



Press Release

Tuesday 6th March 2018

HS4Air - A proposed strategic high-speed rail/air connection in south east England : “An M25 for high speed trains”

London based engineering consultants Expedition have developed a proposal for a new high-speed railway referred to as “HS4Air” (High Speed for Air). The proposal has been conceived to complement and enhance the benefits of other transport infrastructure projects currently being planned in south east England to increase rail and aviation capacity.

HS4Air is a new high-speed railway that connects the existing HS1 rail line to the planned HS2 rail line along a route that passes via both Gatwick (LGW) and Heathrow (LHR) airports to the south and west of London. HS4Air also includes a connection to the Great Western Main Line railway (GWML) to the north of Heathrow airport.

Expedition director Alistair Lenczner, who has led the development of the HS4Air proposal, says:

“HS4Air has been developed to allow rail and aviation infrastructure projects in south east England that are currently unconnected to become joined-up. This will offer greatly enhanced benefits for users and provide better value for the investments currently being made in the UK’s strategic infrastructure.”

“In a way HS4Air can be regarded as a high-speed railway version of the M25 around London, except that it allows much faster journey times with no congestion and with far less impact on the environment”.

“The proposed HS4Air project is an example of integrated strategic planning that spans across multiple infrastructure sectors that are too often planned within separate “silos”. Such integrated planning allows projects to achieve better results in terms of their land-use efficiency and investment value.”

HS4Air provides the following significant transport benefits:

- Fast direct rail access to both Gatwick and Heathrow airports from major UK cities to the north and west of London. Rail passengers will be able to travel directly to both airports on fast regular services from cities such as Birmingham, Manchester, Leeds and Cardiff without any need to change trains.
- Dramatically reduced journey times for rail passengers travelling between places south of London and towns and cities in the Midlands, the North and West UK. By avoiding the need to travel via central London including multiple changes, journey times from Sussex and Kent to the Midlands and West are reduced by up to one hour.
- Direct international train services from the Midlands and North UK to Europe via the channel tunnel. Compared to journeys by air, high speed train services to Paris from both Birmingham and Manchester will be faster city centre to city centre.

- A 15-minute surface transfer shuttle time between LGW and LHR airports using dedicated high-speed shuttles between airport stations on the HS4Air railway. The fast and frequent shuttle services make it possible for passengers to make convenient and reliable transfers between Gatwick and Heathrow and for airlines to share operations between the two airports.
- Fast rail freight services can by-pass London avoiding the capital's already congested rail networks. By using services via HS4Air, ports such as Southampton can offer potentially faster access to markets to Europe than using shipping routes passing through Antwerp or Rotterdam.
- By allowing passengers and goods to avoid passing through London to make rail journeys that do not start or finish in the metropolis, HS4Air means that significant capacity within London's rail network is released back for use by Londoners (Network Rail and TfL networks).
- By encouraging a transport modal shift from road and domestic air to rail, HS4Air will relieve pressure on the M25 and the number of domestic flights to/from both Heathrow and Gatwick airports.

HS4Air benefits beyond the transportation sector:

- Modal shift from road and domestic aviation to rail means transportation in South East England can become more environmentally friendly with reduced carbon emissions and less air pollution.
- National distribution networks for utilities such as power, water and broadband can make use of the proposed HS4Air rail corridor by placing cables and pipes alongside the railway. For example, the National Grid would be able to reinforce its system network south of London by placing buried high voltage cables as "Gas Insulated Lines" (GILs) alongside the HS4Air railway lines.
- Stronger transport links between the towns and cities in South East England and the rest of the UK (avoiding London) will stimulate economic growth across the entire nation.

HS4Air facts and figures:

- The route of the HS4Air high speed railway is approximately 140km long between its connections with HS1 at Ashford and its proposed connection with HS2 near Denham.
- Approximately 20% of HS4Air will run in tunnels either to avoid adversely impacting on environmentally sensitive areas such as the Surrey Hills Area of Outstanding Natural Beauty or else to pass under built-up areas in the environs of Heathrow and Gatwick airports.
- To the west of London, the route of HS4Air runs alongside the M25 in order to reduce the environmental impact of its infrastructure insertion.
- Approximately 40% of HS4Air's geographic route re-uses the existing Network Rail railway running between Tonbridge and Ashford. Being almost dead straight, this railway can be readily upgraded for the running of high-speed trains.
- Pro-rata costing based on equivalent cost per mile estimates of HS2 Phase 1 (2016 NAO assessment for HS2 Phase 1 cost), HS4Air is estimated to cost approximately £10bn.
- By providing nationwide highspeed rail access direct into the country's most important airports, HS4Air achieves the type of rail/aviation transport network integration that already exists in neighbouring

European countries such as France (Paris CDG) , Germany (Frankfurt) , Netherlands (Schipol) , Belgium (Brussels National) and Switzerland (Zurich).

Background on Expedition Engineering and Alistair Lenczner

- Expedition Engineering is a London based engineering design consultancy. Significant projects for which Expedition has been responsible for include the London Olympic Velodrome and the Infinity Bridge in Stockton-on-Tees.
- Alistair Lenczner, Expedition director since 2014, is a chartered engineer with over 35 years' cross-discipline experience in the design of major building and infrastructure projects.
- Before joining Expedition, Alistair spent 16 years at Foster + Partners where he was a Partner. Significant projects he worked on whilst at Foster + Partners include Wembley Stadium and the Millau Viaduct in France. Whilst at Foster + Partners, Alistair was instrumental in the design development of the proposed Thames Hub project which included a new airport in the Inner Thames Estuary.
- Alistair Lenczner will introduce the HS4Air proposal as part of his talk at the event at the Institution of Civil Engineers HQ in London on 6th March 2018: '*How London's pioneers built our city, London*'.

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Notes to editors

- The following must be mentioned in relationship to the HS4Air idea: Expedition Engineering, Alistair Lenczner (Director, Expedition Engineering)
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