

M42 junction 6 scheme

Project newsletter
Winter 2022/2023



Welcome to the Winter 2022/23 edition of our M42 junction 6 improvement scheme newsletter. Here you will find all the latest news and updates from the project team.

We're currently two years into our five-year programme to address the traffic congestion and poor journey reliability around the M42 at junction 6. With this area almost reaching capacity, the junction has become a bottleneck causing delays and unreliable journey times. To address this, we're continuing to carry out a major upgrade which includes delivery of a new 2.4km dual carriageway link road (A4545) aligned to the west of Bickenhill. This will connect the A45 to the new junction (5a) on the M42 motorway, approximately 1.8km south of the

existing M42 junction 6 (Solihull).

National Highways Project Manager, Adam Gallis, says:

“We have made a fantastic amount of progress on the scheme in 2022 with the highlight being the successful installation of two bridges across the M42 which we completed over the course of one weekend in October. More recently we also celebrated the opening of a new pedestrian footbridge across the A45 which provides a safer and more accessible crossing point for pedestrians.

“As a scheme, safety is of paramount importance to us all and we were proud to conclude the year without a single lost time injury across our entire workforce. 2023 will be another busy year for the project and it is imperative for us to continue to conduct our works safely and in a manner which keeps the impact to the local community and road users as minimal as possible.”



Scheme aims and benefits

Our key aims and objectives for this scheme are to allow smoother, safer and more reliable journeys across this section of the road network. It will also act as a catalyst for future economic growth in the surrounding area, providing the extra capacity required to serve Birmingham Airport, the NEC and the soon to be built HS2 railway station.

We're improving biodiversity in the area and utilising innovative measures such as hydrotreated vegetable oil (HVO) fuel to reduce our carbon footprint. With support from the National Highways Designated Funds Programme, the project has also been able to deliver industry leading trials for a low carbon alternative to traditional concrete and steel reinforcement. With these initiatives, the scheme is and will continue to support National Highways' 'Road to Net Zero Carbon' and the

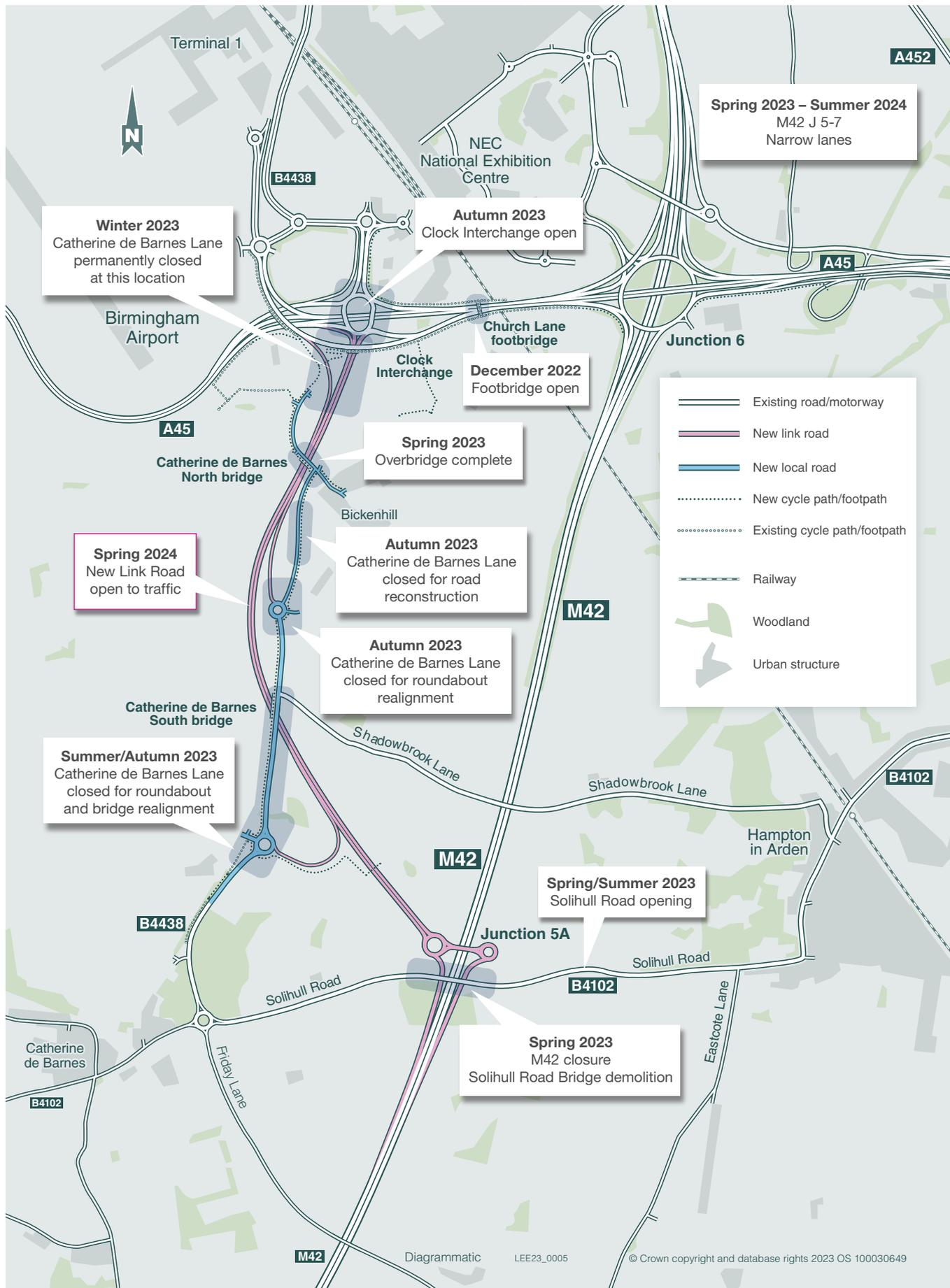
Government's 'Net Zero' strategies. Throughout 2023, there will be phased closures along sections of Catherine de Barnes Lane to allow the existing road to be aligned on to a new permanent route. This new road layout differs from the existing route with the addition of two new roundabouts and slip roads. Along this alignment, there will also be two new bridges which will span over the new A4545 link road.

Through the phased closures, the road will be realigned:

- over a new bridge in spring 2023
- to a new roundabout and over a new bridge in summer 2023
- to join a new roundabout in summer 2023
- connecting the north bridge to a new roundabout in autumn 2023

The final closure is at the northern end of Catherine de Barnes Lane and will take place in winter 2023. This is to complete a new airport link road which connects the new A4545 dual carriageway to Birmingham Airport. Once complete, Catherine de Barnes Lane will be permanently closed at this location.

Construction timeline



Please note that these items and dates are subject to change and that this information is for indicative purposes only

Project update

A major project milestone reached as two new bridges have been installed for new junction 5a

Scan this QR code

to watch time-lapse footage which shows the complex work involved in putting the new bridges into place.

www.youtube.com/watch?v=ARfbS_FVTgs



Works are progressing well and in October 2022 we installed two new bridges - weighing a total of 2,050 tonnes - into place over the M42. Skanska, the delivery integration partner responsible for building the project, worked closely with National Highways to plan this work carefully to keep disruption to a minimum. The project team were able to manoeuvre the bridges into place during

one weekend closure rather than over two, meaning less disruption for motorists. Safety is always paramount, especially with this type of complex operation, and we're pleased to see both structures now safely in place across the M42. We're also grateful to motorists for their patience whilst we carried out this step in our vital congestion-busting upgrade.



The two bridges are now safely in position over the M42

A45 footbridge is now open to the public

We reached another major milestone for the project by opening a new footbridge over the busy A45.

Located between Clock Interchange roundabout and junction 6 of the M42, the 94-tonne bridge spanning 62 metres was opened to the public in December 2022. Crossing the A45 will be much safer and easier for pedestrians and

cyclists by improving access from the villages of Bickenhill and Catherine de Barnes to the south, connecting residents to the NEC, Birmingham airport and railway station to the north, connecting them to Birmingham International Airport and railway station, the NEC, Trinity Park and other businesses to the north.



The new A45 footbridge



The footbridge being lifted into place

Clock roundabout single lane running

Clock Interchange is being upgraded as a part of the scheme and is a key junction connecting Birmingham Airport, the NEC and the A45. The upgrade involves increasing the capacity from two lanes to three as well as adding additional lanes on the connecting roads to the north and south. The works will take place in several phases and with traffic management switches throughout 2023.

In late 2022 we prepared for this work by setting up a temporary solar powered street lighting system allowing us to remove the existing lights which clash with our work. The first phase of traffic management has now been set up with several hundred metres of temporary vehicle restraint systems. This has reduced the junction to a single lane which will allow us to safely carry out the first phase of this work.



M42 Junction 6 Progress

Helping to achieve a better environment

Biodiversity net gain (BNG) is an approach to land management and development that aims to leave the natural environment in a measurably better state than it was beforehand.

BNG is calculated using the difference between the pre-development and post-development habitat area data. Typically, on a project like this we'll plant ten trees for every one we cut down. However we're restricted due to our close proximity to the airport flight path which may increase the risk of bird strikes to aircraft.

As a result, we've had to be innovative in our approach to achieving our aims of a biodiversity net gain. We optimised the landscaping design to include species-rich native grasslands and looked to retain as

much vegetation as possible.

During the design stage we were able to move the position of a road by ten metres in order to reduce the amount of vegetation that would be removed. In other areas of construction where we could not alter the alignment, we've been able to relocate ancient woodland and grassland to new donor locations during the dormant season. With a high biodiversity value of over 400 years of bioaccumulation and nutrients in the soil, we are happy to report that all species had survived the relocation. We've also installed permanent bird and bat boxes across our site for local wildlife. As a result we're achieving a positive biodiversity net gain across the whole M42 junction 6 improvement scheme.

Our carbon cutting initiatives

From heating our homes to filling up our cars, burning fossil fuels releases greenhouse gases that increase global temperatures and we're already seeing the effects here in the UK. But the good news is that there is still a clear path forward. In October 2021, the government set out the Net Zero Strategy: Build Back Greener. As a direct response to this, we have aligned our strategy to ensure that we put roads at the heart of Britain's net zero future.

National Highways are one of the UK's largest buyers of construction materials, used to keep our road network in good condition and ready for the future. We have a significant opportunity to change Britain's construction industry and deliver the Committee on Climate Change's commitment to decarbonise construction by 2040.

Working hand in hand with this strategy, Skanska and National Highways are trialling the use of several carbon cutting initiatives

such as low carbon concrete alternatives and hydrogen cell fuels. We're working to not only drive down our carbon footprint and achieve our net-zero targets but also improve productivity, safety and cost outcomes. We're reducing our carbon footprint further by using environmental innovations such as solar powered lighting columns, low carbon concrete and steel alternatives and electric vehicles on site. One of the biggest innovations has been the use of hydrotreated vegetable oil (HVO) fuel in our construction vehicles. It is made from 100% renewable waste, residues and vegetable oils. On this scheme we use 90,000 litres a month! The embodied carbon within hydrotreated vegetable oil is 90% lower than traditional diesel vehicles and burns cleaner, reducing exhaust emissions and our carbon footprint.

Carbon reducing trials taking place on the scheme

The project team have been trialling new ground-breaking technologies on the scheme that could be game changers for other National Highways road projects and the construction and highways industries as a whole.



Hydrogen fuel cell

The Ultimate Cell® is an innovative hydrogen device that is not much bigger than a can of baked beans. Small in size and easy to install, it increases the efficiency of vehicles and machinery which reduces fuel consumption and gas emissions.

The cells were fitted to a generator on our compound and also trialled in a controlled test environment. The results of the trial showed a fuel usage saving of between 5 and 15 per cent when the generator was in use, and up to 40 per cent when idle. This technology has the potential to generate big savings in carbon and cost and we're now working to upscale the use of this technology.

Low carbon concrete

Another trial that's taken place on the scheme is a low carbon reinforced concrete solution. Having completed vigorous laboratory and on-site testing, results have shown a reduction of more than 50% in carbon. It has also proven equally as resilient as conventional reinforced concrete.

The trial has proved such a success that Skanska is now working collaboratively with

National Highways to develop the research further. The next stage will be to test the low carbon combination on a permanent road, with the ultimate aim to roll out the solution across the UK's strategic road network.

Read more about this trial at:

www.skanska.co.uk/about-skanska/media/press-releases/269112/Paving-the-way-for-netzero-roads/



On-site trials of low-carbon concrete

Project development using new digital tools

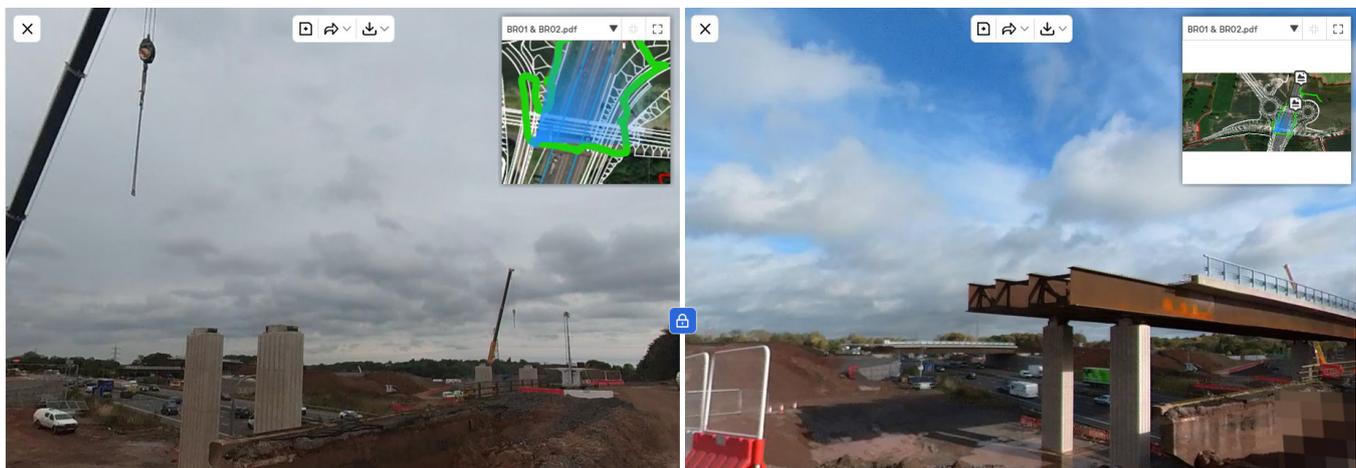
OpenSpace is an automated 360 video platform that we're actively trialling on the scheme. This software provides a street view-like environment on our construction site which is available to access anywhere, anytime, by members of the project team. The capture is done using a 360-degree camera either mounted to a hard-hat or vehicle.



Vehicle mount



Helmet mount



OpenSpace software

It is being used to help with:

- surveying areas before and after construction
- ensuring areas around our site are kept clean and tidy
- capturing and comparing progress in key working areas
- environmental awareness / monitoring of our working areas

The trial is currently programmed to take place until the end of December 2023

Social value and our community

Keeping safe

More than 500,000 work hours have been clocked up without any of the 250-strong workforce on the scheme taking time off through injury, thanks to strict safety measures on site.

A lost time injury (LTI) is when someone has to take time off work as a result of a workplace incident or accident and is a standard measure across the construction industry to monitor safety performance.

National Highways Programme Leader, Jon Slemmonds, said:

“Safety is always the number one priority for National Highways. Nobody should be harmed while travelling or working on our roads and we do all we can to try to make that happen.

“For our delivery integration partners, Skanska, to record over half a million

working hours without injury is a fantastic achievement. We’re pleased that the stringent safety measures put in place on site are paying dividends and I’m confident that it will continue to do so.”



M42 ministerial visit

Science, Technology, Engineering and Maths (STEM) engagement

We’ve been busily engaging with local schools and colleges, providing curriculum enhancing sessions and supporting education providers with their student employability. We’ve also been working with our local job centres and councils to provide employment opportunities for local unemployed people. Since the beginning of the September term and to the end of 2022 we delivered 18 sessions engaging with local young people as well as those looking for work.

This has included a series of careers assemblies at **Lyndon School** in Solihull, delivering to all year groups and covering many careers, from civil engineering to environmental roles.



Skanska attending a STEM event within the local community

We also spent a morning with year 10's at **WMG Academy** for Young Engineers. Students learned about engineering surveying and how we use laser scanners, total station and drones to understand the position of the natural and built environment.



Engineering Survey Technician, Steve Jack visiting WMG Academy

L Lynch Plant Hire & Haulage, one of our supply chain partners who provide our large machinery and drivers, delivered a road safety session at **Coppice Junior School** as part of Road Safety Week which ran from 14-20 November 2022. They brought in a large tipper truck to show students the blind spots larger vehicles have. Prior to the visit students had taken cycling proficiency tests so this session linked in well, helping them to understand the importance of being aware of HGVs and larger vehicles while cycling on the road.



Road safety session at Coppice Junior School

Food bank collection

Throughout November and December 2022, staff from our delivery integration partner, Skanska, collected donations for local foodbanks to help support those struggling in our local community over the festive period. Our donations were split equally between **Kingfisher Foodbank** and **Community Essentials**.

Kingfisher Foodbank is run by the **Trussell Trust** who support a network of food banks across the UK, supported by thousands of volunteers. Community Essentials assist vulnerable individuals and families in crisis by providing them with three days of emergency food.

As well as providing donations to these two brilliant organisations, staff volunteered their time at both foodbanks to help them put together their festive hampers.



Members of the M42 junction 6 project team helping out at the food banks

Bickenhill Remembrance Day – traffic management provision

Skanska and traffic management delivery partner **HW Martin** worked closely with the local parish council for Bickenhill & Marston Green to ensure they had 24 barriers and 7 road closure signs, allowing them to close the roads safely for their Remembrance Day parade.

Bickenhill & Marston Green Parish Council said:

“Thank you again for the loan of the barriers and road closure signs which enabled us to hold the parade from the church to the Garden of Memory, a very popular part of the community’s Remembrance Day celebrations. The barrier marshals loved the barriers as they are lightweight and easy to manoeuvre”



Bickenhill Parish Council receiving barriers for Remembrance Day event

Travelling in winter

Find out how to make your journeys as smooth and safe as possible, and discover what we’re doing to help you by visiting our ‘travelling in winter weather’ webpage at:

<https://nationalhighways.co.uk/road-safety/travelling-in-severe-weather/travelling-in-winter/>



National Highways’ **535 gritters** don’t only go out when it snows - they are also deployed when the temperature falls.

Be safe this winter, be prepared by keeping a winter kit with your vehicle



If you need help accessing this or any other National Highways information, please call **0300 123 5000** and we will help you.

We value our customer's feedback



The feedback tool on our webpage gives you the chance to let us know what you think about our work on the M42 junction 6 scheme.

We can then quickly address anything that's not quite right and use your feedback to help shape our future decisions, so we're always doing the best for you.

For more information about the M42 junction 6 upgrade scheme, details of upcoming roadworks or to sign up for email updates, please visit our webpage at:

<https://nationalhighways.co.uk/our-roads/west-midlands/m42-junction-6/>

If you have any further questions, please contact a member of our team by emailing us at:

 **M42Junction6@nationalhighways.co.uk**

 **@HighwaysWMIDS**

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