



EEH briefing note: Network Rail Chiltern Strategic Advice summary

As owner and operator of the bulk of Britain's railway infrastructure, Network Rail (NR) are obliged to develop a long-term strategy for the railway network such that it can accommodate future demand and meet HM Government priorities across both passenger and freight services.

NR have recently been working on an updated long-term strategy for the area of the network broadly covered by Chiltern Railways services, focussing on the Chiltern Main Line. The report has now been completed and is awaiting publication pending HM Government approval. It addresses three key themes:

1. Meeting forecast passenger and freight demand;
2. Rolling stock replacement;
3. Transformational connectivity.

A brief precis of these themes is set out below – further detail on the report and its outputs will be available upon its publication by NR.

Meeting forecast passenger and freight demand

The report includes details on all known forecast housing growth and other trip attractors covered by the network geography. Together with forecasts based on existing passenger data, this has been used to determine likely uplifts in capacity needed to accommodate future demand.

In order to accommodate passenger demand, a combination of the following is envisaged: more services, longer trains and faster journey times. A high-level assessment of the infrastructure interventions needed to unlock these improvements is included in the report.

Analysis of freight demand is also undertaken, particularly in the context of the HM Government mandated target of 75% rail freight growth by 2050. The report pays particular attention to the proposed new strategic rail freight interchange (SRFI) near Ardley, Oxfordshire and how it could be accommodated in the event that it secures planning consent.

Rolling stock replacement

The Chiltern Railways fleet is the oldest in the country compared to other train operators (average age of 32 years as of March 2025). It is also entirely based on diesel operation, with the London Marylebone now the only London terminus to be entirely served by diesel-powered rolling stock.

The report addresses the impending need to replace this life-expired rolling stock alongside consideration of the roles it can play in: a) meeting future demand noted above and, b) supporting decarbonisation of the railway in line with HM Government policy.

The study specifies the operation of longer trains than those on the network today to increase capacity. Different rolling stock length options are assessed with the objective of striking the best balance possible between flexibility in fleet deployment and the scale of infrastructure interventions needed to accommodate trains of different lengths.

Critically, the study proposes the operation of an electrified fleet for Chiltern Railways services. It advocates for the delivery of discontinuous overhead line electrification (OLE) with a fleet of battery-electric multiple units (BEMUs). Limited sections of OLE power trains and charge their onboard batteries, which in turn are used to power the train along sections of route with no OLE. This would enable full OLE to be delivered in the future. This approach is also one being taken forward by EWR Co as part of its electrification proposals for future Oxford-Cambridge services.

This will see all the benefits of electrified traction brought to the Chiltern Railways network for the first time – faster, quieter and more reliable journeys.

Transformational connectivity

New and expanded infrastructure could unlock more services and new connections – the report details the interventions involved alongside the opportunities they unlock.

A new station in Ardley, Oxfordshire has long been proposed and is included in Oxfordshire County Council's OxRail 2040: Plan for Rail strategy. The report confirms that proposed services can accommodate calls at a new station in Ardley, subject to funding and approvals being secured for its delivery.

Beyond Ardley station, the report focuses on realising several key components of the Northampton – Old Oak Common (OOC) corridor, including:

- Upgrades between Aylesbury and Claydon West Junction, connecting Aylesbury to EWR – this is a key component of the Aylesbury Rail Link (the report does not consider wider interventions on the West Coast Main Line needed to unlock services between Aylesbury and Milton Keynes);
- Upgrades on the Princes Risborough – Aylesbury line;
- Interventions on the Chiltern Main Line to facilitate access to the Acton-Northolt line and OOC station.

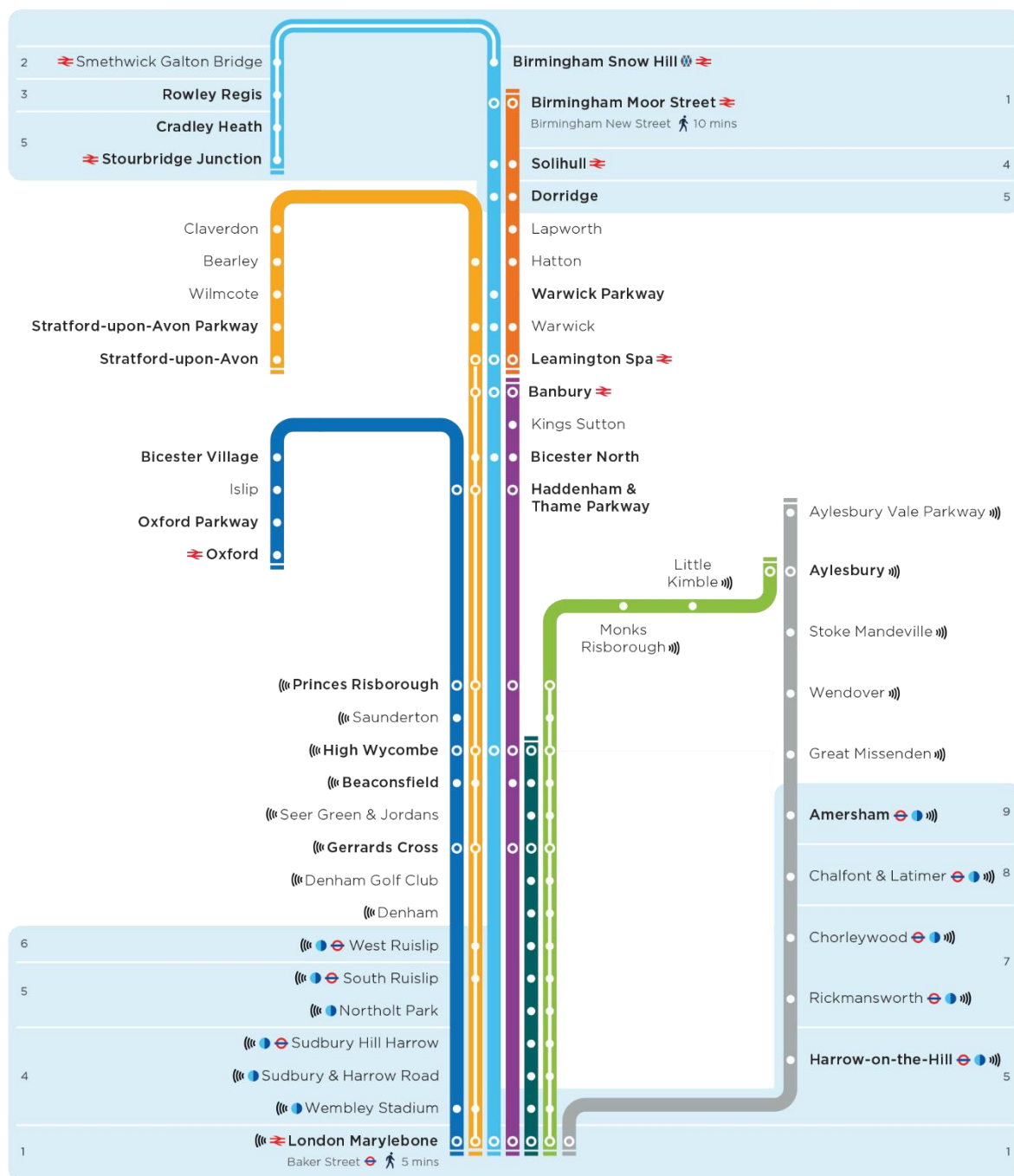
With delivery of these interventions, many destinations across the Chiltern Railways network would enjoy direct services to OOC, where they will be able to access Elizabeth line and HS2 services.

The report includes two 'train service specifications' envisaging what future service frequencies and calling patterns would look like, one including the transformational connectivity interventions and the other without.

Next steps

Following Government approval, NR will publish the report on its website. It will form the strategic blueprint for future development of the Chiltern network and be a key input for GBR as it formally takes on stewardship of the railways in 2027.

EEH will work with NR/GBR and Local Authority partners to make the case for funding to be allocated to further development of the interventions set out in the report, such that thorough, robust cases can be made in support of their full delivery.



London Travelcard Zones

- Typical calling points on this line. Check timetable for details
- Stations recommended for connections between lines
- ⊕ London Underground interchange
- ⊞ Midland Metro interchange
- ⊡ National Rail interchange
- ◆ Oyster
- ⊕ Pay as you go with contactless

- London Marylebone to Oxford
- Leamington Spa to Stratford-upon-Avon
- London Marylebone to Birmingham
- London Marylebone to Banbury
- Leamington Spa to Birmingham
- London Marylebone to High Wycombe
- Princes Risborough to Aylesbury
- London Marylebone to Aylesbury via Amersham
- Limited service route

Chilternrailways

Not all trains call at all stations shown.