



# New dawn for New Street

Almost 12 months after the opening of Birmingham's redesigned New Street Station, *Simon Dale* takes a look at the lasting legacy of this major infrastructure project.

It is almost exactly a year since the iconic £776m redesign of Birmingham New Street Station was officially opened by the Queen. The re-purposed concourse, flooded with daylight from its vast and brand new signature atrium, became an instant hit with the hundreds of thousands of passengers who use New Street every day. The immediate reaction from the public was all the more significant because only 18 months previously, New Street had been named "Britain's worst passenger station" by industry watchdogs Transport Focus, after a survey revealed it had the lowest satisfaction levels among UK passengers.

Since it was last rebuilt in the 1960s, New Street, the busiest railway station in Britain outside of London, had outgrown its outdated building, creating a dismal first impression of Birmingham as the second city's main gateway. The old station had been designed to cater for 650 trains and 60,000 passengers per day.

Just before Mace began the re-construction in 2011, New Street received more than 1,350 trains a day and had a

regular flow of 130,000 daily passengers, however, this could reach a peak of 250,000 during events such as the Cheltenham Festival and Christmas markets making closures and overcrowding on safety grounds more prevalent.

The UK's second city deserved better. Whilst New Street desperately needed a face lift, if it was to provide any lasting regeneration for Birmingham it also needed open heart surgery to improve train and passenger flow, as well as a complete internal reorganisation in order to attract shoppers to a flagship city development.

While legacy is an oft-repeated mantra these days, if infrastructure is to provide any widespread and lasting benefit for society it is crucial that it is engineered with the end goals in mind. For New Street these were:

- Community buy-in – gaining the backing of local residents and businesses with New Street to be the spur for a much wider regeneration of a core area of Birmingham city centre;
- Efficiency and innovation – pioneering new demolition and construction techniques in order to deliver a complex redevelopment on time and in budget;
- Employment – providing a legacy for the workforce and the SMEs working on the project including setting and exceeding targets for the recruitment of local apprentices.

#### Community buy-in

With such high levels of criticism already directed at this inner city development,

there came equally high levels of expectation. There was also an inevitably about the station's redevelopment. With the need to keep disruption at an absolute minimum during the day, much of the heavy demolition work had to be carried out at night. To make a success of a major infrastructure development it is vitally important to have the buy-in and trust of the local community. As such a significant amount of community and stakeholder engagement took place prior to both demolition and construction, with the consultation of nearby residential properties, two large hotels, and almost 70 businesses.

Building trust with the local business and residential community was key to the success of this.

Holding regular face-to-face meetings in the on-site offices meant residents and businesses could find out exactly what would be happening over the course of the next three to six months and beyond. At the Arcade opposite the station were retail properties, shops and a hotel. We would meet with many of these stakeholders regularly and provide daily updates if required. If the nearby hotels were fully booked for major events, sometimes one or two night stoppages had to be planned into the build schedule to ensure these businesses continued to thrive during a four-year build programme.

On other occasions the hotels would accommodate our work by moving guests to the back so that we could continue without complaints. Lorry movements in the city centre, particularly at night, were kept to an absolute minimum by opening up a local sidings which meant a Mace project train could bring building material in and out by rail.

Of course residents and businesses also had to be told bad news – for instance that health and safety tests, smoke alarms and fire alarms being tested would be done at night. By communicating exactly when and how long a particular piece of work would last, people were more accepting of it, as long as they knew when the work was taking place so they could organise their lives around it.

#### Efficiency and innovation

Prior to beginning the works, Mace set up noise monitoring stations on local buildings which were designed to notify key members of the construction team if levels went beyond those that the city's environmental department had set. On any occasions where monitors were triggered, Mace could then respond within 10-15 minutes. Mace also hired a sound engineer to design acoustic walls which sat behind the assigned demolition area, further reducing the noise output.

The team devised an innovative way of using enclosed tunnels to work around the daily flow of passengers. This was done by creating a modular tunnel on wheels which could take the impact of falling debris and materials. It incorporated AV screens and had a plug and play system to direct the station's main tannoy announcements. This meant that 180m of tunnels and walkways could be easily jacked up and moved along at any time whilst passengers had an impression they were still walking through a station rather than a building site.

Even with the most robust plans in place, there are always surprises. The discovery of a huge amount of asbestos at New Street during the second phase of development put our programme into delay. In total 60,000 hours were spent

removing the asbestos at a cost of £40m.

We had already removed the original internal structures and existing retail level floors to create the new atrium before this became apparent. As a temporary solution we widened the beams out and put them on a hover track system but as this was quite slow so we looked to significantly reduce the time it took.

Working with the local company JCB, we developed a bespoke machine for the team. The adapted 360 excavator was designed to effectively munch around the beams with oversized jaws, using a remote control. It did this at a phenomenal pace. Even factoring in the setbacks, we managed to reduce the overall demolition process from 13 months, to five months and three weeks. As a result, Mace won a world demolition award for the work carried out in New Street's Atrium. The unique piece of demolition machinery is now used by Colmans and JCB across projects where they have similar constraints.

#### Employment and overall legacy

Working with Birmingham City Council's Employment Access Team and Network Rail, we had set a target of placing 100 apprentices onto the New Street project through the supply chain. The 42 contract partners on the scheme together with Birmingham College, signed a pledge to

take on local apprentices. We had appointed exactly 124 apprentices by the end of the scheme. Most of the apprentices have now gone on to work in the industry, whilst all 12 apprentices who were appointed by Mace are still working with the business on new projects.

A year on from the launch, Mace and the many construction partners involved in New Street's redevelopment are still receiving praise from business leaders and passengers. Members of the public can still be seen taking pictures of their reflections at the station's main entrance while more importantly, people now come to the station to meet and use the new facilities. The creation of the new Grand Central retail centre has rejuvenated shopping in the city. Now more than 6,000 retail jobs are supported by the Grand Central and neighbouring Bullring.

As a result, the city has moved from 12th to third in the national retail rankings and seen an 11% increase in its visitor economy. Now 88% of passengers who used the station between March and May 2016 were satisfied with their station experience, a rise of 23 percentage points from 65% two years ago.

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