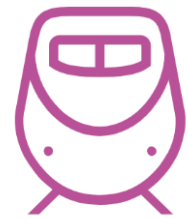


Contact our HS2 Helpdesk team on **08081 434 434**

HS2 Update

Euston tunnel newsletter | Summer 2026



High Speed Two (HS2) is the new high-speed railway for Britain. The Euston tunnel, being built by Skanska Costain STRABAG joint venture (SCSJV), is the eastern section of the HS2 London tunnels, connecting Old Oak Common to Euston

Update on the Euston tunnel

Since our last newsletter, Tunnel Boring Machine (TBM) Karen has begun her tunnelling journey. Both Euston TBMs are now on their 4.5-mile (7.2km) journey and are currently in the London Borough of Hammersmith and Fulham. The TBMs will then tunnel through Kensington and Chelsea, Brent, Westminster and Camden, before reaching their destination at Euston in summer 2027, marking a major milestone on the project. In this newsletter, you can find out about the progress of the Euston TBMs, how they work and information about our upcoming tunnelling events.



Subscribe to our email newsletter at HS2inCamden.co.uk by selecting 'Tunnels & Shafts'

Public engagement events

We will continue to hold virtual tunnelling 1:1 engagement events every third Tuesday of the month. Our next events will be on:

- Tuesday 16 June, 3pm to 6pm
- Tuesday 21 July, 3pm to 6pm

Further details can be found on www.hs2.org.uk/events or scan the QR code below with your smart phone camera.



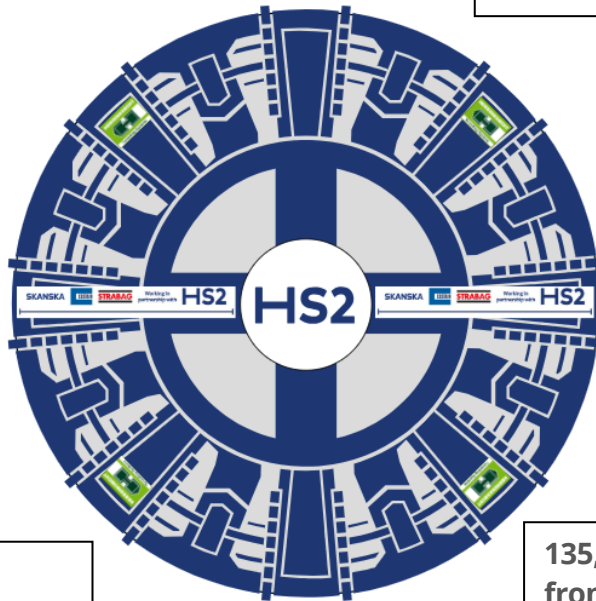
Euston tunnel facts

Currently tunnelling under the London Borough of Hammersmith and Fulham, the Euston TBMs are continuing their journey onwards to Euston. Reaching depths up to 60 metres, TBM Madeleine has completed about 500 metres and TBM Karen has completed about 150 metres. Tunnelling 24/7, on average our TBMs can progress up to 18 metres a day. However, there are periods when the TBMs stop for routine maintenance.

Each TBM weighs 1624 tonnes
(equivalent to 325 African elephants)

A full TBM system will be 198 metres in length (equivalent to two football pitches)

Six precast concrete segments make up one tunnel ring, produced at STRABAG's Hartlepool site, with one ring produced every 10-15 minutes



External diameter of 8.53 metres to create a tunnel with a clear 7.55m internal diameter (equivalent to three double decker buses side by side)

About 48,000 concrete segments to create the tunnel lining (equivalent to 2,146 adult blue whales)

135,000 lorry movements removed from roads for excavated materials and segment deliveries due to dedicated logistics route through the Atlas Road Logistics Tunnel and rail via Willesden Euroterminal

Euston tunnel Frequently Asked Questions

Please scan the QR code on this page with your smart phone camera to access the Euston tunnel FAQ, or follow this link [here](#).

You can also find more information about how we are building the Euston Tunnel following this link: www.hs2.org.uk/building-hs2/tunnels/euston-tunnel/



Euston tunnel progress update



From May to August our TBMs will be tunnelling under Kensington and Chelsea before reaching Brent and Westminster. To view the progress of the Euston TBMs please scan the QR code on the right, or you can visit: www.hs2.org.uk/map/ and select 'Tunnels'.

HS2 in your area map



How we are monitoring tunnelling

Understanding how the ground moves before, during and after the construction of our tunnels is how we control and reduce any potential impact from tunnel construction. To do this, we install instruments across the line of route at surface level and collect data before, during and after our works are predicted to have any impact.

We use a range of instruments and methods to collect this data. The levelling studs in footpaths and roads allow us to measure changes in ground level due to natural variations and tunnel construction. Prisms and stick-on targets allow us to measure both pre-existing natural movements plus any additional tunnelling-induced movements that can affect buildings, bridges, railways, and other structures. We can also use very precise specialised instruments on specific sensitive structures, and use satellite imagery to look at long-term trends over much larger areas.



Above: L-shaped prism on a building

Natural ground movements are common for a variety of reasons, and our monitoring allows us to understand this and compare this to movements from our tunnelling. Ground movement typically happens gradually, and we review all relevant data at a high frequency to ensure any movements are within our predictions. This allows us to react and respond accordingly if we measure anything unexpected. You may see our monitoring team along the line of route taking readings.

How a tunnel boring machine works

A tunnel boring machine (TBM) is essentially an underground factory that digs a circular tunnel, supports the ground and builds the tunnel lining as it goes forward.

Two small factories below ground level

At the front of the TBM is the cutterhead, which rotates slowly and ‘tunnels’ the earth in front of the TBM as it progresses. The excavated earth falls into the chamber behind the cutterhead and is extracted from the front of the machine using a screw conveyor. The screw conveyor consists of a large screw contained within a steel tube. The screw turns slowly and the material is drawn up within the steel tube.

The material is deposited from the screw conveyor onto a conveyor belt which runs along the machine, along the tunnel wall and out of the tunnel. The material is then removed by rail to locations in Cambridge, Kent and Bedfordshire, and used for refilling quarries and landscaping.



Above: TBM cutterhead

Building the tunnel lining

The tunnel lining is formed from a series of circular concrete sections, which when assembled in the right order, make a concrete ring. The concrete sections are delivered to the TBM using a Multi-Service Vehicle (MSV). The MSV carries the sections, or segments, along the completed tunnel to the TBM where they are unloaded ready for constructing the tunnel.

Once in the TBM, a mechanical arm called the erector places the segments in the correct order to form the next section, or ring, of tunnel. Once complete, the TBM is then pushed forward using powerful hydraulic arms off the completed section of tunnel.



Above: Segments stored at our Willesden Euroterminal Logistics Hub

The TBM cuts a path through the ground, the ‘bore’ slightly larger than the outside diameter of the tunnel lining. This is to give the TBM room to steer and navigate curves along the tunnel alignment. This leaves a gap between the outside of the tunnel lining and the excavated bore. The TBM injects a liquid cement grout into this gap as it moves forward which fills the gap and as the grout hardens seals the tunnel into the ground. The cement grout is prevented from leaking back into the machine by a series of stiff wire brushes, and the brushes seal around the inside of the rear of the TBM.

How a tunnel boring machine navigates

Planning the route above ground

Before any tunnelling begins, surveyors carefully map out the tunnel route above ground through special reference markers along the planned tunnel route and use satellite technology to pinpoint their exact locations.

These markers allow the team to measure exactly where the tunnel should run below ground. Using specialist optical equipment that measures angles and distances, the team double checks everything for accuracy. You can think of it as a virtual practice run, carried out above ground before work starts underground.

Bringing the route underground

The next step is to transfer this information down into the tunnels. Surveyors do this through access shafts and tunnel entrances, using precision instruments to make sure nothing shifts even slightly. Once underground, new marker prisms are fixed to the tunnel walls behind the TBM and as it moves forward, surveyors continually set up new reference points ahead, so there is always a clear and reliable guide close by.

How the TBM knows exactly where it is

Inside the TBM is a robotic guidance system that acts like its eyes and brain. It uses a laser to measure its position by bouncing signals off the markers behind it and a target at the front.

From these laser measurements, the onboard computer can instantly calculate:

- where the TBM is;
- the precise angle it is pointing; and
- how closely it matches the planned tunnel route.

This system is accurate to just a few millimetres.

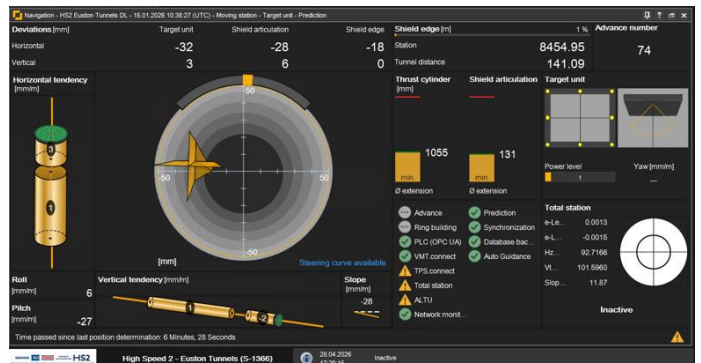
Keeping the tunnelling perfectly on track

If the TBM starts drifting a tiny bit left, right, up or down, the operator can see it straight away. Small steering changes are made to guide it gently back onto the correct path.

This checking and fine-tuning happens continuously while the TBM is moving, helping ensure the tunnel is built safely, accurately and exactly where it should be.



Above: Survey Control Marker Prism high above the last TBM gantry on the tunnel wall for measuring angles and distances for the TBM guidance system.



Above: TBM Navigation Screen showing the computed absolute position and orientation as displayed for the operator.

Engagement and community investment

We continue to engage with communities and residents along the line of route and support different charities and local organisations with a range of community investment projects.

We held our first Euston tunnel engagement event at the Euston Community Hub in Camden on 26 February. The event was attended by 30 residents, and representatives from Camden Council, who also joined and answered questions. During the event residents had the opportunity to learn more about the route of the Euston TBMs, HS2 works in and around the Euston area, as well as additional information about property surveys.

Our next event will take place on 27 May 2026 (4pm to 7pm) at Elders Voice Community Hall. We will provide updates on the Euston tunnel and the Canterbury Works vent shaft. Further details will be published closer to the time and you can find more information about this event at www.hs2.org.uk/events/



Above: SCS colleagues and residents discussing the Euston tunnel works and works in the Euston Approaches at the Euston Community Hub on 26 February

Transforming outside space at Kenmont Primary School



Above: Kenmont Primary School: Garden Renovation project

Catherine, School Business Manager:

"Thank you again to you and your team. We are so overjoyed with the new garden strip which you have transformed. You have brought our vision to life and to be honest, it is even better than we could have imagined"

Working in Hammersmith & Fulham, we've recently completed a renovation project at Kenmont Primary School, creating a more accessible and open space for students. SCS worked transformed this space into a purpose-built growing area with a greenhouse, new pathway and gate. We are delighted to have supported the school and local community in creating a space that will be enjoyed by children through spring and summer for years to come.




We are always looking out for ideas from local communities about community investment projects we could help with, if you have an idea or would like to know more about this, please follow the link here: www.HS2funds.org.uk.

Contact us

Contact our HS2 Helpdesk team all day, every day of the year on:

 Freephone 08081 434 434

 Minicom 08081456 472

 Email HS2enquiries@hs2.org.uk

Write to:

FREEPOST

HS2 Community Engagement

Website www.hs2.org.uk

To keep up to date with what's happening in your local area, visit www.hs2inyourarea.co.uk