



# 'STEELING' THE HEADLINES AT COVENTRY STATION



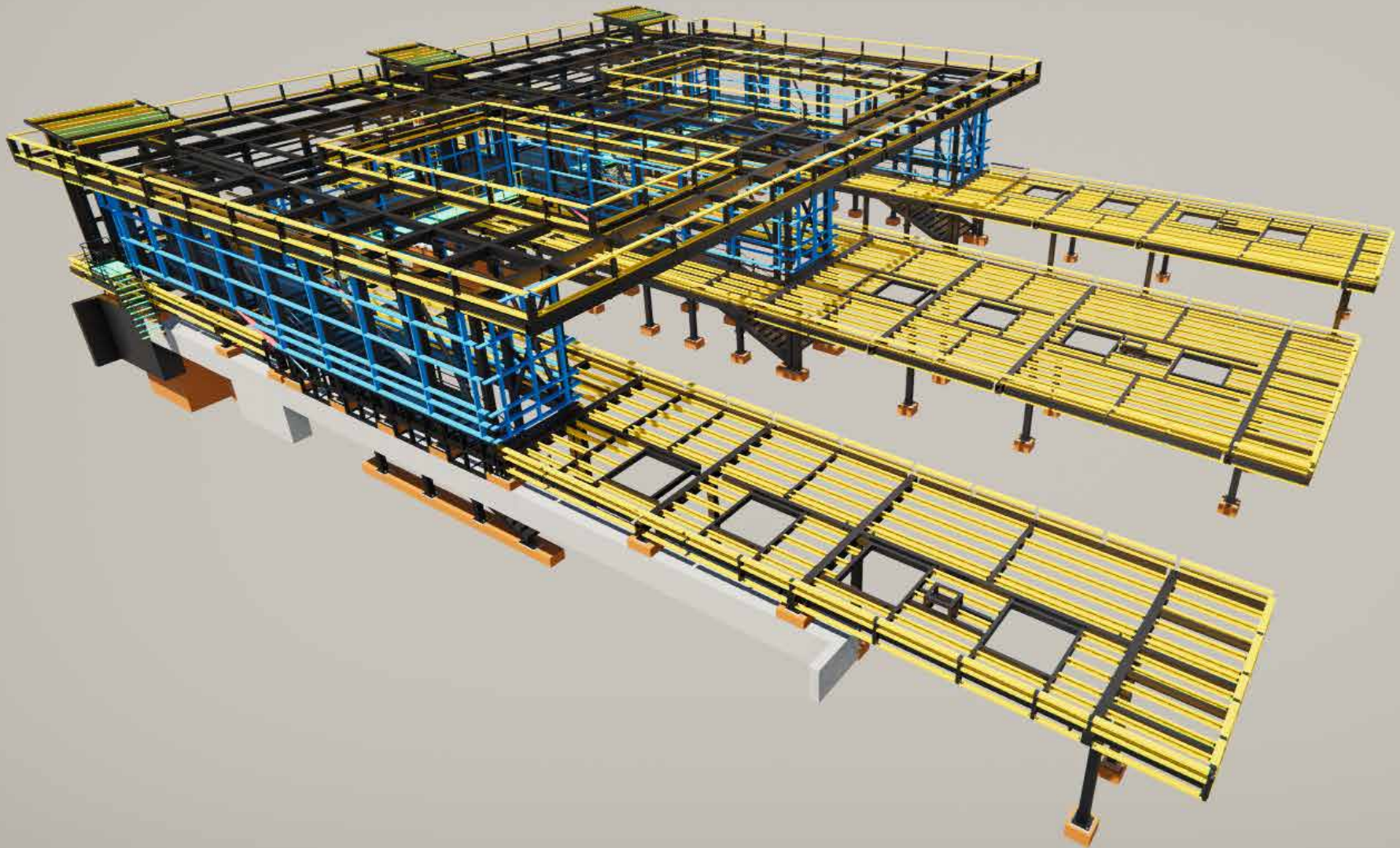


Illustration of the new Coventry Station's structural steelwork by Structural Fabrications Ltd



## PROJECT OVERVIEW

In March 2022, an **£82 million transformation of Coventry Railway Station** was completed, bringing vastly improved facilities for passengers and visitors.

The new station's structural steelwork was delivered by Structural Fabrications Ltd, a leading national specialist metalwork solutions provider with an outstanding track record of delivering station upgrades for the rail industry.

Installing the station's structural steelwork involved meticulous attention to detail, with the architect requiring a smooth connection with zero tolerance rather than the traditional flange to flange connection.

The work from Structural Fabrications Ltd for Principal Contractor Buckingham Contracting Ltd supported the delivery of a state of the art new-look station building complete with a distinctive entrance including public art for the city of Coventry.

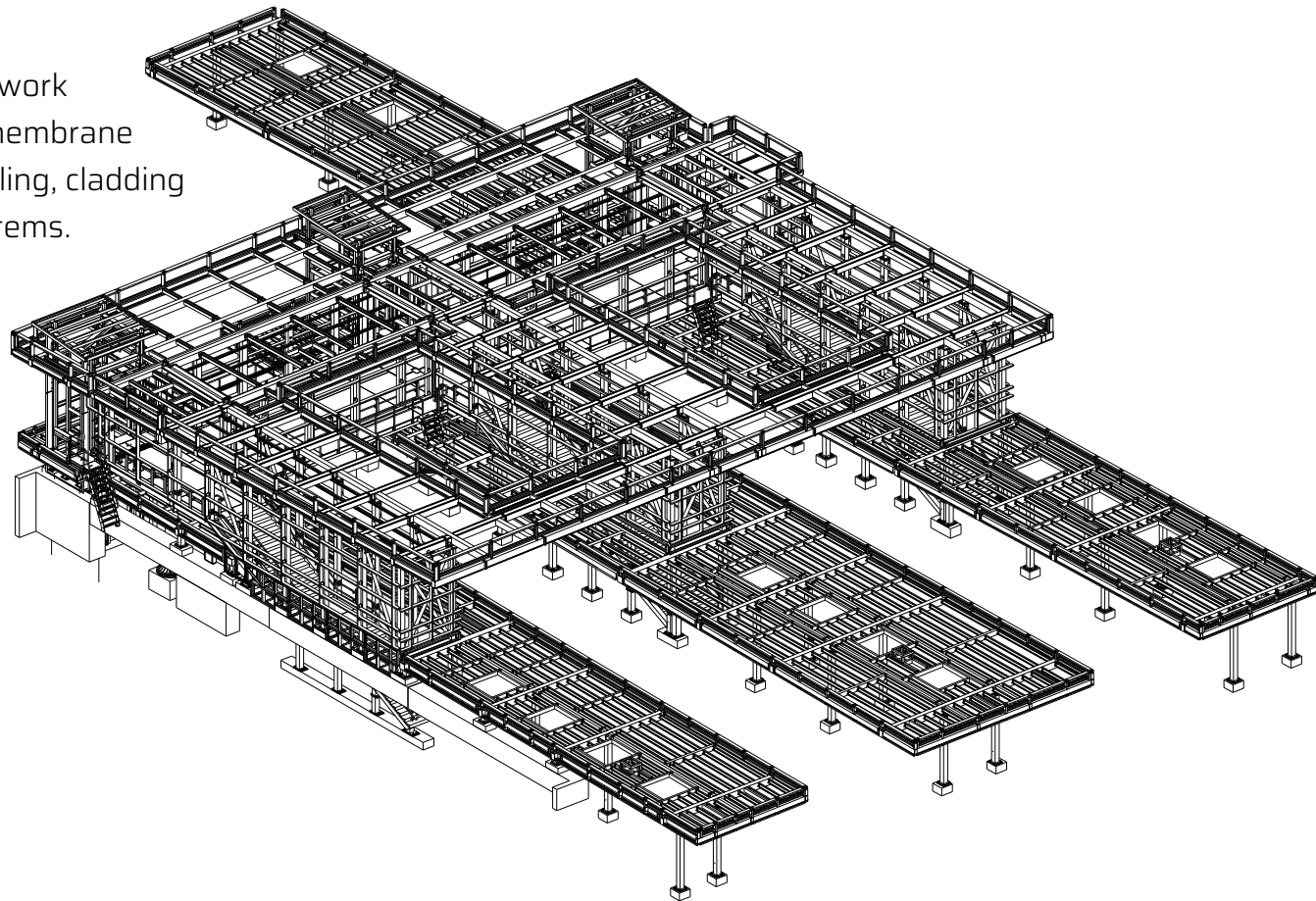
The overall scheme was delivered by Avanti West Coast in conjunction with Coventry City Council, Network Rail, Transport for West Midlands, Friargate JV Project Ltd and other key stakeholders, to coincide with the 60-year anniversary of the opening of the existing Grade II listed station.



## PUTTING THE **PEDAL TO THE METAL**

Due to the sheer size and complexity of the build, the project's steelwork requirements increased from the original scope to over 400 tonnes, meaning Structural Fabrication Ltd's (SFL) project team was required to undertake various builds within the package of works.

The team installed the station's main steelwork along with secondary steelwork, single ply membrane roofing, safety line installation, curtain walling, cladding and fascia, RWP and other miscellaneous items.



## HEAVY LIFTING AND **NERVES OF STEEL**

The new station footbridge was installed in sections on-site using one of the biggest mobile cranes in the country. The works also involved lifting the main stair complex roof section by crane in a single 17-tonne lift, with the single heaviest section being 32-tonne.

The SFL team was tasked by Buckingham Group to install steelwork and ancillary items on the rail network which helped to reduce working times and the requirement for working during possessions and isolations. This helped minimise disruption to the rail network.

The project team designed, manufactured and installed working platforms to each stair to ensure the platforms could be installed and dismantled within the stair framework. The bespoke designed platforms remained in place until all the main stair structures were built including M&E. Handrail sections were produced so they could be removed and installed in sections as required, while still offering safe access.



The station's footbridge and stairs were installed using one of the biggest mobile cranes in the country



## NO ROOM FOR ERROR

A connection detail was required that allowed the steelwork to have a smooth connection rather than the standard flange to flange connection, which would have looked unsightly and impossible to build/glaze within the current design concept. A design was agreed and moved forward taking into consideration the nature of steelwork and tolerance of mill rolling. This required the project team to build the steelwork and ensure all connections were meticulously checked and built at one of Structural Fabrications' fabrication shops at its headquarters in Derby, also taking into account painting build up for the site installation.



The total number of 'hidden connections' within the structure came to 62, or 1,584 CSK fixings.



The final connections gave Structural Fabrications no room for error, using 24 and 32 CSK's within each connection into a welded nut, which equates to zero tolerance.

# PROJECT SCOPE

Structural Fabrications delivered the following services at the new Coventry Station:



Development of the new station design



Site surveying



2D drawing and 3D modelling production



Procurement of materials



Steel fabrication of walkway, steps and canopies



Steel fabrication of footbridges, staircases, liftshafts and main roofs



Cladding to all lift shafts



Waterproofing to all roofs



Supply and installation of fascia panels to lift shaft roofs, upper & lower canopies



Steel for the station's new stairways was fabricated at SFL's headquarters in Derby



## FROM CONCEPT TO **COMPLETION**

Recognising there is no 'one size fits all' solution for station upgrades, Structural Fabrications adopted a 'whole lifecycle' approach to Coventry Station, taking it from initial design and modelling to fabrication and installation, making the client's vision a reality. The end result was a modern and accessible new station equipped to meet the needs of Coventry's residents, visitors and businesses.



Illustration of the new Coventry Station's cladding by Structural Fabrications Ltd



Roof membrane build



Main roof build



Completed station build



## A WORD FROM STRUCTURAL FABRICATION'S 'MAN OF STEEL', SUJ KANG



SFL managing director, Suj Kang

“The Coventry Station transformation was a prestigious project for us to be involved and we’re thrilled to have helped deliver such a transformational scheme.

“We were involved in various builds through the project, working closely with our partners at Buckingham Group, Network Rail and other stakeholders to deliver a complete steelwork solution.

“The footbridge installation was a complex operation, where we used one of the UK’s largest mobile cranes to install the bridge in sections. Despite the challenging nature of the works, our team delivered all aspects of the work meticulously and to programme, ensuring the station could be completed on time and within budget.

“Buckingham Group has worked with SFL for more than 10 years and chose to work with us on the Coventry Station redevelopment again for our vast knowledge and expertise of fabrication and installation of complex metalwork structures. We are proud to have helped deliver this scheme and demonstrated our capabilities for works in the rail sector.”

## A GATEWAY TO **COVENTRY**

Following the project's completion, the transformed station now includes:

- A second footbridge connecting all four platforms via stairs and lifts and extended platform canopies
- A second station entrance building, with entry points from Station Square and Warwick Road
- A new access tunnel via the transport interchange under Warwick Road providing step-free access to platforms
- A 633-space multi-storey car park on top of the new station building

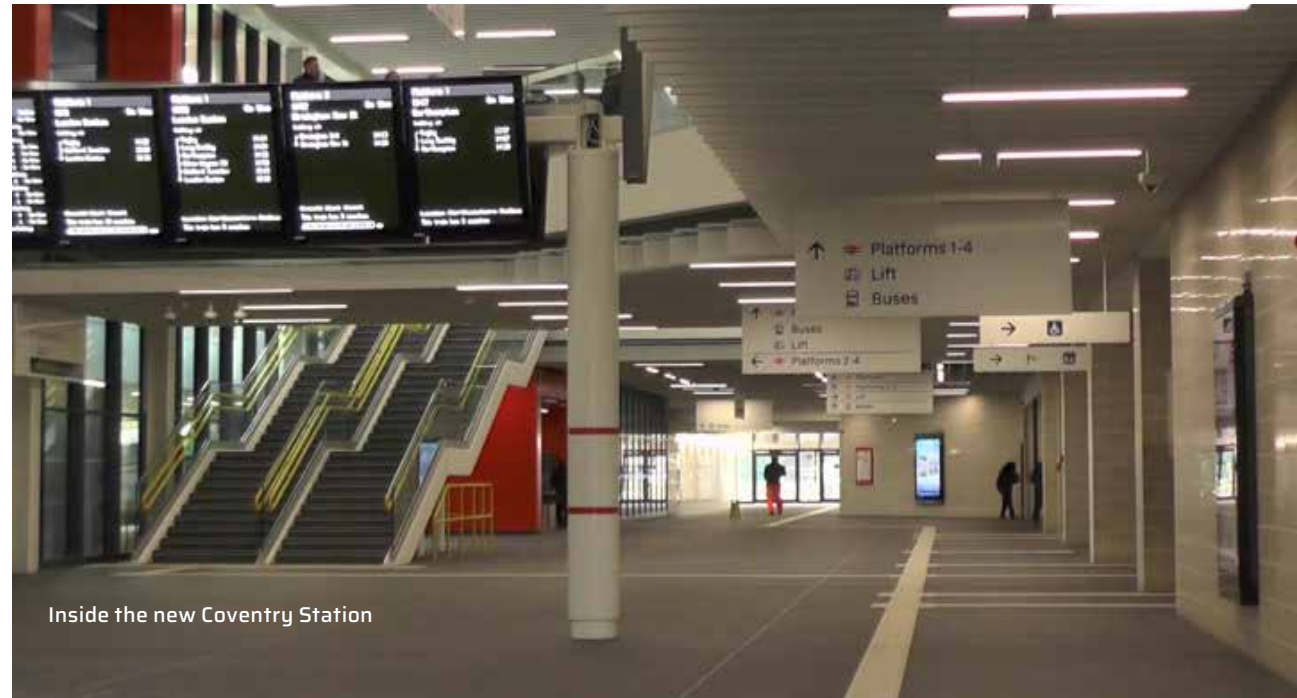
Thanks to SFL's support, the new station was successfully designed, surveyed, modelled and all steelwork fabricated and installed to specification within budget and to the agreed timescales of the client. The existing station remained operational throughout the works, with a highly coordinated phased project plan implemented.





## AN IMPRESSIVE GROWING **RAIL PORTFOLIO**

The SFL team was praised for its professionalism throughout the works and its scrupulous approach to the connection detail required for the steelwork during fabrication and installation. The project is another proud addition to Structural Fabrication Ltd's growing rail portfolio, which also includes a complete upgrade at West Hampstead Station, full steelwork build at Kidderminster Station and the design, fabrication and installation of a new access pipe bridge and canopy at Cadder Station, among others.



Inside the new Coventry Station

# COVENTRY STATION IN NUMBERS

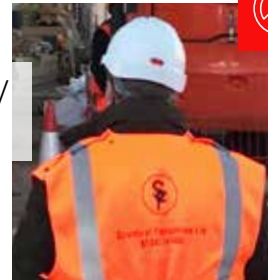


24,000

Number of man hours (approx.) spent on the project

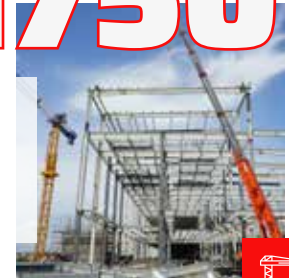
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Total RIDDORS/  
Close calls



1750

Model crane used to install steelwork



400

Tonnes of steel fabricated at workshop in Derby



£82m

New station project supported with steelwork from SFL





The project has created a fitting gateway to the city of Coventry





## FEEDBACK

“It is great to see the railway station open after all the hard work which has gone into its development. It is a fitting gateway for the city and I am pleased we have been able to play our part in making it happen.” -

**Andy Street, the Mayor of the West Midlands and chair of the WMCA**



**West Midlands  
Combined Authority**

“The new look station will transform the experience of customers heading to the city by rail. I’ve been watching excitedly as the new station has taken shape and I can’t wait to see the reaction of our passengers when they arrive at Coventry. We look forward to welcoming more visitors to the city in the coming months.” -

**Natasha Grice, executive director stations at Avanti West Coast**

**AVANTI**   
WEST COAST