Crossrail will operate with 57 purpose-built electric trains in service each day, covering the network from Heathrow and Maidenhead in the west, to Abbey Wood and Shenfield in the east.

Each train will have around 450 seats and a capacity for 1,500 passengers overall. Wide through-gangways between carriages, and ample space in the passenger saloons, and around the doors, will reduce passenger congestion while allowing room for those with heavy luggage or pushchairs. Four designated wheelchair spaces will be provided on each train.

Key technical aspects of the trains:

- Maximum Length – 205 metres
- Top Speed – 145 kph (90mph)
- Acceleration – up to 1 m/s² (comparable to metro trains)
- Power Supply – 25 KV AC from the overhead line, with potential to convert to 3rd rail capability
- Signalling Systems:
  - Automatic Train Operation in the central tunnel section
  - ETCS signal protection provision for surface running
  - Compatibility with ‘legacy’ train-protection systems until ETCS is fully installed on the national network
- Full Air Conditioning for passengers and drivers
- Evolutionary, not revolutionary technology for utmost reliability from day one
- Strict requirements for weight and suspension design to minimise wear-and-tear on the track
- Each train will have a 350 tonne upper weight limit (unladen)
- Energy-saving features including regenerative braking, real-time on-board energy metering and ‘intelligent control’ of heating and cooling systems
- Energy efficiency of 24 KWh per train kilometre (equivalent of 55g CO₂ per passenger kilometre)
- Compliance with the latest international safety standards for trains running in tunnels
- Continuous updating of passenger journey information
- Integration with Platform Screen Doors at the central section stations