

M32 Bus Only Junction, Bristol

Enhancing public transport provision in Bristol

£13m

/ Project value

April 2015

/ The project commenced

May 2017

/ The project was completed

As part of a package of measures to improve public transport provision in the Bristol North Fringe to Hengrove corridor, we successfully constructed a new bus only junction and southbound bus lane, including a 35m-span bridge over the existing M32 motorway. The £13m design and build project featured a 55% reduction in the closure duration of the M32 to facilitate the installation of the new bridge deck. Handed back nine hours ahead of schedule, this key arterial route into Bristol city centre accommodates approximately 80,000 vehicles per day. Highly commended in the 'Environmental Sustainability' category at the 2017 Highways England Awards, the scheme was praised for the redesign of the embankment approach to incorporate 5,000m³ of surplus material.

The Brief

A design and build contract (NEC3 Option A), South Gloucestershire Council appointed us to construct a new 35m span bridge over the existing M32 motorway in Bristol, new slip roads and 900m of bus lane works.



"A great example of what was envisaged when the Traffic Management Act was introduced. That is to say, all parties working together to coordinate works to understand and minimise disruption to the public,"

David Sledge
Highways England Area Performance
Manager

“Your team have done a fantastic job, and to do something along those lines would have been near impossible from our tiny budget,”

said a volunteer from The Haven
(a drugs and alcohol recovery project)

The challenges

The coordination of works to minimise traffic disruption to the public was a key challenge, particularly during the scheduled road closure of the M32 motorway with a window of opportunity between 8pm on Friday 10th June and 6am on Sunday 12th June. Increasing the level of complexity, two pairs of braced steel beams, each weighing just under 70t, and 36.26m in length, were lifted into position as part of our construction programme during this full road closure. As a sign of our efficiency, the works were completed nine hours ahead of schedule, with the road swept and traffic ready at 9pm on Saturday 11th June.

GRAHAM's solution

With no programme delays, disputes or health and safety issues, this highways sector project has delivered dedicated bus priority for Metrobus services, improved bus journey times and increased their reliability. A key component of the wider £200m Metrobus investment strategy, our works programme centred on the construction of a new M32 bus only junction and slip roads (a city centre on-slip road and country bound off-slip roads). The completion of a new composite bridge over the M32, engineered with structural steel beams and a reinforced deck, plus 900m of new bus lane works were also incorporated into the scheme. We developed a suite of added-value initiatives during construction of the M32 bridge, including a design change to eliminate wall construction, which resulted in circa £300k of savings to the Council. We also implemented a live deck pour, negating the need for road/lane closures.

Outputs & Benefits

- / **Reducing Environmental Impact:** We reconfigured the horizontal and vertical alignment of the off-slip approach road earthworks, ensuring there was a 'cut to fill' balance on the project. As a result of our design, surplus material was incorporated into the embankment and land made available, resulting in a saving of 6,863kg of CO² emissions
- / **Collaboration:** We collaborated closely with Skanska, Balfour Beatty (NRTS diversions) and Somerset and Avon Police to phase and plan the narrow lane running and motorway closures
- / **Digital Technology:** We were able to accurately run a range of construction scenarios using digital technology in order to choose the most effective demolition and construction sequences
- / **Community:** We completed two local community projects, donating 32 hours to help plan/construct a shed for The Haven (drugs and alcohol recovery project) and 130 hours to support minor works for the Easton Community Garden



For more information on how we're delivering lasting impact:

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