



Delivering for Kent: The Economic Impact of HS1

steer

September 2019

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We have delivered over 6,000 projects in 64 countries, accumulating over 40 years' experience, providing pioneering planning and advisory services to public and private sector clients.

We plan, design, advise and provide expert analysis to deliver commercial insights and practical solutions. Our cross-boundary and cross-service approach creates teams with the best skills and experience for each project.

Foreword

My team and I are proud to be the custodians of the UK's only highspeed railway.

HS1 has changed the lives of hundreds of thousands of people. This report details who these people are and how they have benefited. In terms of the 'how', HS1 delivers in three clear areas - for our economy, for our society and for our environment.

For the economy, the route produces a staggering £427m of economic benefits every year. Cumulatively since opening this amounts to £4.5bn. In part this has been achieved from productivity gains thanks to faster journeys, but also through new jobs created by the businesses that have set themselves up on the route because of the diverse and skilled international workforce now at their fingertips.

For the wider society and the communities we serve, HS1 has brought affordable housing within the reach of tens of thousands of young couples and families. Indeed, it has made the aspiration of owning a home with a garden a reality for many.

For our environment, the shorter journey times permitted by HS1 has made near-Europe short-haul flights even less attractive. This has driven a switch from one of the most environmentally harmful forms of transport to one of the most environmentally friendly. We have reduced CO2 emissions by the equivalent of 60,000 short-haul flights every year.

We have only achieved these benefits with our partners: HM Government, Southeastern and Eurostar. But as much as looking back, this study is an invitation to look forward... We have capacity on our tracks and with our partners, we can deliver more of the benefits outlined here.

Dyan Crowther
Chief Executive, High Speed 1



Executive Summary

High Speed 1 (HS1), and the services which make use of the High-Speed Line, supports more than £427m of economic benefits to the UK and continental Europe every year. This is equivalent to adding 4,600 employees to the national workforce. In the sixteen years since the first section of HS1 opened, cumulative benefits of £4.5bn have been delivered.

Primarily these benefits come from shorter journey times, as well as a significantly improved journey experience for the 15 million domestic passengers who use HS1 each year. Almost 4 million of these passengers have switched from using cars and planes, delivering significant reductions in greenhouse gas emissions that support The Government's commitment to reach net zero carbon emissions by 2050.

London's employees gain from access to more affordable housing in Kent, with average property prices in the catchment area of HS1 almost half that of properties in the wider commuter catchment area to the south east of London. HS1 allows a further 164,000 households in Kent to access job opportunities in London. London's labour market has access to an additional 63,000 highly-skilled individuals with higher education qualifications.

There is currently capacity available to provide more domestic and international services on HS1 which could result in more than £101m of additional economic benefits and 0.5 million tonnes less carbon emissions each year. This report provides compelling evidence of the benefits delivered by HS1 to date, and sets out what could be achieved through making further use of the capacity that is available.

HS1 is a genuine success story from which the UK has benefitted significantly, and will continue to benefit into the future.

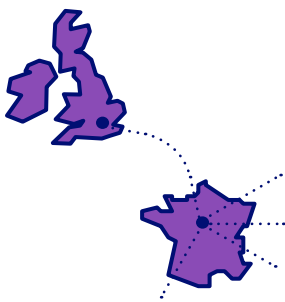


Doubling of journeys

In the six years since 2010-11, demand on domestic high-speed services has almost doubled, increasing by 93% (or 12% per year) to 15 million.

26 million

journeys were made on the HS1 network in 2018.



HS1 carries direct services from the UK to a range of core international destinations including Paris, Brussels, Amsterdam, Calais and Lille.

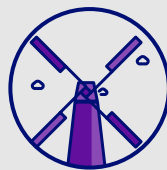
Introduction to High Speed 1

The Channel Tunnel connecting England and France opened in 1994. International services connecting London with Paris, Brussels and a number of intermediate stops commenced the same year. The first section of High Speed Line (High Speed 1) from the tunnel to north Kent opened in 2003, with the entire route to St Pancras International completed in 2007.

HS1 Ltd holds the concession from government to operate, manage and maintain High Speed 1, the UK's only section of High-Speed Rail, as well as the four stations along the route, until December 2040. It works closely with Network Rail (High Speed), who are contracted to maintain and operate the railway infrastructure, and train operating companies which offer both domestic and international services on the railway.

Domestic rail services are provided by the train operating company Southeastern, which operates the UK's 4th largest franchise with 183 million passenger journeys in 2018¹. 15 million of these trips are made on high-speed services using HS1 to locations both on the HS1 corridor and beyond².

International passenger services are currently provided by Eurostar. Direct services run from the UK to a range of international destinations including Paris, Brussels, Amsterdam, Calais and Lille as well as seasonal services to other destinations including Disneyland Paris, Lyon, Avignon, Marseille and the French Alps.



Growth in domestic travel on HS1

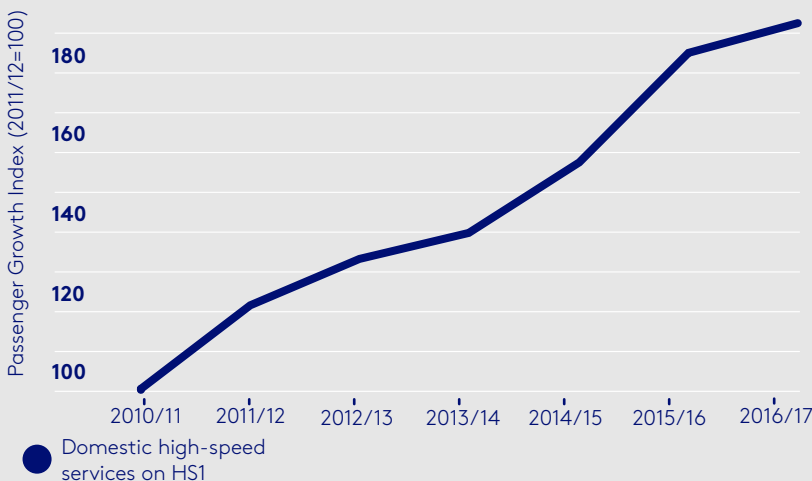
Passenger journeys have grown significantly since regular domestic services on HS1 began in December 2009. In the six years since 2010, demand on domestic high-speed services has almost doubled, increasing by 93% (or 12% per year) to 15 million. This growth, indicative of the popularity of high-speed services, is now leading to increased pressure on the capacity of high-speed trains, particularly during peak hours³.

The passenger growth highlights the importance that passengers place upon being able to reach their destination as quickly as possible. Alongside rail fares, end-to-end journey times have been identified as the most important factor influencing rail demand⁴.

The value that passengers place on travel time savings is an important concept in policy-making and investment decisions for the transport sector, since savings in travel time typically account for a large proportion of the benefits of major transport infrastructure. The purpose of this report is, therefore, to quantify these and other economic and environmental benefits delivered by HS1.

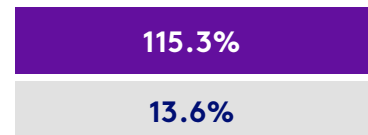
Growth in Journeys

Source: ORR Data

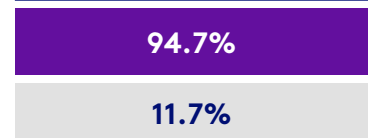


Demand on the top five fastest growing corridors served by HS1 has increased by more than one million passenger journeys since 2010. The percentage increases in passenger numbers on these corridors are:

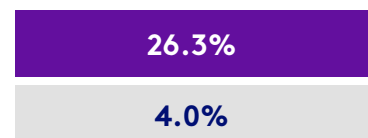
Ebbsfleet to St Pancras



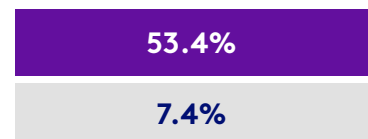
Rochester to St Pancras



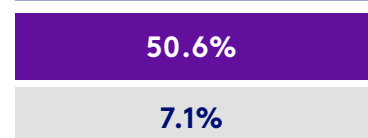
Ashford to St Pancras



Canterbury to St Pancras

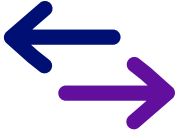


Folkestone to St Pancras



■ % Increase in journeys
 ■ % Annual growth rate

Source: Steer analysis of Rail Usage and Demand Drivers (RUDD) dataset



18,000 commuters

use high-speed services on HS1, the majority of these travelling to London from Kent.



15,000 visitors

are carried to a range of leisure and cultural opportunities across both Kent and London each day.



4,000 business trips

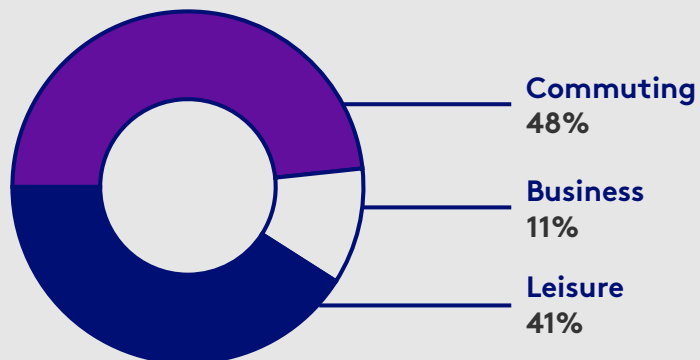
are taken on HS1 services every day, bringing productivity benefits to UK and International companies

Reasons for domestic travel on HS1

The market for rail travel is diverse. Different types of people travel for many different reasons. To understand the importance that rail passengers place upon different features of their journey (travel time, punctuality, on-train facilities etc.) and how they might respond to changes in these factors, it is important to understand the reasons why passengers travel. For example, commuters may place greater importance on reliability and over-crowding than leisure passengers, who are influenced more by affordability and the availability of luggage storage facilities.

Of the 37,000 domestic journeys made on HS1 each day, 18,000 (or 48%) are commuting trips, typically to and from jobs located in London. The market for commuting by HS1 is particularly strong given the overall decline in commuting by rail at a national level, which has seen season ticket sales fall by 12% since a peak in 2015⁵. The faster journey times provided by high-speed services have supported growth in the London labour market, and increased employment among residents of Kent.

Journey purpose on domestic high-speed services (2016)

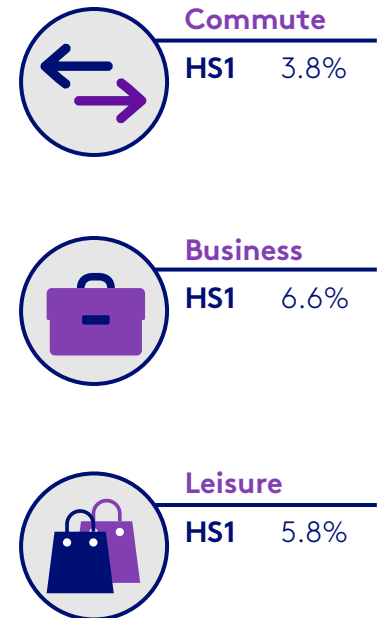


Source: Steer analysis of Rail Usage and Demand Drivers (RUDD) dataset, Department for Transport

A further 15,000 journeys per day (or 41%) are to a range of leisure and cultural opportunities across both Kent and London⁶. 50% of passengers indicated that the availability of high-speed services was a factor in their decision to visit Kent by train (including 10% who would not have visited Kent without the presence of HS1)⁷.

4,000 trips per day are made for work purposes, and is the fastest growing market segment, increasing by 5.8 percentage points every year. From an economic perspective, business trips are important since business travel time savings produce a greater range of direct economic benefits, including improved access to suppliers or customers. This increases productivity by lowering the cost or raising the quality of inputs and widening the market that a business can serve. Consequently, businesses are willing to pay for quicker journeys for their employees.

Annual journey growth, by purpose, on high-speed services and other Southeastern services 2013 - 2016



Source: Steer analysis of Rail Usage and Demand Drivers (RUDD) dataset, Department for Transport

Since the introduction of HS1 domestic services, commuters using HS1 benefit, on average, from the equivalent of four fewer days travelling every year.



£83 million

Journey time savings (domestic services).



£23 million

Crowding, reliability and quality improvements.



£33 million

Productivity improvements (agglomeration).



£7 million

UK environmental benefits.

Source: Steer analysis

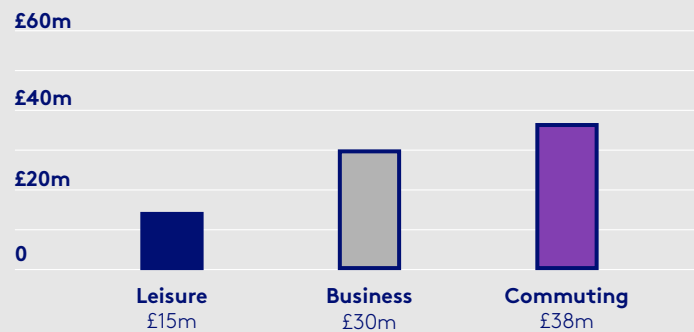
Domestic benefits of HS1

Domestic services using HS1 generate direct socio-economic benefits of £146m each year. These benefits deliver the equivalent economic outputs of an additional 2,150 full-time employees. The most significant source of benefits is from journey time improvements.

Direct benefits: £44m of travel time benefits are from those who travel on the high-speed network. 92% is derived from journeys made exclusively on HS1 services, with 8% from those traveling to/from elsewhere on the rail network.

Secondary benefits: £39m of benefits are from users of the wider network served by Southeastern, who gain journey time and frequency improvements as a result of high-speed services freeing up capacity on the rest of the network.

Annual benefit, by journey purpose, of shorter journey times



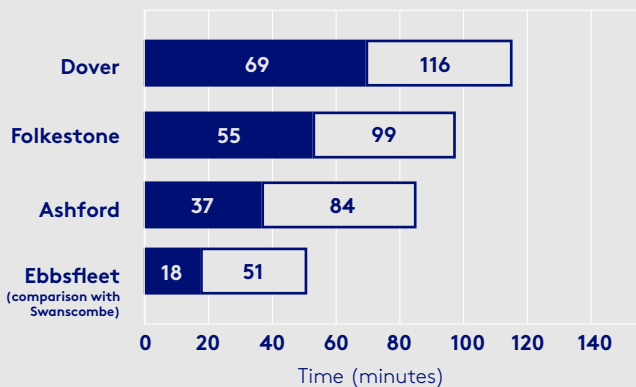
Source: Steer analysis of Rail Usage and Demand Drivers (RUDD) dataset, Department for Transport

Faster journey times bring economic benefits through enabling business users to be more productive, giving commuters additional time at home, and by providing leisure passengers with more time to enjoy their destination.

The magnitude of these benefits is derived from the considerable journey time savings that HS1 provides for journeys to and from London.

In addition to travel time savings, passengers using HS1 benefit from other improvements in service quality such as reduced over-crowding, increased punctuality and reliability, and a higher-quality travelling environment. These improvements are worth £23m each year, over and above the fare passengers are willing to pay to use HS1 services.

Domestic journey time improvements from HS1



● Fastest journey time using HS1

○ Journey time without HS1

Source: Southeastern website

Finally, HS1 delivers productivity improvements in the form of agglomeration benefits, worth £33m each year to the economy. These benefits arise because businesses operate more efficiently when they cluster in close proximity to each other. This effect is generated since improved transport links with shorter journey times make it easier for existing businesses to interact with each other, and to share resources.

Over time additional investment benefits may arise as businesses relocate to take advantage of the higher levels of productivity in dense urban areas. As the main employment centre and with the most productive workforce in the country, the majority of these benefits will be experienced in London.



400,000
more workers in Kent now live within a one-hour rail journey of Central London as a result of HS1⁸.

15,000
new homes have been built in regeneration schemes enabled by HS1⁹.

47,000
young families, couples and singles looking to buy or rent affordable homes have chosen to relocate to the HS1 catchment area since 2009¹⁰.

Impact on People and Places

High-speed services have greatly expanded the area of the network that is less than one hour from London by train. This provides access to more employment opportunities and a greater range of jobs to individuals and families living in the area.

Since the opening of HS1, 164,000 more households are now less than one hour by train from Central London. The average price of these homes (£280,000) is almost half of those in the wider commuter catchment area to the south east of London.

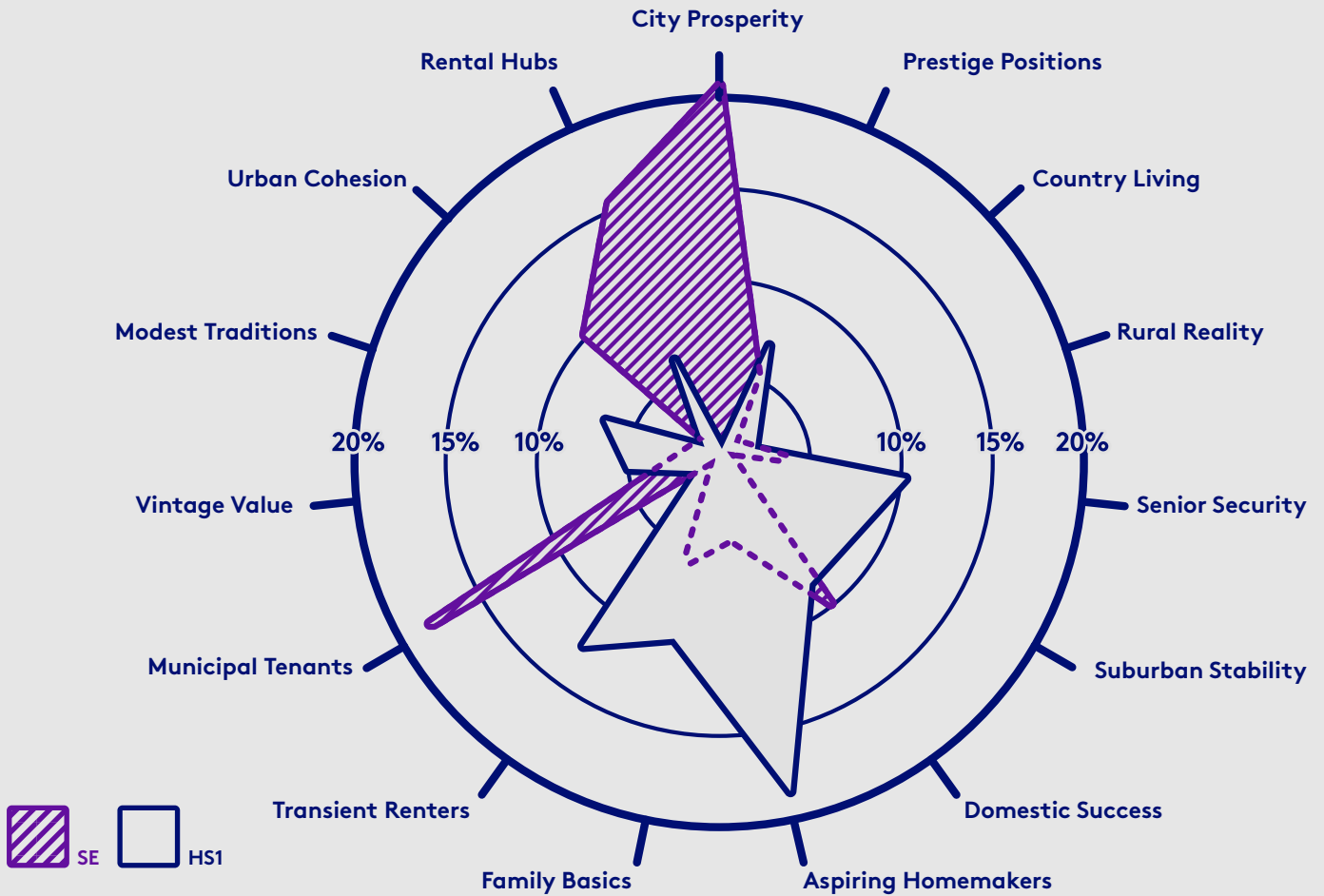
Experian's Mosaic geodemographic classification, which provides a snapshot of UK society to identify 15 broad profiles/person-types, can be used to build a picture of those benefiting from HS1. It shows that a greater proportion of lower-skilled and lower-income individuals are able to access opportunities in London via HS1.

How HS1 expands the areas in Kent that are within a 1 hour train commute of London



Source: Steer analysis

Demographics of population within a 1 hour train journey of London on High-Speed Services (2018)

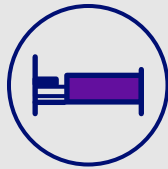


A significant number of young individuals and families (aged 26-35) have moved to Kent to gain access to lower cost housing while still enjoying access to the London jobs market. In particular, 18% of people (and the largest demographic group) living in the HS1 catchment area can be considered as 'aspiring home-makers'.

These are typically young families, couples and singles on the first rung of the property ladder, looking to buy or rent affordable homes and, in some cases, thinking about starting a family. They are driven by affordability when choosing somewhere to live, and typically looking to balance a location close to city centre amenities with cost. This aligns with research that shows how younger families, in their search for more space to bring up families, are moving to the newly developed rural suburbs¹¹.



Other significant groups in the HS1 catchment area include:



Transient Renters (13%)

Broadly younger people looking for lower-cost rented accommodation. Often at the early stages of their careers this group is expected to use rail services for their journey to work.



Senior Security (11%)

Older people of retirement age who have achieved financial security with good pensions and their own homes. This group is expected to use rail services for visiting friends and relatives and other leisure activities.



Family Basics (10%)

Families on lower incomes, often living in social housing and with a low propensity to use rail services.

By contrast, without HS1 the dominant demographic groups living within one hour of London via Southeastern services are:



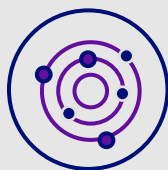
City Prosperity (21%)

Well-educated, confident and ambitious individuals who work in high status positions. Commanding substantial salaries they are able to afford expensive urban homes.



Municipal Tenants (18%)

Long-term social renters living in low-value multi-storey flats in urban locations, or small terraces on outlying estates.



Rental Hubs (14%)

Rental Hubs contains predominantly young, single people in their 20s and 30s who live in urban locations and rent their homes from private landlords while in the early stages of their careers.

It is clear that HS1 reaches into areas with a very different socio-demographic profile to the rest of the Southeastern network. In practice this means that:

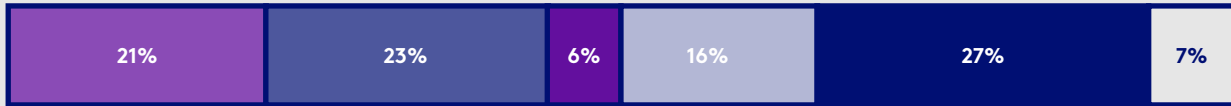
- HS1 provides access to London for people with a broader range of qualifications than standard rail services alone.
- By offering a wider range of opportunities, residents of these areas may, in time, choose to develop skills that meet the opportunities on offer.

Skills profile of population within one hour of London using HS1 or other Southeastern services

Southeastern



HS1



Highest qualification attained

- GCSE ●
- GCSE (A* - C) ●
- Apprenticeship ●
- A-Level ○
- Higher Education ●
- Other ○

Source: Steer Analysis of UK Skills Data, Department for Education

- They may also choose not to stay in Kent having developed those skills. With the exception of the East Midlands, the South East has the lowest graduate retention rate of all English regions¹².
- Despite the above, for Kent residents with fewer academic qualifications, access to London is highly beneficial for job prospects. For example, London still has, by far, the highest density of apprenticeships in the country¹³.
- At the same time, London benefits from a deeper pool of labour (with HS1, 63,000 more people with higher education qualifications are now within commuting distance of the capital).

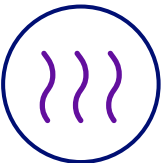
By encouraging people to take the train rather than drive, HS1 provides benefits to the UK from:



Better air quality.
£0.1 million



Reduced noise pollution.
£0.1 million



Reduced greenhouse gas emissions.
£0.4 million



Lower traffic accident rates.
£0.9 million



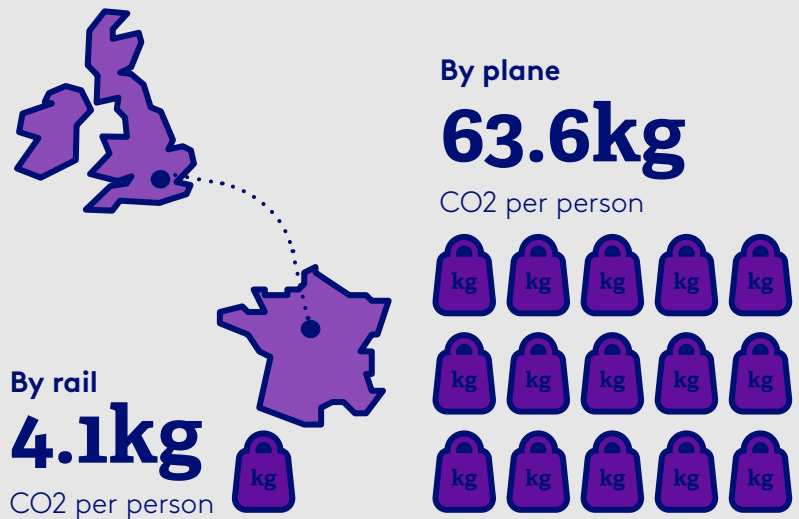
Less congestion.
£5.5 million

Environmental benefits

Domestic: The use of road vehicles incurs both private costs borne by the driver (such as fuel costs and vehicle maintenance) and external costs borne by others. £7m of environmental and social benefits are generated each year as a result of people choosing to take the train rather than drive. HS1 reduces net emissions equivalent to removing 6,000 cars from the roads every year.

International: £66m of environmental benefits are generated each year as a result of people choosing to take the train rather than fly. This shift away from flying, to significantly more environmentally friendly rail journeys, reduces annual emissions by the equivalent of 750,000 tonnes of CO₂e, or 60,000 short-haul flights, every year.

Comparison of London to Paris journey emissions



Source: Eurostar

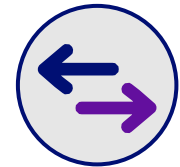
The benefits of additional HS1 services

Future domestic services

The growth of businesses in London is expected to continue, delivering an annual increase in employment of 0.6% until 2040¹⁴. This continued growth needs to be supported by the building of large volumes of new homes to accommodate the additional labour force required. Development in London cannot deliver enough housing alone, therefore the surrounding regions including Kent will play an important part in meeting this demand.

Ebbsfleet Garden City, adjacent to Ebbsfleet international, is a nationally important development, which is planned to deliver 15,000 homes by 2035. At its inception, HS1 was an essential consideration in the planning process and a key part of enabling these homes to be built sustainably; through providing faster links to London and increased capacity on the remainder of the local rail network. To date just over 1,500 of these homes have been built.

At the same time, growth in demand from households choosing to live on the HS1 route has meant that services are becoming increasingly crowded, particularly impacting peak times and passengers commuting into London. The completion of Ebbsfleet Garden City is expected to generate 1.4 million journeys per year on HS1. With just over 10% of these homes built, the viability of the rest, along with the benefit they would bring, will be constrained without more services on the HS1 route. An increase in high-speed services will unlock not only the Ebbsfleet development but other developments along the route.



1.4million

Journeys generated per year upon the completion of Ebbsfleet Garden City.



15,000 more homes

for young families who work in London but need access to more affordable housing.



Employment opportunities

for a lower income households via improved access.

Increasing commuting services into London will not only help London grow but continue to benefit Kent as well by:

- providing homes for young families who work in London but need access to more affordable housing; and
- further improving access to employment opportunities for a broad demographic of people.

Expansion of domestic high-speed services can also continue to grow tourism in Kent. Some destinations, such as Canterbury, although already served by high-speed services have only one train per hour or even lower frequency in the off-peak. Increasing the frequency will make these destinations more accessible and therefore attractive to visitors, particularly those coming from London and its surrounding area.

There is capacity on the existing network that would allow the introduction of more off-peak services and at least one additional service during peak times. The main constraint on providing more services is the availability of trains in the existing fleet. Because they are already heavily utilised, new trains will be needed to deliver these additional services.



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