

Smart design at Feltham safely delivers step free access and closure of a dangerous level crossing as part of the platform extensions for 10 car trains between London and Reading.



Case Study

Rail– Feltham Station– AfA and platform extension

PROJECT	Feltham Station Combined Scheme
CUSTOMER	Network Rail
LOCATION	Wessex Route
CONTRACT	IP Southern SMD Framework
COMPLETION	2020





Need

Feltham Station is an example of how step free access can be integrated into a wider station and urban improvement.

In this case major enabling works were needed to extend platforms for new 10 car trains. A new step free footbridge, a ramped station entrance, diversion of a major water main and closure of a dangerous level crossing were all part of the complex scheme.

The station's location in the busy town centre and on the Heathrow/London link was a key consideration. The priority had to be on keeping passengers, trains, pedestrians, and vehicles moving safely through and around the station.

Adding to the complexity was the shared responsibility between Network Rail (NR), London Borough of Hounslow (LBOH) and Thames Water (TW) and their individual supply partners. Creativity, flexibility and close working relationships were critical to overcome the difficult logistics and interfaces posed by the scheme.

Solution

Smart Design

Construction starts with smart design, which considers modern techniques to improve planning and reduce disruption.

Reconfiguration of the station approach and closure of the dangerous level crossing made room for the platform extension. The aged 'Exmouth' bridge became redundant saving cost.

A second crossing connecting the local shopping mall was replaced with a code compliant steel bridge. The use of gentle sloping ramps eliminated the need for lifts and future lifetime lift maintenance costs.

Off-site fabrication

Rail possessions and tight urban spaces lend themselves to off-site fabrication and pre-assembly. The impressive list at Feltham included the temporary and permanent footbridges, the pre-cast abutments, the retaining walls and the ramp and platform components.

Logistics benefitted further from the use of rail mounted equipment in particular a rail crane. Another lesson learnt for future schemes in congested areas.

Outcome

Flexibility and creativity have enabled Network Rail and LBoH to surmount the challenges and manage the intricate relationships. As a result:

- Every possession milestone was met, and the railway handed back into operation on time without incident.
- A dangerous level crossing has been permanently closed and traffic safely re-routed.
- There is now a safe and effective step free access to the platforms and to the nearby shopping centre. Sustainably, the redundant steel bridge was stored for reuse by Network Rail.
- Train services connecting London and Heathrow operated safely throughout the project.

Most importantly, disruption has been controlled and the station improvements, step free access and platform extensions were completed as planned in November 2020.

Ten car trains are now operating on the route and a dangerous level crossing has been permanently closed.