HS2: IN YOUR AREA
Route corridor

High Speed Two (HS2) is the planned high speed rail network connecting London with the West Midlands ('Phase One'), in 2026 and with Manchester and Leeds ('Phase Two') in 2033.

This factsheet, produced to accompany the consultation on the proposed route from the West Midlands to Manchester, Leeds and beyond, explains what a typical rail corridor for HS2 will look like, including:

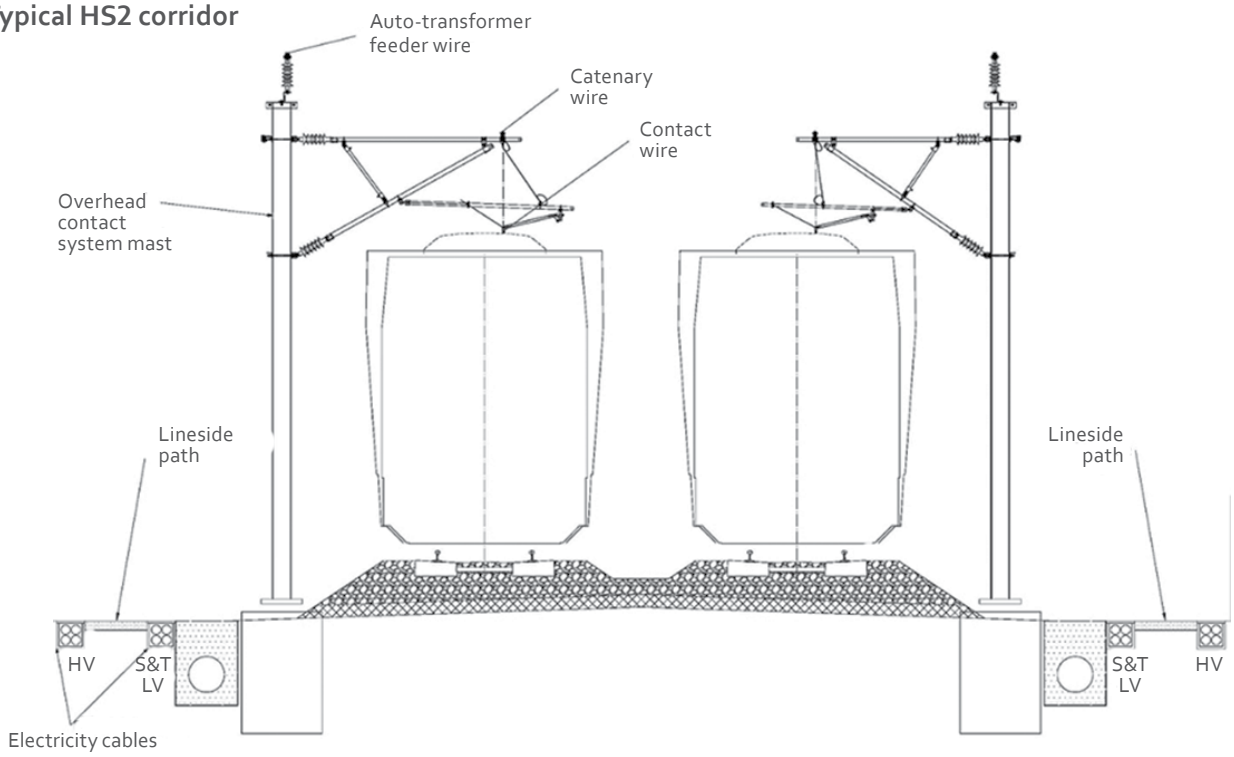
- how wide a typical HS2 rail corridor will be;
- what type of operational equipment will be located within the corridor; and
- what the equipment will look like and where it might be located.

For questions about HS2, call our Community Relations team on 020 7944 4908

What will a typical HS2 corridor look like?

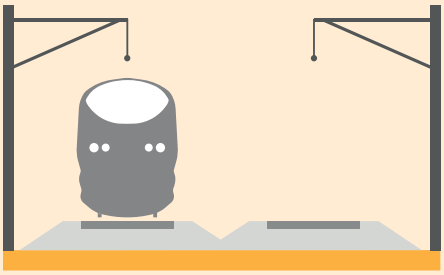
The HS2 route will typically accommodate two railway tracks (one northbound and one southbound) with an overall width of about 19 metres (excluding fences). The rail corridor will include the following operational equipment: overhead line equipment; track drainage; electricity cables; lineside walkway; and ducting for fibre-optic communications.

Typical HS2 corridor

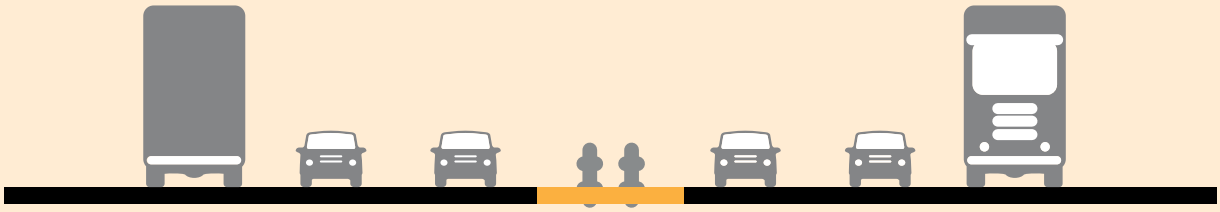


In practice, space requirements will vary along the route to reflect location-specific factors, such as line geometry, earthworks, adjoining land use and the need to incorporate mitigation. Overall, the rail corridor will be significantly narrower than a typical motorway in the UK, as shown in the figure below.

Widths of a typical motorway and a two-track high speed railway



Two-track high speed railway



Typical motorway

The route will be continuously fenced. The type of fencing used at each location will reflect the functional requirements of the line and its surroundings (e.g. whether it passes through an urban or rural area).

We will also manage and control existing vegetation along the edge of the route, as well as planting additional vegetation, where required, to act as screening.

Check **gov.uk/hs2** and the local press for details of information events near you

Operational equipment: location and size

ELECTRICAL POWER SUPPLY EQUIPMENT

An overhead line contact system will transmit high-voltage power to the trains. The system will include masts, portal frames and contact wires. The masts and frames will typically be 8m–9m high and spaced at 45m–55m intervals along the route. The power will be delivered via the catenary to a power collection device known as a pantograph, mounted on the roof of the train.

The power will be supplied from the National Grid 400kV or 275kV network via feeder stations, which will be located along the route. Feeder stations will house electrical equipment that protects and controls the power supply and will be located close to where the National Grid power lines cross the route. The area of land required for each feeder station will vary.

Approximately every three miles (5km), auto-transformer stations will be required to strengthen the power supply. It is envisaged that these will require an area no greater than 50m by 20m.

This type of electrification infrastructure is used around the world without adverse effect on railway users and neighbours. We will employ similar methods to ensure the safety of our users and neighbours. Site locations for electrification equipment will be chosen with the aim of minimising its visual impact.

HS2 will build on the experience and practice of HS1

TELECOMMUNICATIONS EQUIPMENT

Telecommunications equipment will also be located within the rail corridor. This equipment supports the radio-based signalling system, which controls the movement of trains and allows those operating and maintaining the railway to communicate.

Telecommunications equipment also monitors security and access to infrastructure.

The telecommunications equipment will be significantly smaller than that used and installed along the existing UK railway. The train control and telecommunications system will be a computer-based interlocking system, controlled from a central hub for the whole HS2 network, and will not require traditional trackside signals for its operation. The associated equipment located beside the railway will include cable troughs, marker boards and cabinets or rooms, generally no higher than 3m. Some control equipment will also be housed within equipment rooms at stations.

The route will use radio communications as part of its operations and train control system. Radio antennae will be mounted on short extension poles fixed to the overhead power masts, adding approximately one metre to the top of the poles. The associated radio transmission equipment will be mounted at the pole base. An optical fibre network, with cables laid in trenches beside the track, will link all line-side equipment, stations and the control centre. Work on detailed locations for this equipment will form part of the next stage of engineering design.

CONTACT US AT HS2

If you have any questions about this leaflet, please get in touch. You can contact our community relations helpdesk on

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For the latest documents including route plans and profile maps visit:
www.gov.uk/hs2

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