

A low-angle photograph of the London Bridge Station building, showing its curved, ribbed roof and a series of vertical glass panels. The sky is a clear, bright blue.

# LONDON BRIDGE STATION

**The upgrade work at London Bridge Station is now complete. It is part of Network Rail's £7bn Thameslink Programme and one of the most complex and ambitious rail station redevelopments in the UK to date. As the fourth busiest station in the country, increased capacity has been provided by creating new platforms for more trains, building a new concourse, and developing a bigger and better station for passengers. Crucially, as a key part of the rail network it was not possible to close the whole station. This meant that the £1bn upgrade plan had to be undertaken while the station continued to handle up to 54 million passenger journeys a year.**

London Bridge differs from many other major London stations in that it acts as both a terminus and a 'through station' to central London. This meant that to increase capacity and alleviate bottlenecks as trains come into and pass through the station, the team needed to completely reconfigure the track layout, designing a safe change from six through and nine terminus platforms to nine through and six terminus, without causing major disruption to passengers.

This was achieved via the phased demolition of the old platforms and the arches below. Working progressively from south to north, platforms were brought back into use on a staged basis, each one coming into service before the next stage of works commenced. Work also included

the creation of a brand new street-level concourse, allowing passengers to access for the first time all 15 platforms from one place. Now open, the concourse is two-thirds larger than before, forming an area the size of the pitch at Wembley stadium.

Retail was an important part of the design, with the layout of the station configured to allow for up to 70,000 sq. ft. of retail space. This has been focused in the 'unpaid' sections of the station, helping it to become a destination for the local area as well as for passengers passing through. It is expected that the transformation of this essential station will act as a catalyst for the wider redevelopment of the area, not only enhancing the experience of passengers, but also highlighting the wider value inherent in transport and associated infrastructure.

Bringing the redevelopment plans at London Bridge to life required a considered design that not only accommodated a significant increase in passenger numbers, but also acknowledged the station's iconic status as a key transport hub, both in scale and in its unique heritage location. Stainer St (through the middle of the station) has been pedestrianised creating a new link from north to south. Previously the station cut one side off from the other.

This meant that some elements of London Bridge were maintained, or refurbished. For example, in the Western Arcade the quadripartite arches were seen as a grand feature of the old station but their capacity was limited. They were rebuilt

to a similar design, but with modern construction methods to ensure they would support modern train loads.

To meet the requirements of the planning authority, the design incorporates an iconic and futuristic looking roof formed of sculpted canopies. MEP plant was also hidden in a specially designed MEP spine within the station. There were significant challenges in delivering the phased construction within the available blockades. These were solved by the whole team using an innovative modular canopy and precast platform solution; components were constructed off site and assembled quickly on site allowing the ambitious construction programme to be achieved successfully. New assets had to be fully commissioned and in operation before the next phase could start.

Arcadis WSP - a 50:50 joint venture - is the lead design organisation for the project. Throughout the redevelopment, the entire team has been co-located in one office next to the station, with the design team peaking at over 240 full time equivalent staff.

The redeveloped London Bridge station will allow for a significant improvement in train frequency, along with greatly improved facilities and space for 96 million passengers per year. At peak times, the new timetable will accommodate around 24 trains per hour. There will also be more trains to more destinations, including a connection to Crossrail services at Farringdon, providing links across and beyond London in all directions.

## Outcomes



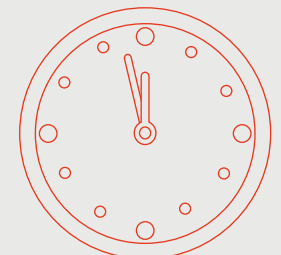
### £1bn

station redevelopment



### 78%

increase in passenger capacity



### 24 trains

per hour at peak times

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