

# A4174 Junction Improvement Scheme

## Statement of Reasons



### Background

We have investigated options to improve the layout of five junctions on the A4174 Ring Road between the Lyde Green and Kingsfield roundabouts. This is part of a wider package of improvements to ring road junctions proposed in the Joint Local Transport Plan 4 (2020-2036) for the West of England. This scheme area includes the A4174 which was identified by the Government in 2017 as part of the Major Road Network (MRN) which made it eligible for Government funding. The MRN includes the most strategic local routes in England under local authority control which provide essential connections to the Strategic Route Network (in the A4174's case the M4 and M32) managed by Highways England.

Consultation on this scheme will support the development of a full business case. This will be submitted to Government for funding to deliver the scheme.

### Purpose of the scheme

The A4174 Ring Road is a key transport corridor in South Gloucestershire providing a link between the A4 and Bath to the south and the M32 and the M4 to the north, serving as a strategic route to avoid travelling through the Bristol urban area. The ring road also provides access to local residential and employment areas.

The objectives of the scheme are to:

- Reduce carbon emissions through relieving delays and congestion on the A4174 corridor between the Lyde Green and Kingsfield roundabouts
- Minimise the impact of traffic / infrastructure to the natural environment and, where possible, improve the environment
- Improve access to the north east Bristol fringe to help open up business opportunities
- Protect and enhance access for non-car users
- Improve traffic safety
- Improve road network resilience and journey time reliability

### Climate emergency

In July 2019, South Gloucestershire Council declared a Climate Emergency. The council has taken urgent steps to address this situation and prepare for the local impact of climate change and reducing carbon emissions.

Transport is a key generator of carbon emissions. An important part of our transport response is to provide a step-change in providing for walking, cycling and public transport. To do this we will be looking to reallocate road space from cars to people in particular in our populated residential areas and town and district centres.

An important aim of the scheme is to relieve the high levels of congestion at the A4174 junctions during peak periods to improve air quality and help achieve the council's carbon emission targets.

It is anticipated that with no intervention, the congestion along the A4174 and on adjacent routes will worsen due to planned local growth in the area. The increased journey times and poor journey time reliability resulting from this will worsen air quality along the corridor.

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The surrounding local roads (such as the A420) pass directly through environmentally sensitive areas, Air Quality Management Areas (AQMAs) such as Kingswood, and residential and shopping areas. Any additional traffic loading on these sensitive routes is inappropriate and against the council's transport policies. This scheme is designed to encourage necessary strategic car trips to remain on the A4174, the most suitable road designed to accommodate longer distance car journeys, and deter traffic rerouting through our local communities.

The production of the business case will include an appropriate assessment of both air quality and carbon and these outputs will be shared when available.

### **Proposed scheme**

The scheme aims to improve the capacity of some junctions along the A4174 Ring Road by better utilising available space on the approach to junctions, changing the type of some of the junctions, and expanding traffic signal control to locations that currently have no traffic lights.

The scheme will also aim to improve connections for active travel modes (e.g. walking and cycling) and other non-road users where possible, as well as helping the flow of public transport through improved junction performance.

The estimated cost of the scheme is around £30 million. Construction is subject to receiving funding from the Department for Transport.

A construction management plan, subject to funding approval, will be prepared to minimise the impact of the works on local people, road users, businesses and the environment.

Below is a description of the proposals for each of the five junctions:

### Lyde Green Roundabout

Lyde Green Roundabout is located on the A4174 at the junction with Westerleigh Road and Westerleigh Lane.

The Westerleigh Road approach from the Bristol and Bath Science Park will be widened to provide three lanes for traffic on the approach to the roundabout. The three lanes will start around 150 metres back from the junction. The A4174 southbound approach from the north will be widened into the central reservation. The road space around the junction will be increased to provide at least three lanes at all points, except for a four-lane section adjacent to the Westerleigh Lane bus link.

The Westerleigh Lane bus link will have a sensor to see buses as they approach and assist them in joining the roundabout. The pedestrian and cycle crossing will stay in the same location but will be improved.

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### The Rosary Roundabout

The Rosary Roundabout is located on the A4174 in the Emersons Green area, at the junction with Willowherb Road (towards Lyde Green) and Emerson Way. It is also known as the Emersons Green roundabout.

We are proposing to convert the junction to a fully signal controlled roundabout and to widen each approach of the A4174 to provide four entry lanes onto the roundabout. This will improve the junction capacity.

The existing pedestrian and cycle 'toucan' crossing points will be retained and modified to reflect the widening of the road. New additional links between the existing cycle and pedestrian networks will be provided to the existing metrobus stop on Emerson Way.

### Siston Hill Roundabout

Siston Hill Roundabout is located on the A4174 in the Mangotsfield area, at the junction with Station Road Link and Carsons Road Link.

The works here involve converting the existing junction to a signal controlled throughabout (a roundabout with lanes running through the middle of it). Three lanes will be provided for each direction of the A4174 carriageway. In addition, the capacity of the side roads will also be improved. Three lanes will also be provided for the A4174 through the junction on the ring road in each direction, with two lanes provided on the A4174 approaches for traffic turning off the ring road accessing the side roads to travel east or west.

The existing pedestrian crossing and the access steps to the north of the junction will be removed for safety reasons. Other existing, more appropriate alternative routes are already available for non-road users using the bridges to the north and south.

The vehicle layby situated on the southern side of the junction (travelling north) will, in part, become the widened carriageway. The remaining area of layby cannot be retained or relocated in the immediate locality for safety reasons.

The vehicle layby situated on the southern side of the junction (travelling north), will become part of the widened carriageway and there will no longer be a layby at this location. This is to allow the new road layout to operate safely. The revised layout will link in with the proposed changes which are being made to the Carson Link Road traffic signals to improve traffic access to the Mangotsfield Sort It recycling centre.

### Deanery Road Roundabout

Deanery Road Roundabout is situated on the A4174 junction with the A420 Deanery Road and High Street at Warmley, on the eastern fringe of Bristol.

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We are proposing to convert the existing roundabout to a signal controlled throughabout (a roundabout with lanes running through the middle of it). The north and southbound A4174 approaches will be widened to provide three ahead lanes with an additional lane for those accessing the A420. Signal controlled traffic lights will be added to the westbound approach from Warmley.

The existing pedestrian and cycle 'toucan' crossings will be retained on the western route, along with the pedestrian and cycle underpasses beneath the north and south routes. There will be a new retaining wall on the north east approach (travelling from the north), with the existing cycle route being retained and modified where required.

Modifications on Baden Road (to the 'no through road' turning point) are likely to be required to accommodate the new road layout on the south western side of the junction.

### Kingsfield Roundabout

Kingsfield Roundabout is situated on the A4174 junction with Marsham Way to the east, which links a small retail and industrial park, and Leisure Road to the north west, with access to the Longwell Green Leisure Centre at Hanham.

We are proposing to expand the signal-controlled roundabout to include a throughabout, (a roundabout with lanes running through the middle of it) whilst keeping the Leisure Road route as a give way entry. There will be three lanes in each direction through the junction. The A4174 approaches will be widened to provide three full ahead lanes, with a dedicated lane for those leaving the ring road.

A left turn bypass link will be provided for vehicles travelling north to south on the ring road into Marsham Way. This will allow traffic on the ring road to join Marsham Way on a give way basis. Similarly, a left turn bypass lane will be provided between Marsham Way and the southbound A4174 exit from the junction. This will allow traffic from Marsham Way to join the southbound ring road on a give way basis.

The zebra crossing on Leisure Road will be upgraded to a parallel crossing to accommodate cyclists. Parallel crossings are used in conjunction with segregated cycle and footpaths to allow cyclists and pedestrians to cross the road via a zebra crossing without the need for traffic signals.

The pedestrian and cycle 'toucan' crossing on Marsham Way between Asda on the north side and the Gallagher Retail Park to the south will be fully refurbished and brought up to current standards.

### **Drawing references**

- Lyde Green Roundabout – General Plan
- The Rosary Roundabout – General Plan
- Siston Hill Roundabout – General Plan
- Deanery Road Roundabout – General Plan
- Kingsfield Roundabout – General Plan

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### Throughabouts

We are proposing a series of throughabouts as part of this scheme (for the Siston Hill, Deanery Road and Kingsfield junctions). A throughabout is a roundabout which has been converted into a signal-controlled junction with lanes of traffic running through the middle of it for major traffic movements. It is also sometimes known as a 'hamburger roundabout'. The aim of a throughabout is to help improve the flow of traffic, especially in areas where the majority of traffic is travelling straight ahead at the junction.

### Trees and vegetation

Some of the vegetation and trees on the existing roundabouts and approaches to the junctions will need to be removed to enable us to construct the scheme safely. New vegetation and trees will be planted in other areas, such as along the ring road, to compensate for this loss. We are currently assessing the trees so that we can replace them with appropriately sized species.

### Other junctions on the A4174

The Wick Wick, Bromley Heath and Hambrook junctions are not included within this scheme, as plans to resolve overcapacity at these locations form part of a separate scheme of complementary measures included as part of M4 J18a, which also aim to reduce congestion along the A4174. Minor changes to the geometry and/or signal timings of these junctions may be required to match the final scheme designs and traffic flows.

The Dramway Roundabout is not included in the scheme as the existing layout of the junction is predicted to be effective for the traffic flows forecasted. The Wraxall Road (also known as the Woodstock) Roundabout was previously consulted on as part of a separate scheme and is currently under construction.

The Hicks Gate Roundabout is part of a separate package of works, which are being progressed by Bath and North East Somerset Council, with similar objectives to the A4174 scheme.

### Have your say

We would like to hear your views on the scheme. You can read more about the scheme and complete our online questionnaire at: [consultations.southglos.gov.uk/A4174Improvements](https://consultations.southglos.gov.uk/A4174Improvements)

You can also get in touch with us if you have any questions or would like to request a paper copy of the materials via email: [transportservices@southglos.gov.uk](mailto:transportservices@southglos.gov.uk) or telephone: **01454 868 000**.

The consultation closes on **Monday 16 August 2021**.

### Next steps

Following the closure of the consultation period, we will prepare a report on the feedback received during this consultation. South Gloucestershire Council cabinet members will use the consultation feedback report and the proposals to take a decision on proceeding with the scheme and seeking funding from the Department of Transport.

The consultation report and further updates will be made available on our web page at: [consultations.southglos.gov.uk/A4174Improvements](https://consultations.southglos.gov.uk/A4174Improvements)