

Carstairs Junction upgrade is key to modernising West Coast Main Line

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Network Rail has completed the installation of 121 new overhead electrification structures as part of the wider project to upgrade and remodel Carstairs Junction.

This is part of a phased programme of investment in the key junction on the West Coast Main Line which will simplify and upgrade the track-layout to clear an existing bottleneck on the network and enable the separation of non-stop passenger and freight trains from those stopping at the station.

Jim McCleary, programme manager at Network Rail said: “We’re now gearing up for the final construction of the new track layout, which includes 10 kilometres of track and 27 new sets of switches and crossings, which allow trains to move between tracks.

“One of the main challenges on the project is the integration of the different teams working on site given the sheer volume of activity happening within the limited work window that we have on Saturday nights.

“Access to the railway at this critical junction is very limited, but the team has worked hard with the wider industry to balance the needs of train operators with the longer-term benefits that will come from

modernising the track, signalling and overhead line equipment.”

Work to date at Carstairs represents an investment of more than £100m in the junction to rationalise and simplify the track layout and modernise the signalling through one of the most critical sections of the Scottish rail network.

The installation of new sections of track and modern signalling will also speed up journeys between Glasgow and Edinburgh and will accommodate the longest freight trains on our network.

Over the last 18 months teams from industry partners Siemens, Rail Systems Alliance and SPL Powerlines have been carrying out heavy engineering on the railway embankments through the junction, as well as installing the new overhead line masts and signalling system.

Despite being largely restricted to Saturday nights, the project has already delivered more than 3km of track renewals and 1.5km of drainage, installed the new structures, and started the process of removing some of the redundant equipment.

Much of the equipment through the area is nearing the end of its operational life-span and the layout of the junction is no longer suited to the needs of today’s railway in terms of supporting the pattern and volumes of service.

Extensive renewal and simplification of the layout was seen as the best long-term solution to deliver the reliable and resilient network needed at this key junction.

The next phase of work in 2023 will see the addition of another 4km of new drainage, further embankment work and will complete the installation of 10km of new track to create a faster, more flexible and more easily maintained layout.

Carstairs junction sits 26 miles to the South-East of Glasgow on the West Coast Main Line. The triangular junction provides a route between Glasgow & Edinburgh and both Glasgow and Edinburgh to the south.

More than 200 services pass through the junction on an average midweek day with 12 train and freight operators regularly using the route. The Caledonian Sleeper Lowlander service splits and joins in this location both morning and night for Glasgow and Edinburgh for Euston services.