

A STRONGER CONNECTION BETWEEN HAMBURG AND SCHLESWIG-HOLSTEIN

THE S4 (EAST) LINE FROM
HAMBURG TO BAD OLDESLOE

A STRONGER CONNECTION BETWEEN HAMBURG AND SCHLESWIG-HOLSTEIN

The rail line between Hamburg and Bad Oldesloe in Schleswig-Holstein is one of the busiest commuter routes serving northern Germany's biggest city. The S4 will improve transport by providing more direct connections and minimising inconveniences. This will ensure a smoother service for people travelling in either direction.

BACKGROUND

Better local transport between Hamburg and Schleswig-Holstein is of central importance to many people living and working in the region. The growing number of passengers travelling between the city and its northeastern hinterland is one of the many facts that underscore this: between 2000 and 2010 alone, regional transport between Hamburg, Ahrensburg and Bad Oldesloe saw passenger figures increase by 50%.

According to forecasts, this trend is set to continue. Hamburg's borough of Wandsbek, in particular, is experiencing sustained growth, both in terms of population and the number of companies based there. Ahrensburg, Bargteheide and Bad Oldesloe in Schleswig-Holstein's Stormarn district are witnessing a similar development. The S4 line is a response that will enable public transport services to meet the needs of the people who use this route. At the same time, the undertaking will free up capacities for long-distance and freight transport. Running largely on its own tracks, the S4 will replace the regional trains that currently operate in Hamburg's eastern suburbs. This will help tackle current bottlenecks and improve links to the existing local transport network serving the larger region. Up to 250,000 people live in the S4's catchment area, and they all stand to benefit from the new service.

THE SITUATION TODAY

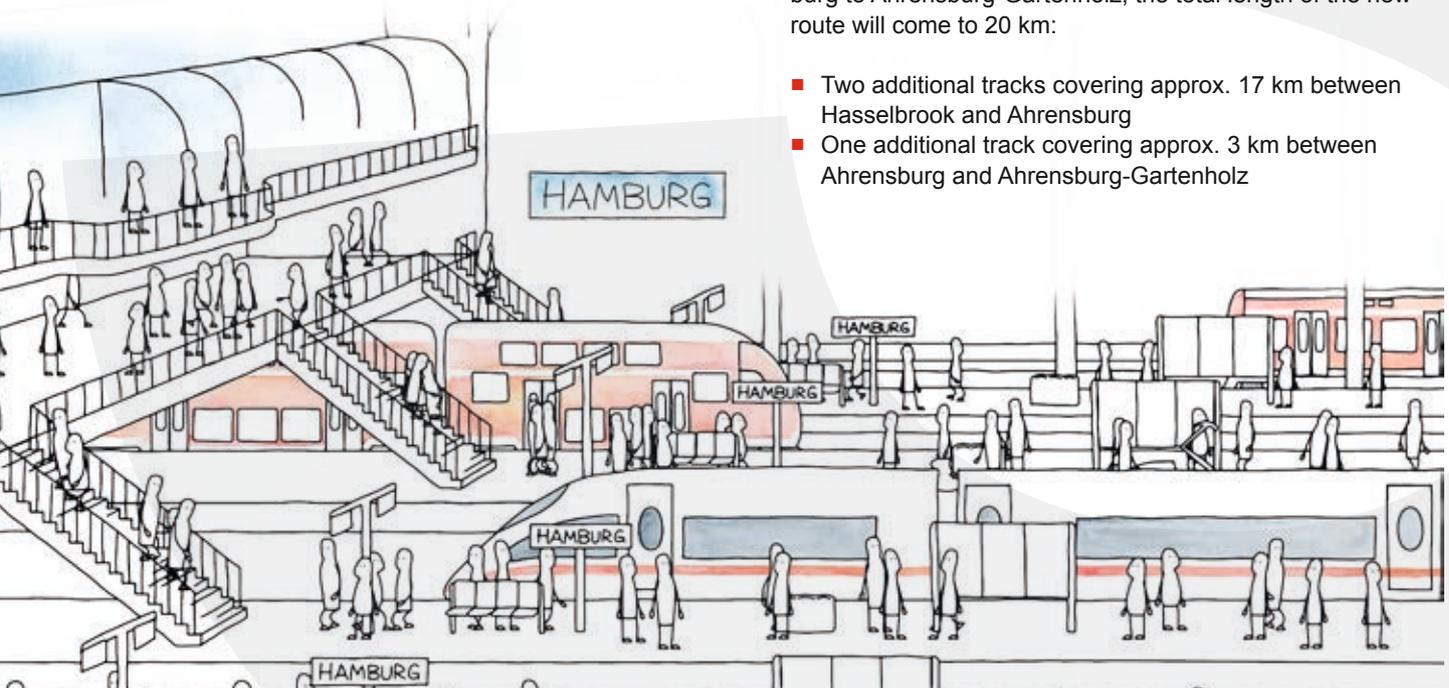
- Passenger numbers on the existing route are growing, and current rail services are operating close to the limit of their capacities
- Areas in the borough of Wandsbek served by the current rail line will benefit from an improved transport infrastructure
- Today's mixed rail operations mean that slow regional trains and fast long-distance and freight services use the same tracks, which increases the risk of delays and cancellations
- Travellers coming from Bad Oldesloe have to change at Hamburg's main station to get to most destinations in the city
- Hamburg's main station is struggling to cope with the number of long-distance trains and passengers it serves

THE PROJECT'S MEASURES

Constructing the route

The construction of separate tracks for the S4 line forms the core of the entire project. Running from Hasselbrook in Hamburg to Ahrensburg-Gartenholz, the total length of the new route will come to 20 km:

- Two additional tracks covering approx. 17 km between Hasselbrook and Ahrensburg
- One additional track covering approx. 3 km between Ahrensburg and Ahrensburg-Gartenholz



About one third of the line will be in Schleswig-Holstein, while the remainder will be within the boundaries of the state of Hamburg. According to the project plans, the S4's tracks are to run parallel to the existing rail line on the northwest side of it for the most part.

The new line will also feature about 45 km of noise barriers along with a central partition. It will require 32 railway overpasses, plus 6 road and pedestrian overpasses, while a large number of level crossings will either be removed or replaced by the new overpasses.

Overhead lines or DC transmission rails will supply power along the route, which will also be equipped with the very latest in control-command and signalling technology.

Stations

Four brand new stations will be built in Hamburg, while Schleswig-Holstein will see the construction of one additional stop. Seven stations in Hamburg and the Stormarn district will be upgraded for S-Bahn services.

BENEFITS FOR PASSENGERS, RESIDENTS AND INFRASTRUCTURE

New stations for shorter routes

The following existing stations will be part of the new S4 line: Altona, Königstrasse, Reeperbahn, Landungsbrücken, Stadthausbrücke, Jungfernstieg, Hauptbahnhof, Berliner Tor,

Landwehr, Hasselbrook, Tonndorf, Rahlstedt, Ahrensburg, Ahrensburg-Gartenholz, Bargtheide, Kupfermühle and Bad Oldesloe.

The new stops will be Claudiusstrasse, Bovestraße, Holstenhofweg and Am Pulverhof within Hamburg, and Ahrensburg-West within Schleswig-Holstein. The station at Wandsbek will be demolished. Constructing the new stations will reduce the distances people living in the line's catchment area need to travel to catch a train, which is one of the project's major benefits.

Despite the larger number of stops between Bad Oldesloe and Hamburg, journey times will increase only slightly. This is because S-Bahn services require less time than regional trains for boarding and alighting, and they can also accelerate faster. Total journey times will therefore be shorter for most passengers.

Alongside the new stops, alterations will be made at the stations in Tonndorf, Ahrensburg, Kupfermühle and Bad Olde-



Hamburg



S4

Hamburg-Altona





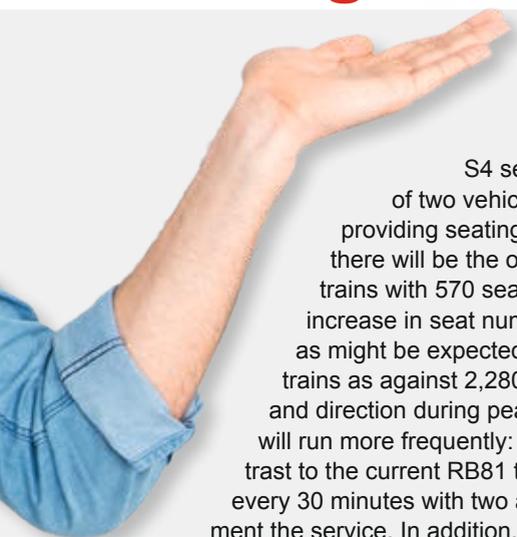
Bad Oldesloe

sloe, where platforms will be increased in height, while new platforms will be installed at Rahlstedt, Ahrensburg-Gartenholz and Bargteheide. This work is necessary for the future S-Bahn services.

Punctual, fast and convenient

Separating suburban rail services from regional, long-distance and freight services means that the S4 can operate according to a regular schedule, making transport more reliable. At peak times, a train will run from Altona to Ahrensburg every 10 minutes, with a service to Bargteheide every 20 minutes and one per hour to Bad Oldesloe. Plans envisage connections between Altona and Ahrensburg-Gartenholz every 20 minutes during the remainder of the day, while there will be an hourly service to Bargteheide and Bad Oldesloe.

Schleswig-Holstein



Today, regional trains on the RB81 line have up to 550 seats. S4 services will take the form of two vehicles with three wagons, providing seating for 380 passengers, and there will be the option of running long trains with 570 seats. At first glance, the increase in seat numbers is not as significant as might be expected: 2,200 seats on regional trains as against 2,280 S-Bahn seats per hour and direction during peak times. However, the S4 will run more frequently: every 10 minutes, in contrast to the current RB81 timetable of one train every 30 minutes with two additional trains to supplement the service. In addition, the number of S4 services between Bargteheide and Hamburg will be increased by 50% during rush hour.

Changing will be eliminated or easier

People with destinations in the centre of Hamburg will no longer have to change at the city's main station, as the S4 will serve the stops of Jungfernstieg, Stadthausbrücke and Landungsbrücken. The station at Hasselbrook will also be served by the S1 line, so passengers for Hamburg Airport can change there without even having to go to a different platform

Easing infrastructure pressure

Replacing a regional rail line with an S-Bahn connection will provide Hamburg's main station with an urgently needed boost in capacity. The S4 will use the current S-Bahn network's tracks between Altona and Hasselbrook, thereby freeing up platforms at the main station that can then be allocated to long-distance trains. Between Ahrensburg-Gartenholz and Hamburg, commuters will switch to the S4, substantially cutting traffic on the exiting line and so benefitting freight and long-distance connections.

Improving road transport

Eliminating some level crossings and replacing others with overpasses and tunnels means that drivers and pedestrians will no longer have to wait as barriers close and open. This way, the new S-Bahn line will also make an obvious improvement to road transport.

People will be encouraged to switch from cars to trains as stations will be easier to reach thanks to a wider range of mobility options, including bus routes, carsharing, new park-and-ride facilities and bicycle stands.

Noise abatement for nearby homes

The plans for the new line include a host of active and passive noise abatement measures to shield people living nearby from the sounds generated by trains. These measures will have a total price tag of at least EUR 95 million, almost two thirds of which is earmarked for Hamburg and remainder intended for Schleswig-Holstein. Some 45 km of noise barriers and a central partition will be installed along the tracks, minimising noise-related disturbances in the residential areas the line will pass through.

Use of dual electrification

The S4's trains will run on two sources of electricity. Between Altona and Bovestrasse, a third rail on the tracks will supply 1,200 volts of DC power. At Bovestrasse, a changeover system running for several hundred metres will enable the trains to switch to overhead lines carrying 15 kV/16.7 Hz and extending Bad Oldesloe. This dual system means that the existing catenary network can be put to further good use.

PLANNING PROCESS AND PROJECT PARTNERS

Based on the findings of a feasibility study, the state parliaments of Hamburg and Schleswig-Holstein jointly announced their decision to construct the extension for the S4 suburban rail (S-Bahn) line in January 2008. In 2009, the Federal Ministry of Transport and Digital Infrastructure published a report on Hamburg as a transport hub which stated that the city's main railway station would suffer from capacity bottlenecks in the future. Subsequently, the plans for the S4 line were used to produce a detailed proposal for the project.

The S4 line connects the federal states of Hamburg and Schleswig-Holstein, so institutions in both states are responsible for the planning activities. In Hamburg, responsibility lies with BWVI, the business, transport and innovation ministry, and its governmental partner

in Schleswig-Holstein is the Ministry of Economic Affairs, Transport, Employment, Technology and Tourism. In 2014, Deutsche Bahn's division DB Netz AG was entrusted with carrying out the project. In this capacity, it is responsible for engineering services and project management.

The building permit applications have been planned for all line sections. The final design phase will be completed by the end of 2018. Construction is scheduled to start in 2020 at the earliest, with the line going into operation in 2027 or later.

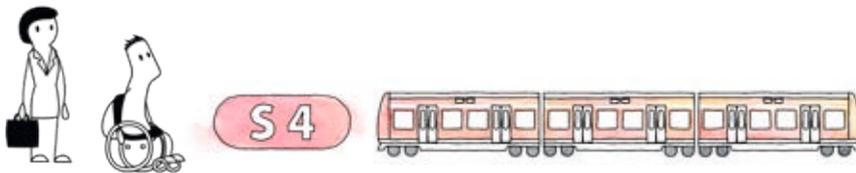
ENVIRONMENTAL PROTECTION

The planning stage for the preliminary design included a comprehensive environmental assessment, and its results are incorporated into further planning activities. Compiled by independent assessors, an environmental impact statement will be part of the building

permit application phase, and it will take the form of a comprehensive study of the project's future ecological impact.

Scoping represents a major stage in the assessment process. It entails meetings with public authorities and environmental groups that are involved in the process. At these meetings, measures are presented for the participants to discuss collectively. They have the opportunity to include their information and demands in the process.

The environmental impact assessment also forms the basis for what is called the complementary landscape conservation plan. This is prepared by DB AG and agreed with the relevant regional authorities to ensure that the natural environment and landscape are largely protected, and that any unavoidable effects are offset by measures that aim to establish equivalent ecological conditions.



FINANCING & COSTS

Working on behalf of the states of Hamburg and Schleswig-Holstein, DB Netz AG conducted an in-depth cost assessment for the project, and they presented their findings in July 2015. Total costs are currently predicted to run to approximately EUR 950 million, once planning costs and an augmented cost and risk analysis are included.

Financing negotiations are currently underway between the government in Berlin, the states of Hamburg and Schleswig-Holstein, and DB AG. Based on current information, the project will be financed largely by means of different subsidies from the national

and state governments, and the Federal Ministry of Transport and Digital Infrastructure has completed a multi-stage cost assessment process for this.

The costs for services incurred in the final design and building permit application planning phases were subsidized by the EU under the TEN-T (Trans-European Transport Network) program until December 31, 2015. A new application for funding for the project planning phases has also been accepted by the European Commission. Fifty percent of the planning costs applied for will be subsidized.



COMMUNICATING THE PROJECT

Our website www.s-bahn-4.de provides up-to-date information about the project, while our free newsletter, S4 NAH DRAN, provides you with the latest news and developments. We also have a blog that members of the project team use to report on the latest progress, giving a personal slant on the workings of this large-scale project.





Sign up for our S4 NAH
DRAN newsletter at
www.s-bahn-4.de

Publishing details

Issued by:
DB Netz AG
Hammerbrookstrasse 44
20097 Hamburg
Germany
s4@deutschebahn.com
www.s-bahn-4.de

Photos:
deagreez – Fotolia.com

Subject to change.
Errors and omissions excepted.
As at April 2018