



West Coast Route Modernisation



Project

West Coast Route Modernisation

Client

UK Department for Transport (DfT)

Location

London-Birmingham-Manchester-
Glasgow-Edinburgh, UK

Start Date

1998

End Date

2009

Duration

130 months

Contract Value

£8.764 bn

Services Provided

Whole railway upgrade, railway performance & whole life cost analysis, systems integration, programme management, business cases including cost benefit analysis

Background

The West Coast Main Line (WCML) was originally built as a series of individual lines in the 1800s, which became one of Europe's busiest mixed traffic rail corridors. It links London with the Midlands, North Wales (with onwards to Ireland), the North West and Scotland.

There are more than 2,500 train movements each day, catering for over 75 million passenger journeys per year. As well as long-distance services to Birmingham, Chester, Liverpool, Manchester and Glasgow, there are commuter services into each of the cities and into London Euston.

During the 1960s, overhead electrification was installed; re-signalling was carried out and new stations were built. The line-speed was 100mph and a new fleet of electric locomotives was deployed.

Although the route line speed had been increased to 110 mph, the infrastructure was in urgent need of major renewal and additional capacity by the 1990s. The West Coast Mainline compared poorly in terms of performance and capacity with newly electrified 125mph East Coast, and the 125mph Great Western routes.



Scope of Works

The West Coast Route Modernisation project upgraded:

- ▶ 430 miles of track
- ▶ 2149 signals
- ▶ 13 major junctions
- ▶ 837 switches and crossings
- ▶ 56 platforms
- ▶ 179 bridges
- ▶ 77 level crossings
- ▶ 64 Solid State Interlockings.

In addition, the following key projects were delivered:

- ▶ re-modelling Proof House Junction in Birmingham
- ▶ renewing & re-modelling signalling, track, overhead line electrification (OLE) and power systems in Rugby
- ▶ increase from 2 to 4 tracks in the Trent valley.

Key Project Outputs

Long-distance journey times have been reduced by 20%, including:

- ▶ London – Manchester from 2 hours 41 minutes to 2 hours 4 minutes
- ▶ London – Liverpool from 2 hours 53 minutes to 2 hours 5 minutes
- ▶ London – Birmingham from 1 hour 43 minutes to 1 hour 23 minutes
- ▶ London – Glasgow from 5 hours 35 minutes to 4 hours 10 minutes.

Capacity:

There are now 295 long distance passenger trains each week (an increase of 80), increased commuter services and capacity for up to 60% more freight paths.

- ▶ London – Birmingham: from 2 service per hours to 3
- ▶ London – Manchester from 1 service per hour to 3.

Increased total daily arrival and departures between London and:

- ▶ Preston/Scotland from 33 to 41 (124% increase)
- ▶ Birmingham/Wolverhampton 66 to 99 (150% increase)
- ▶ Manchester 34 to 93 (274% increase)
- ▶ Liverpool 29 to 35 (121% increase)
- ▶ North Wales/Holyhead 6 to 27 (450% increase)
- ▶ Non-Inter City: 165 to 216 (131% increase).

Safety has been improved by:

- ▶ removing level crossings
- ▶ installing TPWS system
- ▶ providing for overspeed controls for Pendolino and Voyager train through TASS
- ▶ preventing trains exceeding set limits by supervising train speed automatically.