicted for smaller-scale habitat loss and disturbance.</p> <p><b>Positive effects</b> through natural capital enhancements are possible through the connection of green spaces and protection of habitats linking population centres which may otherwise be lost or severed through a lack of maintenance or through other development.</p>
Alternatives	<p>There is some uncertainty around the effects of bridge renewal to Hayling Island and effects on habitats and water resources. There may be minor effects from electrification of the Newbury to Taunton on the South West Main Line relating to overhead lines and any associated infrastructure.</p>
<b>Biodiversity</b>	<p><b>ISA 2: To protect and enhance habitats, species, valuable ecological networks and ecosystem functionality in the region, including through nature recovery and biodiversity net gain.</b></p> <p>The assessment of the Strategy refresh has resulted in mixed effects on biodiversity.</p> <p>Potential for <b>significant negative effects</b> were identified where short and long-term priorities for major road and rail infrastructure from the SIP has the potential to affect biodiversity. Examples include new HSI rail link to Medway, Southern access to Heathrow, A27 Improvements at Arundel, Lewes – Polegate and Kent Lorry Park. They could result in significant disturbance during construction (noise, vibration and dust) as well as the loss of land, which could both lead to damaged and segregated habitats. Coastal environments are particularly sensitive, so potential effects such as disturbance of wildlife and impacts on water quality from ferry services (e.g. new Sheerness to Hoo, Medway to Swale) is also predicted on a precautionary basis. <b>Negative effects</b> are predicted for smaller-scale habitat loss and disturbance.</p>

ISA Topic	Summary of Assessment
	<p>Active travel schemes across the region associated with priorities for integration and sustainable growth have potential to result in <b>positive effects</b>. Although new routes could involve small scale loss of habitat (potentially larger with strategic mobility hubs), they could also be designed to enhance biodiversity, e.g. through creation of linking corridors, though new habitat would take time to establish. As with all linear infrastructure, habitat fragmentation could occur, but the scale of walking and cycle paths means any fragmentation would be minor due to the width of paths. Improvements to existing routes, as well as highway and rail corridors, create an opportunity to enhance habitats and ecological networks.</p>
Alternatives	<p>New interventions proposed in this strategy do not substantially change the previous assessment. There is some uncertainty around the effects of bridge renewal to Hayling Island in relation to Chichester and Langstone Harbours Ramsar, SAC and SPA but this will need to be undertaken in accordance with the Habitat Regulations and potential for disturbance from electrification between Newbury and Taunton from overhead lines.</p>
<b>Historic Environment</b>	<p><b>ISA 3: To protect and minimise harm to the historic environment, and to maximise opportunities for enhancement, including setting of assets and provision of access.</b></p> <p>The assessment of the Strategy refresh has resulted in mixed effects on the historic environment.</p> <p><b>Significant negative effects</b> have potential to arise where major road and rail infrastructure from the SIP is proposed in sensitive areas or involves large-scale earthworks. There is potential for effects on buried (designated and non-designated) archaeology and historic landscapes but also on the setting of other historic assets such as scheduled monuments, listed buildings, historic parks and gardens, conservation areas and undesignated assets of importance. Risks are greater for schemes such as A27 Arundel, Flimwell and Hurst Green Bypasses, Kent Lorry Park and Lewes – Polegate.</p> <p>Minor <b>negative effects</b> can occur from refurbishment or small-scale interventions due to components such as lighting, signage and overhead lines, which can also have a visual impact, particularly in areas of high heritage value (such as schemes near Arundel, Lewes and Brighton).</p> <p>There is potential for <b>positive effects</b> where reduced congestion, particularly in urban areas can improve setting and reduce deposition of particulate matter from traffic emissions on built heritage (A2 Dover access, additional rail freight paths to Southampton). Place-making interventions such as those at Canterbury and Medway can also improve cultural interpretation or access.</p>
Alternatives	<p>New interventions and measures proposed in this strategy do not substantially change the assessment. There is some uncertainty around the effects of bridge renewal to Hayling Island in relation to setting of heritage assets (Scheduled Monuments or marine deposits) as this will be dependent on project design. There may be minor negative effects from</p>

ISA Topic	Summary of Assessment
	electrification between Newbury and Taunton on the South West Main Line, mainly from visual intrusion from overhead lines.
<b>Landscape and townscape</b>	<p><b>ISA 4: To protect and enhance the quality of the region's distinctive landscapes/ townscapes and provide opportunities to connect people with them.</b></p> <p>The assessment of the Strategy refresh has resulted in mixed effects on landscapes and townscapes.</p> <p><b>Significant negative effects</b> have potential to arise where major road and rail infrastructure from the SIP is proposed in corridors which potentially affect the South Downs National Park and National Landscapes, in addition to undesignated locally important landscapes. These can arise from loss of greenfield land and vegetation, but also components such as lighting, signage, and overhead lines. Risks are greater for schemes such as A27 Junctions and offline improvements at Arundel and Lewes – Polegate, new HSI rail link to Medway, and Eastbourne upgrade. The Waterside Branch Line could have significant negative effects on the New Forest National Park. <b>Negative effects</b> on visual amenity can also arise from small-scale interventions.</p> <p>However, <b>positive effects</b> may also arise from rail and other mass transit interventions by reducing vehicular traffic in landscapes, and related reduction in noise and visual disturbance. Place-making in urban centres (Canterbury and Medway) and active travel interventions across the region improve connections between people and townscapes/ landscapes.</p>
Alternatives	New interventions and measures proposed in this strategy do not substantially change the assessment. There is some uncertainty around the effects of bridge renewal to Hayling Island in relation to Chichester Harbour National Landscape as this will be dependent on project design. There may be minor negative or positive effects from installation of infrastructure to support electrification between Newbury and Taunton on the South West Main Line, mainly from visual intrusion.
<b>Soils and resources</b>	<p><b>ISA 5: To promote the use of brownfield land and existing infrastructure, protecting soils and increasing resource efficiency.</b></p> <p>The assessment of the Strategy refresh has resulted in mixed effects on soils and resources.</p> <p><b>Significant negative effects</b> were identified for the A27 Arundel and Lewes – Polegate interventions from the SIP. They are likely to result in large scale loss of soils, and potentially affecting best and most versatile agricultural land.</p>

ISA Topic	Summary of Assessment
	<p>There is potential for deterioration in quality of, and loss of soils for other schemes, for example, the A29 Realignment, A27 Tangmere, A27 Fontwell, A27 Worthing and A27 Arundel interventions are all located in areas of high agricultural land value and have therefore resulted in <b>negative</b> effects.</p> <p>For several of the priorities and associated interventions, effects are <b>uncertain</b>, mainly due to the level of scheme information available. If development makes use of existing infrastructure, including the road network through reallocation of road space, there's potential for <b>positive effects</b>, however, if land take is required along with significant infrastructure and resources, there's potential for <b>negative effects</b>. The majority of infrastructure is likely to result in the use of resources and production and disposal of waste in construction.</p>
Alternatives	<p>New interventions and measures proposed in this strategy do not change the assessment. As new interventions are likely to be minor and associated with existing infrastructure, no effects on soils and resources were identified.</p>
<b>Water environment</b>	<p><b>ISA 6: To protect and enhance surface and groundwater quality.</b></p> <p>The assessment of the Strategy refresh has resulted in mixed effects on the water environment.</p> <p><b>Significant negative effects</b> are predicted for large scale road schemes (such as A27 Polegate-Lewes and A27 Arundel), which have potential to increase surface water runoff and flood risk; and have impacts on surface water and groundwater, particularly from physical alteration as a result of development.</p> <p>Transport-related cumulative effects on potable water during operation are likely to be limited as interventions generally do not consume large amounts of water.</p> <p>Smaller-scale interventions may have effects similar to those listed above but are less likely to be significant and/or more able to be mitigated. Interventions such as new or an increase in ferry operations (e.g. new Sheerness to Hoo, Medway to Swale) may also have minor <b>negative</b> effects on water quality during construction of facilities and potentially operation. There is potential for <b>positive effects</b> from highway improvements, which provide opportunities to improve existing drainage network, reducing polluted run-off and potential for contamination as standards are upgraded.</p>
Alternatives	<p>New interventions and measures proposed in this strategy do not substantially change the assessment. There is some uncertainty around the effects of bridge renewal to Hayling Island in relation to the marine environment. There are unlikely to be effects from other new interventions as these are based on existing infrastructure.</p>
<b>Air quality</b>	<p><b>ISA 7: To protect and enhance air quality by reducing transport related emissions</b></p> <p>The assessment of the Strategy has resulted in mixed effects on air quality.</p>

ISA Topic	Summary of Assessment
	<p><b>Significant negative effects</b> were identified for previous interventions included in the SIP comprising the A27 Arundel bypass, A27 Lewes to Polegate, and potentially the Kent Lorry Park long term solution, which could potentially increase vehicular traffic and associated emissions. For other smaller-scale highways schemes in the SIP, <b>minor negative effects</b> were predicted. <b>Mixed positive and negative effects</b> were common, where interventions are delivered in order to reduce congestion, these improve local air quality at junctions and pinchpoints, or reallocate lanes for public transport, but may also induce vehicular traffic. Examples include Smart Motorways M3 Junction 9, A34 Safety enhancements and A27 Junctions.</p> <p><b>Significant positive effects</b> were predicted for mass transit interventions which are likely to induce high levels of modal shift such as Southampton Mass Transit, Future Phases South East Hampshire Rapid Transit, and Netley Line Service Enhancements. Significant positive effects were also identified for some of the rail schemes which reduce traffic congestion, such as removing level crossings at Totton and Mount Pleasant. Rail schemes also improve air quality through encouraging modal shift, although some interventions are likely to increase emissions during construction (e.g. HSI Link to Medway, Crossrail extension). Other interventions that support modal shift and have <b>positive</b> effects include active travel, and use of public transport. These will contribute to improving air quality (e.g. M27 Junction 5 / Southampton Airport Strategic Mobility Hub, Kent, Medway and East Sussex Mass Transit, Medway Active Travel Enhancements).</p>
Alternatives	<p>New interventions and measures proposed in this strategy do not substantially change the assessment. Enhancements to the existing Ebbsfleet Rail infrastructure and decarbonisation/ electrification of rail lines will have positive effects on air quality.</p>
<b>Climate change and greenhouse gases</b>	<p><b>ISA 8: To reduce greenhouse gas emissions and maximise resilience to climate change.</b></p> <p>The assessment of the Strategy refresh has resulted in mixed effects on climate change and greenhouse gases.</p> <p><b>Significant negative effects</b> were identified for bypass and dualling schemes on the A27 and A21 which could increase uptake of vehicular traffic and lead to negative cumulative effects from the Strategy. Large-scale construction for some interventions is also likely to have greater impacts from embodied carbon. For some highways interventions reallocation of road space for public transport (e.g. bus priority measures) and active travel (e.g. cycle lanes) may also have <b>positive effects</b> as encourage alternative modes. Examples include Basingstoke Mass Rapid Transit and Blackwater Valley Mass Rapid Transit.</p> <p>For many transport corridors, there are areas at risk from flooding and erosion, particularly on the south coast, and a precautionary <b>negative effect</b> is predicted, although the Resilience mission seeks to address this. Climate change generally negatively effects the operation of the rail and road network through flooding, snowfall, high temperatures and</p>

ISA Topic	Summary of Assessment
	<p>wind. The West Coastway CMSP (Long distance) and M275 Junction 1 are examples of interventions located in areas prone to flooding. Climate change adaptation measures would need to be specific to each development.</p> <p>Similar to air quality, the impact of mission priorities and associated interventions on greenhouse gases and climate change effects, would also give rise to <b>positive effects</b> where there is modal shift, cumulatively these are likely to be significant. Active travel, smart motorways, and public transport interventions will contribute to reducing greenhouse gas emissions. Priorities to reduce fares for long distance transport, road user charging, research on alternatives fuels and decarbonisation would have <b>significant positive effects</b>.</p>
Alternatives	<p>New interventions and measures proposed in this strategy do not substantially change the assessment. The intervention to improve highway maintenance would have significant positive effects in relation to climate resilience, enabling infrastructure to better withstand climatic events.</p>
<b>Noise</b>	<p><b>ISA 9: To reduce exposure to transport related noise and vibration.</b></p> <p>The assessment of the Strategy refresh has resulted in mixed effects on noise.</p> <p><b>Significant negative effects</b> were identified for the A27 Arundel and Lewes – Polegate interventions from the SIP due to introduction of new sources of traffic noise. However, there may be <b>positive effects</b> from transport schemes such as active travel which could potentially support a modal shift and contribute to improving noise pollution.</p> <p>Efficient rail travel has the potential to reduce noise pollution through the reduction in traffic noise and easement of congestion. However, there is the potential at certain locations for noise levels to increase, with the introduction of more services at a higher speed.</p> <p>The assessment of some interventions in the SIP has identified a number of uncertain effects on noise and vibration. The frequency of new services is not yet known, but if there is a large increase in capacity the level of noise could be significantly increased.</p>
Alternatives	<p>New interventions and measures proposed in this strategy do not substantially change the assessment. There are likely to be positive effects from Thames Valley Branch Line decarbonisation and Newbury – Taunton electrification, and potentially some minor negative effects from increased services.</p>
<b>Equalities</b>	<p><b>ISA 10: To increase the capacity and efficiency of the transportation network to support demographic changes, including improving access by equalities groups and deprived communities.</b></p>

ISA Topic	Summary of Assessment
	<p>The assessment of the Strategy refresh has identified generally <b>positive effects</b> on equalities, Appendix A sets out further information to support the assessment. Most missions, priorities and interventions will provide greater connectivity to transport users, in particular missions for strategic connectivity, inclusion &amp; integration and sustainable growth, will help communities gain greater access to jobs, services and facilities.</p> <p><b>Negative effects</b> on equalities are associated with similar assessment for air quality and noise as set out above and may disproportionately affect older people, infants and people with some disabilities.</p> <p><b>Significant positive effects</b> are predicted for geographically isolated groups from ferry enhancements, including to the Isle of White and Southampton to Ryde. In addition, disadvantaged groups and people less likely to own a private vehicle, such as the elderly or young people, will benefit from transport interventions such as Reading Mass Transit, A4 Reading-Newham-Slough and Blackwater Valley mass rapid transport schemes. Affordable fares, concession schemes and integrated ticketing also enable these groups to better access jobs, services and leisure opportunities.</p>
Alternatives	<p>New interventions and measures proposed in this strategy do not substantially change the assessment. The priority for better design for people with reduced mobility (e.g. the elderly, disabled or pregnant women) would contribute to significant positive effects.</p>
<b>Health</b>	<p><b>ISA 11: To protect and enhance physical and mental health through active travel, access to public transport, and reductions in pollution.</b></p> <p>The assessment of the Strategy refresh has resulted in mixed effects on health, Appendix A sets out further information to support the assessment.</p> <p><b>Negative effects</b> on health are associated with a similar assessment to air quality and noise as set out above. There are distinct health risks associated with exposure to particulates or sources of transport noise for sensitive or vulnerable groups. There is potential for minor negative effects at certain locations, for example the A27 Junctions.</p> <p>However, the majority of missions, priorities and interventions in the Strategy will have <b>positive effects</b> on health. <b>Significant positive effects</b> are predicted from active travel interventions which encourage physical activity, reducing health conditions such as obesity.</p> <p><b>Significant positive effects</b> would arise from some ferry enhancements, due to access to education, work, social, leisure and cultural opportunities which in turn contribute to overall health and wellbeing.</p> <p>Other public transport interventions including strategic mobility hubs, mass rapid transport and rail schemes have positive effects, some of which are significant. For example, there are <b>significant positive effects</b> predicted for Eastbourne/Polegate Strategic Mobility Hub, Hastings / Bexhill Mass Rapid Transit, and Newbury / Thatcham Bus</p>



ISA Topic	Summary of Assessment
	Enhancements as well as other schemes. These have benefits such as active travel for first mile/ last mile, in addition to well-being from the socio-economic benefits listed above.
Alternatives	New interventions and measures proposed in this strategy do not substantially change the assessment. There are positive effects from Thames Valley Branch Line Decarbonisation and Newbury – Taunton electrification. In addition, the improved wellbeing from the priority to provide better accessible design for people with reduced mobility (e.g. the elderly, disabled or pregnant women) would contribute to positive effects.
<b>Community Safety</b>	<p><b>ISA 12: To promote safe transport through reducing accidents and improving safety of active travel and personal security, particularly on public transport.</b></p> <p>The assessment has generally identified <b>positive</b> effects on community safety as new interventions will be built to a high standard of safety. There may be some mixed effects as a precautionary approach, for example where there are personal safety concerns where design has not sufficiently progressed.</p> <p>Level crossings present a safety risk for all users and Network Rail believe that the best way of reducing level crossing risk is to eliminate the crossing completely by closing it. <b>Significant positive effects</b> were predicted for removal of level crossings (Mount Pleasant and Totton). Several highway interventions have been designed to improve road safety, including A21 Safety Enhancements, A22 Corridor Schemes . Other highway interventions will enable safe active travel interventions to be brought forward. Active travel schemes would also result in <b>positive</b> effects. Provision of off-road routes for cyclists and pedestrians will reduce the number of collisions involving them. People are more likely to choose active travel for journeys if there are suitable networks to travel on.</p>
Alternatives	New interventions and measures proposed in this strategy do not substantially change the assessment. The enhancement to the Ebbsfleet Rail Line and highways maintenance, and electrification/decarbonisation of rail all contribute to safety.
<b>Economy</b>	<p><b>ISA 13: To promote a strong economy through the transport network with better access to opportunities.</b></p> <p>The assessment of the Strategy refresh has identified generally positive effects.</p> <p><b>Significant positive effects</b> are likely to arise from affordable public transport fares, road and rail schemes such as the A27 Arundel bypass, A27 Lewes to Polegate, Lower Thames Crossing, Brighton Main Line 100mph operations, Sussex Coast Mass Rapid Transit, Eastbourne / Polegate Strategic Mobility Hub, Southampton Mass Transit, Waterside Branch Line, as well as other interventions.</p>

ISA Topic	Summary of Assessment
	<p><b>Positive effects</b> are predicted where interventions may enhance long term economic prosperity by facilitating the building of a strong, low carbon economy, and by providing reliable and affordable transport choice to support growth. Economic centres would benefit from increases in rail passenger numbers and more reliable rails services achieved though upgrades to stations, electrification and improved interchanges. Access to employment centres could be enhanced through transport improvements, encouraging continued economic growth. Greater connectivity and capacity across the SE Region may also help to facilitate increased tourism opportunities, contributing further to the local and regional economy.</p>
Alternatives	<p>New interventions and measures proposed in this strategy do not substantially change the assessment. The enhancement to the Ebbsfleet Rail Line, Hayling Island Bridge renewal, and electrification/decarbonisation of rail all contribute to providing greater access to social and economic opportunities.</p>

## Review of cumulative effects

The SEA Regulations require that cumulative effects are considered when identifying likely significant effects. Cumulative effects arising from multiple sources within the Strategy are covered in Table 5.1 above. However, cumulative effects can also arise where several policies, plans or projects have a combined effect on an objective.

A review of plans and policies identified sources of potential cumulative effects and these are set out in Table 5.2 below.

It should be noted that at the strategic level, this list is not exhaustive and cumulative effects arising from individual projects and plans should be revisited as part of project level assessment. For example, noise, dust and visual have a combined effect which can only be determined at the project level.

*Table 5.2 Sources of cumulative effects at a strategic level*

Policy or Plan	Potential for cumulative effects
TfSE Transport Strategy	There is potential for cumulative regional impacts on all topics from development of multiple corridors. The nature and extent of the effects will depend on final schemes selected but, in particular, there is potential for cumulative effects from multiple new road or rail schemes.
National Networks National Policy Statement, DfT, 2024	<p>The National Networks NPS supports both development of major rail infrastructure (including new and re-opened alignments) and also road improvements (including adding additional lanes to existing dual and single carriageway trunk roads, adding new slip roads, and improving junctions). An expanded network of strategic rail freight interchanges will also be developed.</p> <p>The Appraisal of Sustainability for the National Networks NPS recognises that some developments will have adverse local impacts on noise, emissions, landscape / visual amenity, loss of greenfield/ agricultural land, biodiversity, cultural heritage and water resources.</p> <p>A number of the interventions covered in the Strategy will also fall under the NPS, but there may be additive effects for additional interventions not covered in this Strategy.</p>
Airports National Policy Statement, DfT, 2018	<p>Expansion at London Heathrow in addition to making best use of existing aviation capacity (e.g. London Gatwick) is likely to increase transport requirements for all modes.</p> <p>The Appraisal of Sustainability for the Airports NPS identifies a number of significant adverse effects on communities, quality of life, biodiversity, noise, soil, water, air quality, carbon, waste and resources, historic environment and landscape.</p>
Other nationally significant infrastructure in the Region	<p>The National Networks NPS and Airports NPS are described above. However, further nationally significant infrastructure projects also have potential for cumulative effects across the Region, during construction and operation. The Planning Inspectorate publishes a list of potential projects: <a href="https://national-infrastructure-consenting.planninginspectorate.gov.uk/project-search">https://national-infrastructure-consenting.planninginspectorate.gov.uk/project-search</a></p>
Local Plans	Local plans are prepared by the Local Planning Authority (LPA), usually the Council or the national park authority for the area. They provide a vision for the future of each area and a framework for addressing housing needs and other economic, social and environmental priorities. Allocations for

	<p>economic and residential development are likely to stimulate transport demand and conversely improvements in economic transport corridors are likely to stimulate development.</p> <p>Sustainability Appraisals undertaken for Local Plans have similar topics to those listed for this ISA and identify potential for significant effects.</p>
Local Transport Plans	<p>Local Transport Plans enable Local Authorities to plan for transport in their areas. They can identify both strategic policy and implementation plans for delivering this policy. Therefore, like the Transport Strategy they identify policy options for implementing transport improvements, including different modes of transport. They also prioritise a number of areas and schemes for development over the plan period.</p> <p>Sustainability Appraisals undertaken for Local Transport Plans have similar topics to those listed for this ISA and identify potential for significant effects.</p>

The review of plans and policies has identified a number of areas for cumulative effects:

- **Natural Capital and Ecosystem Services** – There is potential deterioration in quality, and severance / loss of connectivity of ecosystems and green infrastructure, with consequent reductions in ecosystem service provision. This may be particularly prevalent where there is development from a number of sources (e.g. from local plans) close to population centres, or that stimulated by transport corridors.
- **Biodiversity** – There is potential for cumulative loss, damage or fragmentation of statutory and non-statutory wildlife sites and habitats. Although it is assumed that protected species would be mitigated at a project level, there are wider impacts on biodiversity. Net gain over multiple development plans may be difficult to achieve.
- **Historic Environment** – There is potential for cumulative direct and indirect impacts on internationally, nationally and locally designated heritage assets, including their settings. This is in addition to cumulative effects on undesignated and unknown assets, the latter being potentially important.
- **Landscape and Townscape** – There is potential for cumulative direct and indirect impacts on designated landscapes and townscapes, including their settings. There is also potential for cumulative erosion of the character and quality of the South East's landscapes and townscapes.
- **Soils and Resources** – There is potential for cumulative deterioration in quality of, and loss of soils, including the best and most versatile agricultural land. There would be a cumulative use of resources and production and disposal of waste in construction.
- **Water Environment** – There is potential for cumulative increase in surface water runoff and flood risk; and impacts on surface water and groundwater, particularly from physical alteration as a result of development. Transport-related cumulative effects on potable water are likely to be limited.
- **Air Quality** – There may be cumulative benefits from transport initiatives in the SE in improving air quality, but increased uptake of vehicular traffic (especially in the short term) may worsen air quality in some areas.
- **Climate Change and Greenhouse Gases** – There may be cumulative benefits from transport initiatives in the South East in reducing greenhouse gases, but increased development is also likely to increase transport related greenhouse gas emissions, particularly where this leads to increases in vehicular traffic. Climate change

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adaptation measures are likely to be specific to each development, but there may be cumulative benefits if implemented region-wide.

- **Noise and Vibration** – There are likely to be cumulative effects arising from noise of increased development, particularly transport related development such as road and rail, with cumulative effects on health and wellbeing, tranquillity and wildlife.
- **Health** – There may be cumulative effects, both positive and negative (depending on schemes implemented), from multiple transport schemes on health outcomes related to social isolation, physical inactivity and obesity. There may also be cumulative effects on health relating to air quality and noise.
- **Equalities** – There may be cumulative benefits from the integration of multiple transport interventions enabling more reliable and comfortable public transport, which is accessible by walking and/or cycling.
- **Community Safety** – There may be cumulative benefits (depending on scheme design) on fear of crime and transport related accidents, due to opportunities to improve safety standards on all forms of transport.
- **Economy** – there are likely to be cumulative economic benefits in relation to development in the South East due to links between transport and productivity in the Region.

## 6. Mitigation and Monitoring

The SEA Regulations require that mitigation measures are considered to prevent, reduce or offset any significant adverse effects on the environment. Mitigation measures include both proactive avoidance of adverse effects and actions taken after potential effects are identified.

The SEA Regulations also require that monitoring is undertaken so that the significant effects of implementation can be identified and remedial action taken. The monitoring also helps measure the performance of the environmental outcomes of the Strategy and includes metrics from the TfSE State of the Region Reporting<sup>18</sup>. Monitoring appears in italics in Table 6.1 below.

Table 6.1 Mitigation and Monitoring

Topic	Mitigation/ Monitoring	Delivery mechanism
Natural Capital and Ecosystem Services	<ul style="list-style-type: none"> <li>Design of new transport to take into account natural capital and ecosystems services.</li> <li>Design of new transport infrastructure should seek environmental net gain such as pollination, flood risk management, clean air, carbon reduction, infrastructure resilience, and connecting people with nature, as well as other place-making and visitor economy objectives.</li> <li><i>Monitoring: Environmental net gain metrics (minimum of 10%)</i></li> </ul>	EIA  Project level design  Biodiversity net gain calculation
Biodiversity	<ul style="list-style-type: none"> <li>Optioneering and design of infrastructure should avoid or minimise impact on designated sites, habitats and species.</li> <li>Linear infrastructure can provide long distance, strategic, nature recovery networks if managed in such a way as to promote biodiversity.</li> <li><i>Monitoring: Biodiversity net gain metrics (minimum of 10%)</i></li> </ul>	Ecological impact assessment (including as part of EIA)  Biodiversity net gain calculation  Project level design
Historic Environment	<ul style="list-style-type: none"> <li>Optioneering and design of infrastructure should avoid or minimise impact on heritage assets and designations, including setting.</li> <li>Staged archaeological evaluation and <i>archaeological monitoring</i>.</li> </ul>	Heritage impact assessment (including as part of EIA)  Archaeological investigation and monitoring.

<sup>18</sup> <https://transportforthesoutheast.org.uk/state-of-region-report/#:~:text=This%20first%20iteration%20of%20the,Transport%20for%20the%20South%20East.>

Topic	Mitigation/ Monitoring	Delivery mechanism
Landscape and Townscape	<ul style="list-style-type: none"> <li>Optioneering and design of infrastructure should avoid or minimise impact landscape/ townscape, historic environment and nature conservation designations.</li> <li>Design of new transport infrastructure should retain and enhance ecosystem functionality and green (as well as blue) infrastructure.</li> <li><i>Monitoring: Local authority green infrastructure mapping</i></li> </ul>	<p>Landscape and visual impact assessment (including as part of EIA)</p> <p>Project level design</p> <p>Local Plan evidence base</p>
Soils and Resources	<ul style="list-style-type: none"> <li>Optioneering and design to minimise greenfield land-take.</li> <li><i>Monitoring: Loss of Best and most versatile agricultural land to transport infrastructure.</i></li> </ul>	<p>EIA</p> <p>Project level design</p>
Water Environment	<ul style="list-style-type: none"> <li>Optioneering and design to take into account quality of water resources and areas of flood risk.</li> <li>Sustainable Drainage Schemes and natural flood risk management measures.</li> <li>Environmental net gain to improve quality of aquatic systems.</li> <li><i>Monitoring: Transport related reasons for not achieving good ecological status.</i></li> </ul>	<p>Flood Risk Assessment</p> <p>Project level design</p> <p>River basin management plans.</p> <p>Water Framework Directive assessments</p>
Air Quality	<ul style="list-style-type: none"> <li>Design to increase opportunities for active travel, public transport and rail freight.</li> <li><i>Monitoring: NOx and particulate pollution levels in urban areas.</i></li> <li><i>Monitoring: Mortality linked to air pollution</i></li> </ul>	<p>Included in Strategy Missions</p> <p>Local authority air quality monitoring</p> <p>TfSE State of the Region Report</p>
Climate Change and GHG Emissions	<ul style="list-style-type: none"> <li>Efficient use of materials, low energy and renewables in infrastructure (e.g. lighting, provision of vehicle charging).</li> <li>Carbon emissions modelling for Local Transport Plan and individual projects.</li> <li>Optioneering and design to avoiding areas of flood and erosion risk.</li> <li>Use of materials for construction and maintenance to incorporate climate resilience and design life.</li> <li><i>Monitoring: CO2 emissions from transport.</i></li> <li><i>Monitoring: Mode share of trips per person per year.</i></li> <li><i>Monitoring: Percentage change in weather events affecting the rail network</i></li> </ul>	<p>Included in Strategy Missions</p> <p>Environmental assessment</p> <p>Carbon assessment (and major projects)</p> <p>Carbon accounting (e.g. for major construction projects)</p> <p>Project level design and procurement</p> <p>TfSE State of the Region Report</p>
Noise and Vibration	<ul style="list-style-type: none"> <li>Choice of materials and project level design (route options, bunding, screening etc).</li> <li><i>Monitoring: Number of noise important areas in the South East</i></li> </ul>	<p>Noise assessment</p> <p>Project level design</p>

Topic	Mitigation/ Monitoring	Delivery mechanism
Population and Equalities	<ul style="list-style-type: none"> <li>• Accessibility for all including those with reduced mobility considered in design.</li> <li>• Affordability considered in public transport and new mobility interventions.</li> <li>• <i>Monitoring: Transport-related social exclusion (TRSE) metrics.</i></li> </ul>	<p>Included in Strategy Missions</p> <p>Project level Equalities or Diversity Impact Assessment</p> <p>TfSE State of the Region Report</p>
Health	<ul style="list-style-type: none"> <li>• Integrate opportunities for active travel in design.</li> <li>• <i>Monitoring: mode share of walking and cycling.</i></li> <li>• <i>Monitoring: Adult activity levels</i></li> </ul>	<p>Included in Strategy Missions</p> <p>TfSE State of the Region Report</p>
Community Safety	<ul style="list-style-type: none"> <li>• Community and personal safety measures, such as lighting, information provision and layout, considered in design.</li> <li>• <i>Monitoring: Number of people Killed and Seriously Injured by road transport.</i></li> </ul>	Project level design
Economy	<ul style="list-style-type: none"> <li>• No mitigation required.</li> <li>• <i>Monitoring: TfSE transport and the economy metrics.</i></li> </ul>	<p>Included in Strategy Missions.</p> <p>TfSE State of the Region Report</p>



## Appendix A – Health and Equalities Assessments

### Equalities Information to Support Assessment

#### Introduction

An Equality Impact Assessment (EqIA) considers the impact of a project or policy on persons or groups of persons who share characteristics which are protected under section 4 of the Equality Act 2010 ("protected characteristics") and might also include others considered to be vulnerable within society such as low-income groups. It is an information gathering tool which enables decision makers within public bodies to implement their equality duty under the Equality Act 2010: to advance equality of opportunity between people who share and people who do not share a relevant protected characteristic.

This assessment looks at the following 'equalities groups' which cover both protected characteristics under the Act and other groups (\*):

- Gender
- Religion
- Age
- Disability
- Race
- Pregnancy and maternity
- Deprivation\*
- Social isolation\*

Protected characteristics for gender reassignment and sexual orientation have not been included in the assessment due to a lack of available data relating to effects on these groups. Marriage and civil partnership is not included because the parts of the act covering services and public functions, premises and education do not apply to that protected characteristic<sup>19</sup>. For the purposes of this assessment deprivation covers deprived groups across all equalities categories listed, for example people with disabilities are more likely to also suffer from deprivation as they may be less economically active.

The sections below provide an overview of these groups in the South East from the Strategy Evidence base and then looks at the implications the Strategy outcomes and delivery on them.

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<sup>19</sup> <https://www.gov.uk/government/publications/public-sector-equality-duty-guidance-for-public-authorities/public-sector-equality-duty-guidance-for-public-authorities>

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## Snapshot of the South East

According to the 2021 Census population for the South East was 9,278,100, growth of 7.25% over a 10-year period from 2011<sup>20</sup>. The percentage of the population aged 65+ is slightly higher in the South than for England as a whole (19.5% compared with 18.4%) and slightly lower for the 20-35 age bracket (18% compared with 19.6%). 51.1% of the population is female and 48.9% male.

Ethnic and religious background data are set out in Table A.1 & Table A.2 below.

*Table A.1 Ethnic Diversity in the South East*

Ethnic group	% South East	% England
Asian, Asian British or Asian Welsh	7	9.6
Black, Black British, Black Welsh, Caribbean or African	2.4	4.2
Mixed or Multiple ethnic groups	2.8	3
White	86.3	81
Other ethnic group	1.5	2.2

*Table A.2 Religion in the South East*

Religion	% South East	% England
No religion	40.2	36.7
Christian	46.5	46.3
Buddhist	0.6	0.5
Hindu	1.7	1.8
Jewish	0.2	0.5
Muslim	3.3	6.7
Sikh	0.8	0.9
Other religion	0.6	0.6
No religion	40.2	36.7

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<sup>20</sup> ONS Local Statistics (2024). South East: <https://www.ons.gov.uk/visualisations/areas/E12000008/> (included in this area are Buckinghamshire, Oxfordshire and Milton Keynes but indicative of issues in the TfSE study area)

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In terms of disability under the Equality Act (mental or physical impairment that has a substantial and long-term effects on ability to do normal day-to-day activities), 16% of the population in the South East identified themselves as disabled in the 2021 Census.

The TfSE Evidence base notes that in relation to Indices of Multiple Deprivation (IMD), socioeconomic outcomes tend to be weaker in the east of the region and strongest in the north-west. Areas with the highest deprivation are primarily urban, especially concentrated in larger southern towns in cities, such as South Hampshire, Brighton and Folkestone. A band of more deprived rural areas runs north-south through central Kent. The least deprived areas are mostly peripheral to the region's major economic hubs, especially those with strong connections to London in the North West of the area.

## Assessment

The assessment looks at:

- 1) at a plan level, whether the missions are likely to affect equalities groups by reviewing relationship between the desired outcomes for each mission against the equalities groups to ensure they aren't disproportionately or differentially affected; and
- 2) at a strategic project level, reviewing whether the types of interventions in the Strategy are likely to have effects on equalities groups. These considerations were then used to support the assessments at Appendix B.

The following key is used to determine the relationship between outcomes and the effects on equalities groups for the first part of the assessment.

Symbol	Definition
✓	Outcome is likely to have a positive effect on the equalities group in comparison with the general population.
0	Outcome is unlikely to have an effect on the equalities group in comparison with the general population.
✗	Outcome is likely to have a negative effect on the equalities group in comparison with the general population.

Table A.3 and A.4 below set out the results of the assessment, a summary of the results is presented below.

Outcomes are predicted to either have no effect on equalities groups or a positive effect. None of the outcomes were predicted to have a negative effect.

Outcomes which increased customer confidence, reduced severance and improve the public realm were likely to benefit all equalities groups, as they may have less confidence using the transport system and benefit from safe spaces for social interaction. Outcomes that give rise to reduced emissions (through reduced congestion, modal shift or decarbonisation) are likely to have greater benefit to groups who may be more sensitive to air pollution than others due to respiratory illnesses, certain disabilities, pregnancy and maternity, younger and older people. In addition, areas of

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deprivation are often associated with urban environments which are more likely to suffer from poor air quality. Outcomes that increase public transport, benefit groups that are less likely to own a private car and rely on alternative transport modes. These groups include the elderly, young people and economically-deprived. Economic outcomes have greater potential to benefit deprived or socially isolated groups.

Depending on design, types of project intervention (highways, rail, active travel etc), may have positive and negative effects on equalities groups. These are reflected in the ISA assessments in Appendix B.

Table A.3 Equalities Assessment of Outcomes

Outcomes	Gender	Religion	Age	Dis-ability	Pregnan-cy	Race	Deprivat-ion	Isolation
<b>Strategic Connectivity</b>								
The key outcome is to <b>increase the modal share of both passenger and freight journeys using sustainable travel options on strategic corridors</b> between the South East's major economic centres and international gateways. This will enable the South East's population and economy to grow while minimising the adverse impacts of transport on society and the environment.	0	0	✓	✓	✓	0	✓	0
<b>Reduce congestion, improve air quality, reduce severance, improve safety,</b> and contribute to the overall <b>satisfaction of transport users.</b> In turn, it should <b>strengthen public transport demand and revenues,</b> placing the bus and rail industries on a more sustainable financial footing.	0	0	✓	✓	✓	0	✓	0
<b>Extend access to employment opportunities as well as commercial and public services</b> to wider population catchments, particularly in rural and coastal areas, ensuring economic growth and inclusivity across functional economic zones.	0	0	0	0	0	0	✓	✓
<b>Resilience</b>								
The key outcome of this mission is to <b>reduce the effects of disruption on the strategic transport network.</b> By tackling these disruptions, we can deliver good punctuality and reliability across the network.	0	0	0	✓	✓	0	0	0
<b>Reliable journeys are critical to user confidence,</b> and reducing delays will enhance the overall performance of both passengers and freight customers. Ensuring more predictable and reliable journey times will also support economic productivity, as businesses and individuals rely on consistent travel and delivery schedules.	0	0	✓	✓	✓	0	0	0
<b>Reduce disruption to all users of the transport network from planned engineering works and maintenance.</b> While such works are necessary to ensure	0	0	✓	✓	✓	0	0	0

Outcomes	Gender	Religion	Age	Dis-ability	Pregnan-cy	Race	Deprivat-ion	Isolation
the continued safety, reliability, and improvement of the network, they often lead to service delays, cancellations, and inconveniences for all transport network users.								
<b>Contribute to greater customer satisfaction.</b> When users experience fewer delays, smoother journeys, and consistent service levels, they are more likely to trust and depend on public transport. This not only benefits residents but also supports the South East's economic growth by attracting businesses and visitors to the region.	0	0	✓	✓	✓	0	0	0
<b>Reduce the cost of transport to users and, in the long-term, government.</b> Costs arising from compensation claims, damage to infrastructure and vehicles should be easier to control with a more resilient transport system. A more efficient, cost-effective system benefits all stakeholders by freeing up resources to invest in further enhancements and expansions.	0	0	0	0	0	0	✓	0
<b>Inclusion and Integration</b>								
<b>Increased customer satisfaction</b> across all user groups, ensuring that everyone can access and use the transport network confidently and comfortably	✓	✓	✓	✓	✓	✓	✓	✓
<b>Increased proportion of accessible and step-free stations and hubs,</b> making the entire network more inclusive for users with mobility needs, parents with pushchairs, and the elderly.	0	0	✓	✓	✓	0	0	0
<b>Improved safety across the transport network,</b> aiming for a "Target Zero" for killed and seriously injured incidents. This will be achieved through better infrastructure design, enhanced safety measures, and targeted initiatives that prioritise the safety of all users, especially vulnerable road users.	0	0	✓	✓	✓	0	0	0
<b>Higher percentage of the population engaged in physical activity,</b> supported by better active travel options (walking and cycling) and enhancements to the public realm. This will contribute to healthier lifestyles and reduce reliance on private vehicles for short trips.	0	0	0	0	0	0	✓	0

Outcomes	Gender	Religion	Age	Dis-ability	Pregnan-cy	Race	Deprivat-ion	Isolation
<b>Improved air quality</b> by encouraging a shift from private car use to more sustainable modes of transport, such as walking, cycling, and public transport, thereby reducing emissions and pollutants.	0	0	✓	✓	✓	0	✓	0
<b>Reduction in severance and improvement of the public realm</b> , creating more cohesive communities where residents can move safely and comfortably through shared spaces. This includes addressing barriers like busy roads and railway lines that can divide communities and hinder access to services.	✓	✓	✓	✓	✓	✓	✓	✓
<b>Reduced real-term percentage of household income spent on housing and transport costs</b> , ensuring that residents have affordable access to housing and mobility options, making the region more equitable.	0	0	0	0	0	0	✓	0
<b>Decarbonisation</b>								
<b>The key outcome of this mission is to achieve net-zero carbon emissions</b> by transitioning to zero-emission vehicles and energy, increasing the use of sustainable travel modes, and reducing the overall reliance on fossil fuel journeys across the South East.	0	0	✓	✓	✓	0	✓	0
<b>By 2050, we aim for 100% of private vehicles to be zero-emission</b> , with intermediate targets of 35% by 2030 and 80% by 2040. Similarly, all buses will need to be zero-emission by 2035, and rail services decarbonised by 2050. Some local authorities in the South East want to move faster than the milestones set at a national level.	0	0	✓	✓	✓	0	✓	0
<b>Promoting active travel for short journeys and increasing the mode share of both bus and rail for longer journeys.</b> This is especially important in the shorter term as it will help limit our emissions while most cars are still powered by fossil fuels.	0	0	0	0	0	0	✓	0

Outcomes	Gender	Religion	Age	Dis-ability	Pregnan-cy	Race	Deprivat-ion	Isolation
<b>Freight transport must also play its part in achieving decarbonisation.</b> Through increased rail freight use, optimised logistics, and adapting clean technology and fuels, we will contribute to overall emission reductions in this critical sector. This will also help to ease pressure on the region's roads while supporting sustainable economic growth.	0	0	✓	✓	✓	0	✓	0
<b>Establish the South East as a leader in this field</b> , attracting overseas investment and creating new jobs in the region	0	0	0	0	0	0	✓	0
<b>Decarbonisation</b>								
The key outcome of this mission is that any major development is supported by <b>improvements to transport infrastructure and services, especially for sustainable transport.</b>	0	0	✓	0	0	0	✓	0
<b>Ensure all major developments</b> (e.g. 3,000 dwellings or an expansion of more than 20%, or a major generator/attractor of demand e.g. hospital, stadia) <b>have high quality public transport services (2-4 services per hour) and high-quality active travel infrastructure.</b>	0	0	✓	0	0	0	✓	0
<b>Increase the percentage of the population and jobs within a 1,500-metre radius of a public transport access point offering a metro-level service</b> frequency of at least 4 services per hour.	0	0	0	0	0	0	✓	0
<b>Ensure a higher percentage of the population can reach all key services within a 30-minute travel time</b> , whether by public transport, walking, cycling, or driving. This includes access to healthcare, education, shopping, and leisure facilities.	0	0	✓	0	0	0	✓	0
Promote the development of well-connected new and growing places by <b>aligning housing and employment growth with high-quality public transport and active travel corridors</b> , as well as good highway access. This will support the creation of vibrant, sustainable communities where residents and businesses can thrive.	0	0	0	0	0	0	0	0
<b>Increase the percentage of new dwellings within 10 minutes of metro-level public transport services</b> and high-quality active travel routes. Ensuring that new	0	0	0	0	0	0	0	0



Outcomes	Gender	Religion	Age	Dis-ability	Pregnan-cy	Race	Deprivat-ion	Isolation
developments are located in places that offer residents a wide range of sustainable travel options.								

Table A.4 Equalities assessment of transport typologies

Type of intervention	Equalities considerations for assessment of interventions
Highways	<p>Road users, including both private car and public transport users, will benefit from more capacity and greater journey time reliability through the re-distribution of traffic.</p> <p>Strategic improvements to roads are likely to have a beneficial impact on public transport and will therefore benefit people using these facilities to access education, employment and/or health services, particularly those beyond their local neighbourhood. These include younger and older people, people with disabilities, as well as the unemployed.</p> <p>However, the provision of new roads may also increase air pollution. This is particularly detrimental to people with respiratory illnesses, certain disabilities, pregnancy and maternity, younger and older people, who may be more sensitive to air pollution.</p> <p>Highway works may also result in beneficial or adverse impacts for active travel users should journey lengths, barriers to travel, or levels of perceived severance change. This is relevant to those with limited mobility, including older people, those with disabilities which restrict mobility, and parents/carers using push chairs.</p>
Rail	<p>Rail users will benefit from more capacity and potentially faster train times or more frequent services, leading to greater journey reliability. Improved availability and accessibility of public transport in the region will benefit those without a personal car (this includes people those who may be unable to drive a car due to their age or poor health).</p> <p>Strategic improvements are likely to have a beneficial impact on people using rail networks to access education, employment and other services beyond their local neighbourhood, particularly younger and older people, people with disabilities, as well as the unemployed.</p>

Type of intervention	Equalities considerations for assessment of interventions
	<p>Improvements to stations and carriages can better accommodate those with limited mobility (such as the disabled, elderly and people using push chairs). Ensuring information is available both visibly, audibly and in multiple languages is important for those with sight or hearing impairments or those who may not understand the English language.</p> <p>By providing alternative options to freight transportation via rail will reduce road congestion. This may also improve local air quality with a reduction in freight vehicles on the road network, and particularly benefit people with respiratory illnesses, certain disabilities, pregnancy and maternity, younger and older people who may be more sensitive to air pollution.</p>
Bus and mass transit	<p>Improved availability and accessibility of public transport in the region will benefit those without a personal car (this includes those who live in more deprived areas and the unemployed), or who may be unable to drive a car due to their age or poor health.</p> <p>Improved quality and service of public transport may attract more users, reducing private car use. This would have knock on benefits of a cleaner environment by reducing air pollution, particularly for people with respiratory illnesses, certain disabilities, pregnancy and maternity, younger and older people who may be more sensitive to air pollution.</p> <p>Improvements of access to bus and light rail stops/stations will accommodate those with limited mobility (such as the disabled, elderly, and parents/ carers using push chairs). Ensuring information is available both visibly, audibly and in multiple languages is important for those with sight or hearing impairments or those who may not understand the English language.</p> <p>Bus and tram stops should be designed to accommodate users who need seating, such as the elderly or those with a disability.</p>
Ferry	<p>All users would benefit from greater connectivity from both new and improved services. This would particularly benefit geographically isolated groups in coastal areas or on islands, enabling greater access to education, employment, health services and leisure. Increased tourism can also benefit deprived groups in these areas.</p> <p>Design of services, particularly where these are for foot passengers, need to be accessible for those with reduced mobility, including the elderly and some disabilities.</p>
Active travel (walking & cycling)	<p>The provision of new cycling and walking infrastructure could encourage the public to opt for a sustainable travel option instead of vehicle reliant services. This could lead to improved air quality in urban areas, which would benefit people with respiratory illnesses, certain disabilities, pregnancy and maternity, younger and older people who may be more sensitive to air pollution.</p>

Type of intervention	Equalities considerations for assessment of interventions
	<p>The modal shift from private cars to active travel will provide health benefits to those who choose this option. New and improved cycleways and walkways facilitate exercise and for those who may have felt they cannot walk/cycle in their area due to a lack of access to safe walk and cycle routes. Access to green areas or open space may be facilitated because of new/improved cycle and walkways which also provides health benefits.</p> <p>However, people with limited mobility (such as persons with a disability which restricts participation and the elderly) may not experience the benefits from active travel (walking and cycling), depending on the level of use that is possible for them.</p> <p>Developments should cater for all levels of mobility so as not to exclude people who are unable to participate in active travel, for example ensuring walkways and are step-free, non-slip and visually appropriate to enable wheelchairs users, and those with reduced mobility or limited vision to access routes.</p>
Other (ticketing, information, mobility hubs)	<p>The provision of public transport facilities could improve mobility in the region and accessibility to employment, education and / or health services for people who live outside urban areas or who cannot make door-to-door trips by public transport.</p> <p>Supporting people without access to private cars to use alternative modes of travel (taxis, private hire vehicles, public transport, active travel) will benefit people who cannot drive due to health reasons or their age, as well as those that do not own their own car.</p> <p>The provision of public transport schemes would particularly benefit people suffering deprivation, as well as socially isolated individuals needing access to community services and facilities.</p> <p>Improving the quality of streets, public realm, and wayfinding signage will benefit all groups of people. It is assumed that design standards will be adhered to and specific consideration of certain types of disability such as wheelchair users, the deaf and blind would be given when designing improvements to public realm to ensure that there is no potential for adverse impacts on these vulnerable users.</p> <p>Safety in design should consider the needs of people with limited mobility and ensure that neighbourhood facilities are accessible to all users, as well as acknowledge the potential for localised crime, which may be targeted at faith, race or gender groups.</p> <p>Consideration should be given to all travel users to ensure everyone is included in any campaigns to promote behaviour change. For example, over reliance on web-based information, or e-ticketing, might disadvantage older people or people on low incomes who do not have regular internet access.</p>



## Health Information to Support Assessment

### Introduction

A wide range of factors can contribute to a person's health including the physical, social and economic environment, in addition to a person's individual characteristics and behaviours. The World Health Organisation states that to a large extent, factors such as where we live, the state of our environment, genetics, our income and education level, and our relationships with friends and family all have considerable impacts on health, whereas the more commonly considered factors such as access and use of health care services often have less of an impact<sup>21</sup>.

Transport interacts with a number of these factors including:

- **Environmental conditions** – usually this includes aspects such as transport noise and air quality. Exposure to air pollution can also cause a range of health impacts, including effects on lung function; exacerbation of asthma; increases in respiratory and cardiovascular disease and lung cancer. Interactions between health and transport noise have shown that this can cause both physical and wellbeing effects. These include hypertension, cardiovascular disease, sleep disturbance stress and annoyance.
- **Socio-economic conditions** – Transport is an important facilitator of social inclusion and wellbeing. Transport barriers can be intimately related to job opportunities. If transport is (or is perceived to be) too expensive, then people are not able to make the journeys they need to get into work or move into education/training.
- **Lifestyle factors** – Transport can influence physical and mental health. Regular physical activity, including walking and cycling, provides significant benefits for health through improving muscular and cardiorespiratory fitness, maintaining healthy body weight and reducing risk of a range of conditions and diseases. It also improves mental health by reducing symptoms of anxiety and depression. Transport can increase anxiety through aspects such as driver stress and isolation, poor information and connectivity on public transport.

The sections below provide an overview of health in the South East from the Strategy Evidence base and then sets out the health effects of delivering the Strategy to be included in the ISA.

### Snapshot of the South East

The 2021 census showed that 50% of residents in the South East considered themselves to be in 'very good health', 34% in 'good health' 11.8 in 'fair' health, 3.3 % in 'bad' health

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<sup>21</sup> <https://www.who.int/news-room/questions-and-answers/item/determinants-of-health#:~:text=The%20determinants%20of%20health%20include,person's%20individual%20characteristics%20and%20behaviours.>

and 0.9% in 'very bad' health. Selected indicators of health in the South East are shown in Table A.5 below.

*Table A.5 Indicators of Health in the South East<sup>22</sup>*

Indicator	Period	Region	England
Life expectancy at birth (male)	2022	80.6	79.3
Life expectancy at birth (female)	2022	84.1	79.2
Under 75 morality rate from cardiovascular diseases	2023	62.1	77.4
Killed and seriously injured (KSI) on England's roads	2023	89.8*	91.9*
Percentage of physically active adults	2021/22	70.5%	67.3%
Percentage of adults (aged 18 plus) classified as overweight or obese	2021/22	62.7%	63.8%
Year 6 prevalence of obesity (10-11yrs)	2022/23	19.4%	22.7%
Deprivation score	2019	15.5	21.7
% of people in employment	2022/23	78%	75.7%

\* Value is estimated per vehicle miles

The data shows that in terms of life expectancy and circulatory diseases, the South East is generally better than the national average. While childhood obesity is generally lower than the average, it is increasing.

The Health Profile for South East England 2021<sup>23</sup> states that mental health and wellbeing have deteriorated. Between 2019/20 and 2020/21, the proportions of people in the South East reporting high anxiety, low happiness, low satisfaction and low worthwhile all increased compared to the previous five years. The percentage of adults overweight or obese continued to rise from 59.7% in 2015/16 to 61.5% in 2019/20, with the highest percentages in Medway, Portsmouth and Kent. The prevalence of high blood pressure in the South East has shown little change from 13.6% in 2015/16 to 14.1% in 2020/21. High blood pressure is associated with heart and kidney disease and strokes.

## Assessment

At a strategic project level, the health assessment reviews whether the types of interventions in the Strategy are likely to have effects on health. These considerations were then used to support the assessments at Appendix B.

<sup>22</sup> Office for Health Improvement and Disparities (2024) Local Authority Health Profiles: <https://fingertips.phe.org.uk/profile/health-profiles/data#page/1/qid/1938132701/pat/6/par/E12000008/ati/302/are/E10000011/yr/3/cid/4/tbm/1> (this data also includes additional local authorities (Bracknell Forest, Buckinghamshire, Reading, Slough, Windsor & Maidenhead and Wokingham) but indicative of TfSE)

<sup>23</sup> Office for Health Improvement & Disparities (2022) Health Profile for the South East of England 2021: <https://fingertips.phe.org.uk/static-reports/health-profile-for-england/regional-profile-south-east.html> (indicative of issues in the TfSE study area)

Table A.6 Health assessment of transport typologies

Type of intervention	Health considerations for assessment of interventions
Highways	<p>New roads would likely increase capacity and number of vehicles moving through areas which may increase air quality and noise impacts on health for nearby receptors. Online improvements will help to ease congestion, reducing driver stress, but could also lead to an increase in capacity. In the long-term emissions also affect health and well-being through the impacts of climate change.</p> <p>The creation and expansion of the road network may not promote the use of active transport methods which may have negative effects on physical activity and health. Road schemes should aim to safely incorporate and expand footpath and cycleway infrastructure wherever possible to promote more active means of transport including the strategic road network. Design should reduce any severance from road schemes by enhancing access for all users, including pedestrians, horse riders, and people with disabilities or health conditions.</p> <p>Highway works are likely to benefit from improved road safety as they will be designed to modern standards. The provision of new roads may lead to increased access to areas of employment.</p>
Rail	<p>New railway lines may increase impacts on health related to noise and air quality by bringing transport routes closer to receptors, however the overall effect of rail on noise and public health is considerably lower than roads. Rail improvements encourage modal shift and may afford benefits to health of the South-East population with improvements to air quality. Electrification and decarbonisation of rail reduces potential impacts on air quality and noise levels. Long-term this also benefits health and well-being through the impacts of climate change.</p> <p>Public transport interventions often increase users' total physical activity levels (e.g. by walking/cycling to rail stations) which may have benefits to health, access and physical activity. There is also potential to improve well-being through social interactions. Measures such as secure cycle storage should be included in any station upgrade to encourage active travel.</p> <p>An increase in uptake of rail services within the South East has the potential to reduce the number of vehicles on roads which may have a positive effect on road safety. New rail lines, service and station improvements will increase accessibility and access, also providing greater access to employment.</p>
Bus and mass transit	<p>Improvements to bus services and provision of mass-transit has the potential to increase the attractiveness and reliability of travelling by public transport for passengers. Any increase in bus usage, as well of use of new light rail transit schemes, could have beneficial effects on air quality and noise as well as road safety, with a potential reduction in the number of vehicles on roads in the South East. Electrification of buses or trams reduces impacts on health, through air quality and noise levels. Long-term this also benefits health and well-being through reducing the impacts of climate change.</p>

Type of intervention	Health considerations for assessment of interventions
	Public transport interventions often increase users total physical activity levels (e.g. by walking/cycling to and from bus/tram stops) which may have benefits to health, access and physical activity. There is also potential to improve well-being through social interactions.
Ferry	<p>Improvements to ferry services, including new routes has the potential to increase the attractiveness and reliability of travelling by ferry for passengers. Modal shift from using private vehicles has beneficial effects on health in relation to air quality and noise. Long-term, reducing emissions (including through electrification) also benefits health and well-being through reducing the impacts of climate change.</p> <p>Public transport interventions often increase users total physical activity levels (e.g. by walking/cycling to and from ferry terminals) which may have benefits to health through access and physical activity. There is also potential to improve well-being through social interactions.</p>
Active travel	<p>New or improved cycle and pedestrian infrastructure will encourage active travel and improve safety for pedestrians and cyclists which may also indirectly result in a reduction in road congestion by providing attractive and reliable alternatives. In addition, modal shift to more active transport may have benefits to health-related conditions associated with noise and air quality in the South East, particularly around major urban centres and transport hubs. Long-term this also benefits health and well-being through reducing the impacts of climate change.</p> <p>Walkable environments should be prioritised in new residential developments and should be integrated into existing pedestrian networks, providing physical activity and social interaction. Improving walking and cycling networks between urban areas and greenspace, including the surrounding countryside will also provide physical and mental health benefits.</p> <p>Walkways and cycleways should be improved and designed, to enable access and health benefits of all users, including those with reduced mobility.</p>
Other (ticketing, information, new mobility)	Integrated ticketing and provision of information will reduce journey anxiety. Access to bike or scooter schemes, in addition to provision for active travel at mobility hubs will support positive health effects described above.



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## Appendix B ISA Assessments

Assessment tables are provided as a separate document and use the following key:

Key to Effects	
++	Potential for significant positive effects
+	Potential for minor positive effects
-	Potential for minor negative effects
--	Potential for significant negative effects
+/-	Potential for both positive and negative effects
?	Uncertain effects
0	Negligible or no effects